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6.

**MEĐUNARODNI ZNANSTVENI SIMPOZIJ  
GOSPODARSTVO ISTOČNE HRVATSKE – VIZIJA I RAZVOJ**

6<sup>th</sup>

**INTERNATIONAL SCIENTIFIC SYMPOSIUM  
ECONOMY OF EASTERN CROATIA – VISION AND GROWTH**

Pokrovitelj: / Under the auspices of:

**MINISTARSTVO GOSPODARSTVA RH**

**MINISTRY OF ECONOMY  
OF REPUBLIC OF CROATIA**

U Osijeku, 25. - 27. svibnja 2017.  
Osijek, 25<sup>th</sup> – 27<sup>th</sup> May 2017

*Nakladnici / Publishers*

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*Prijevod / Translation and reader*

Igor Barišić, prof.



*Tisak / Print*  
Studio HS internet d.o.o., Osijek

*Dosadašnji zbornici radova indeksirani: / Proceedings indexed in:*



**EconPapers**

**Web of Science®**

ISSN 1848-9559



**6. MEĐUNARODNI ZNANSTVENI SIMPOZIJ  
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## Predgovor

Ekonomski fakultet u Osijeku u kontinuitetu već duži niz godina potiče sudionike Simpozija na radove koji će (na osnovu istraživanja i obrađenih podataka) sadržavati viziju razvoja ne samo istočne Hrvatske već cijele RH i zemlje Koridora Vc (poveznice prometnica od Baltika do Jadrana i Dunavom od zapada do istoka cestovnom, riječnom, zračnom i željezničkom infrastrukturom). Do sada su na osnovu znanstvenih istraživanja, stručnih i iskustvenih metoda predloženi brojni projekti koji se mogu uklopiti u strategiju razvoja RH. Na taj način želimo pripomoći Vladi RH u donošenju stimulativnih programa za gospodarski prosperitet.

Pozivamo uspješne i u Svijetu dokazane znanstvenike i poduzetnike na sudjelovanje, jer svojim stečenim znanjem i stečenim globalnim iskustvom prikazanim u radovima mogu znatno doprinijeti vrijednosti ovog Simpozija.

Kroz tematsko područje *Partnerstvo i međusektorska suradnja* želimo dobiti radove koji daju prijedloge udruživanja u vidu clustera, udruga, zadruha ili partnerstva radi zajedničkog stvaranja brenda naših proizvoda i istupa na svjetska tržišta.

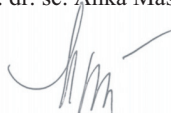
Interesantni su nam radovi koji obrađuju problematiku iseljavanja s prijedlozima kako i na koji način napraviti zaokret u vođenju poslovne politike, stvaranju novog stimulativnog okvira za ulaganja, te povezivanju plave i zelene linije. Sve te prijedloge potrebno je pretvoriti u programe realizacije i konačno „postići točku preokreta“, brzi oporavak i rast. Tada se mogu stvoriti novi uvjeti za povratak iseljenih koji na osnovu stečenog iskustva i znanja mogu dodatno pridonijeti ubrzanom razvoju Hrvatske.

Neophodni su nam strateški dokumenti za razvoj poljoprivrede, infrastrukture, industrije, turizma (s kulturnim sadržajima eko i etno vrijednostima) i svih grana djelatnosti, povezujući ravnomjeran razvoj svih regija, ne samo RH već i makro regije EU.

Svi dobiveni radovi ne bi trebali biti sami sebi svrha, već poticaji i prijedlozi za poboljšanje postojeće situacije, brži gospodarski rast i zapošljavanje kako bi se stvorili uvjeti za kvalitetan život stanovništva.

Ako samo jedan predloženi projekt bude proveden u praksi mi smo opravdali svoje postojanje.

Prof. dr. sc. Anka Mašek Tonković



## Foreword

Faculty of Economics in Osijek has continually for years encouraged participants of the Symposium to write papers that will (based on research and data analyses) integrate a development vision of not only eastern Croatia, but also the whole Republic of Croatia and other countries along the Vc Corridor (traffic connection from the Baltic Sea to the Adriatic Sea, and along the Danube River from west to east, with road, river, air and railroad traffic infrastructure). Based on scientific researches, expert and experiential methods numerous projects have been proposed so far that could be embedded into Development Strategy of the Republic of Croatia. Thus we want to help the Government of the Republic of Croatia in creation of stimulating programmes for economic prosperity.

We invite successful and globally proven scientists and entrepreneurs to participate, for they can contribute to the value of this Symposium with their knowledge and worldwide experience reflected in their respective papers.

Through the thematic field “Partnership and Inter-sectorial Cooperation” we wish to get papers which propose connecting together in forms of clusters, associations, cooperatives or partnerships, in order to jointly create our products’ brand and step into global market.

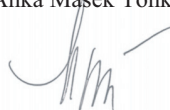
We are interested in papers dealing with the issue of emigration and proposing how to make a turn in managing business policies, creating new stimulating investment framework, and connecting the blue and green lines. All these proposals need to be converted into realization programmes and we finally need to reach the “turning point”, achieving fast recovery and economic growth. Only then can we create new conditions for return of the emigrated who can, with the experience and knowledge they have gained, additionally contribute to expedited development of Croatia.

We need strategic documents for development of agriculture, infrastructure, industry, tourism (with cultural elements, ecological and ethnic values) and all other branches, linking together equal development of all regions, not only in Croatia, but also in the EU macro-region.

All submitted papers should not be purpose for themselves, but encouragements and proposals for making the current situation better, to achieve faster economic growth and increase employment rate in order to create conditions for quality living.

If only one proposed project becomes implemented in practice, we have justified our existence.

Anka Mašek Tonković, PhD.



## Tematska područja / Topics

1. Povijesna naslijeđa u razvoju istočne Hrvatske / Historical heritage in a function of the development of the eastern Croatia
2. Novi trendovi u razvoju gospodarstva/ New trends in economic development
3. Ljudski kapital u funkciji društveno-ekonomskog razvoja regije / Human capital in a function of the socio-economic development of the region
4. Uloga prava u razvoj gospodarstva / The role of law in economic development
5. Međusektorska suradnja & Partnerstva / Intersectoral cooperation & Partnerships
6. Ekologija – zaštita prirode i okoliša / Ecology & Environmental Protection
7. Društveno odgovorno poduzetništvo / Social responsible entrepreneurship
8. Značaj civilnog društva za razvoj regije / Significance of civil society for development of the region
9. Regionalni razvoj – izazovi i prilike / Regional development – challenges and opportunities
10. Financijske institucije / Financial institutions



**Povijesna nasljeđa  
u razvoju istočne  
Hrvatske**

**Historical heritage  
in a function of the  
development  
of the eastern  
Croatia**

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## **DOCUMENTING OF IMMOVABLE CULTURAL HERITAGE - TOWARDS EUROPE WITH MULTIDISCIPLINARY APPROACH**

### **DOKUMENTIRANJE NEPOKRETNE KULTURNE BAŠTINE -MULTIDISCIPLINARNOŠĆU U EUROPU**

#### ***ABSTRACT***

*History of multiculturalism has left significant traces in our region. Immovable cultural heritage includes buildings, towns, historic localities, statues with historical marks, archeology sites, areas with ethnological and toponymical content, protected gardens, parks and historical technological complexes. Collecting and registering data about heritage is a multidisciplinary task. We differ registry recording and detailed recording for reconstruction of heritage which will be returned to people becomes part of culture. By presenting our cultural heritage we will complete multicultural Europe. Geodetic profession holds important part in process of registering heritage together with registering the property rights in public registers. Other professions also have important part in that process, every profession in its field. Goal of this paper is to show necessity of recording immovable cultural heritage in order to increase tourist offer of Eastern Croatia, therefore improve the development of region. Paper points to*

*multidisciplinary approach of documenting historical facts related to several localities, as well as possibility of making models from documenting data using 3D scanning technology We expect it to be helpful for presentation of cultural heritage and it's tourist affirmation.*

**Key words:** *immovable cultural heritage, 3D models, 3D scanning, heritage registration*

## SAŽETAK

*Multikulturalnost je na ovim našim prostorima ostavila značajne tragove. Nepokretna kulturna baština uključuje građevine, naselja, povijesne lokalitete, spomenike s povijesnim obilježjima, arheološka nalazišta, područja s etnološkim i toponimskim sadržajima, zaštićene vrtove, parkove te povijesne tehnološke komplekse. Evidentiranje te baštine je multidisciplinarni posao. Razlikujemo evidentiranje zbog registra ili detaljno snimanje radi rekonstrukcije odnosno postupke kojima se nepokretna kulturna baština vraća ljudima i postaje sastavni dio kulture naroda. Prezentacijom naše kulturne baštine upotpuniti ćemo multikulturalnost Europe. Geodetska struka ima važnu ulogu pri tom evidentiranju i upisu vlasništva u javne evidencije. I druge struke imaju značajnu ulogu u tom poslu, svaka u svojem specijalističkom dijelu. Cilj rada je ukazati na potrebu evidentiranja nepokretne kulturne baštine radi povećanja turističke ponude istočne Hrvatske, a time i bržeg razvoja regije. Rad ukazuje na multidisciplinarni pristup dokumentiranja povijesnih činjenica vezanih za više lokaliteta te mogućnost izrade maketa iz podataka dokumentiranja primjenom 3D skeniranja. Očekujemo da će to pomoći prezentaciji kulturne baštine i njejoj turističkoj afirmaciji*

**Ključne riječi:** *nepokretna kulturna baština, dokumentiranje, makete, 3D skeniranje*

## 1. Introduction

Law on protection and preservation of cultural heritage (1999) proscribes cultural heritage to be of special interest for Republic of Croatia, and therefore has special protection. Cultural heritage (art.2of listed Law) is consisted of immovable and movable goods of artistic, historical, paleontological, archeological, anthropological and scientific significance. Focus of this paper is documenting immovable cultural heritage in order to protect and study, with intent to make all accessible knowledge visible and presented appropriate to all interested parties. Part of legacy would be revalorized by repurposing, while other part would be documented with an agenda to study certain historical period from several aspects: technological, real estate, as well as sociological. With evolution of civilization tasks became more specialized, which brings up the need for multidisciplinary approach. It is especially necessary in immovable cultural heritage, because it sublimes intervention into nature, construction modelling, together with application of technological solution characterized by certain period. Registry of cultural heritage of Republic of Croatia shows that 01.01.2011. there had been listed 8217 protected immovable and movable cultural goods (with historical entities, as well as land and underwater archeological localities) as well as 5319 buildings, according to Strategy of protection, preservation and sustainable economic use of cultural heritage in Republic of Croatia 2011.-2015. From that number there has been documented only 10% of protected cultural goods (Premužić, Suljić, 2012) Range in this subject will be presented in various examples presented by authors of this paper. In the end we will show budget of state in order to document and protect cultural legacy. We have agoal to be tourist destination, so we need to expedite documentation of cultural heritage. For that purpose, we use new technologies, such as 3D scanning, UAV recording, as well as different technologies of soil scanning, under which surface we would expect archaeological remainders. Documenting of cultural heritage has been carried out continuously. Goal of this paper is point to necessity of digitalizing existing documentation in order to provide gathered data to different professions experts who are interested in big picture about all periods of our past.

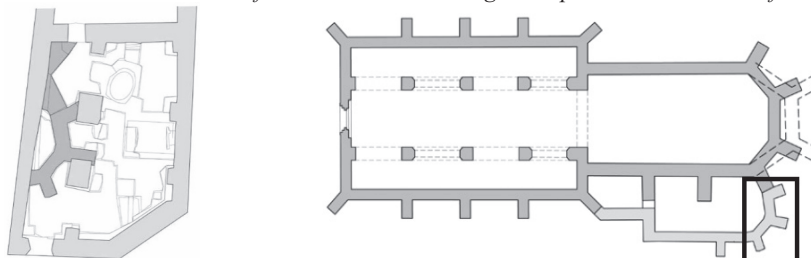
## 2. Documenting of immovable cultural heritage

In Eastern Croatia area there had been tracks of oldest cultures (vučedol, vinkovac, starčević, vinčan, sopot). Part of locality had been explored, and part is still systematically being explored. Parts of findings and documentation have been presented throughout permanent and occasional museum exhibitions. In these localities there are more contemporary cultures that are also subject of research and documenting (Roman, Medieval, Turkish period). Importance of research should not be emphasized, but it is important to note that research is not always documented properly, thus it lacks details of previous research on certain locality. It is common to discover on one locality traces of cultures from different historical periods, what represents great challenge to all archaeologists.

### 2.1 Documenting of archaeological excavation

Archaeological excavations provide a list of activities throughout longer period, ensuring new knowledge on every new archaeological excavation. As an example: locality in Osijek Tvrđa, parish Holy Trinity (today Francian church of Holy Cross). Locality has been researched in period since 1989. – 2014. (Uzelac et al., 2014) In neighbourhood of francian baroque church of Holy Cross 2004. there has been documented excavations with geodetic methods of surveying. Authors have concluded, using geodetic documentation from 2004. and 2013., that excavations conducted in 2004. are a part of architectural complex of medieval church of St Cross from 12<sup>th</sup> century. That led to conclusion for church of St Cross to be older than presumed.

*Picture 1* Documentation of excavation 2004. and ground plan reconstruction of Church



Source: Geoprem 2004; IPU 2014

This example has been chosen because authors were almost led to different conclusion on basis of documentation on locality, previously gathered (picture 1).

Second example refers to documenting excavation besides Water gate in Tvrđa, Osijek. These excavations confirmed presumption about an entrance to this fortifying fortress and made, on ground of documentation, possible to reconstruct part of history and rebuild part of Tvrđa in its previous historic form.

In first example, documenting was made with usual geodetic methods. Result was analogical display (paper) and digital display in coordinate system. In second example, documenting has been made with 3D scanning (picture 2.) With application of this method, it is possible to gather more spatial details and more systematically plan the reconstruction.



*Picture 2 Tvrđa - Water gate*



*Source: Geoprem 2013*

Another locality, for which archaeological excavation has been conducted, is related to Osijek Tvrđa. It is Sulejman's bridge.

For international project titled "Theme route Zrinsky – Sulejman", Institute of Art History made a visualization of Sulejman bridge, landscape around it and visualization of places Darda and Osijek during Turkish period. Today, the bridge does not exist, and only material evidence are pylons in lake Đola near Darda. As groundwork for interpretation of landscape, a map has been used from 1785. Collecting archive documentation and literature is the key element for further development of methodology. Collectible data from archive source (maps, panoramas, travels) are used for comparison with contemporary space data (URL1). On the ground of space analysis there has been reconstruction of bridge route and panoramas from 16<sup>th</sup> century in length of 6 km throughout swam area between Osijek and Darda. Visualization of bridge construction has been made on ground of information about character and appearance of similar wooden bridges from that period. For reconstruction of Osijek in 17<sup>th</sup> century there has been collected data from city maps and panoramas from 1687., that were compared to contemporary positions of archaeological findings from that period in Tvrđa. There is contemporary archaeological non-invasive field research included – aero pictures taken in spring, autumn and winter with analysis. This methodology is a product of cooperation of different professions: art historians, architects, archaeologists, land surveyors.

This type of visualization (SW1) of space – history relations can be used as a basis for further research, as well as scientific groundwork for new tourist products and development of cultural tourism.

**Picture 3** Visualization of Sulejman bridge and Osijek in 17<sup>th</sup> century



Source: IPU 2017

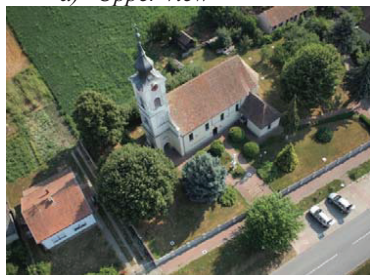
## 2.2 Documentation of religious objects

Documenting religious objects includes architectural shape, furniture, frescos, statues, crypts, and several details incorporated in a whole. Some details inside religious object are connected to certain period or sponsor. In order for every expert from certain field (architecture, history, paint, etc.) to have an access to all details, documenting of heritage needs to be informative, rational, detailed and non-invasive, with minimal use of artificial lightning. We have two examples, pastoral church of St. Grgur Grand Pope (picture 4), built in the middle of 18<sup>th</sup> century. For documenting there has been used technology of scanning the exterior of the church and surroundings, and afterwards scanning the interior. Technology is consisted of laser scanner “Faro” cloud of points, stand by stand. Every stand has coordinates (y,x,z) in order to get measurable 3D model. Accuracy with this method is 2 mm. Presentation of all documented details is possible with video view. Every detail has space measurable characteristics and photorealistic view. Rationality of detailed drawings is provided by focusing on a segment. For the first time 3D print of church crucifix was made.

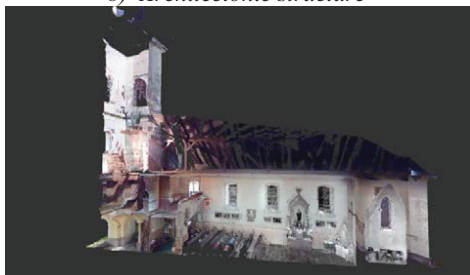
Second religious object that has documenting ongoing is Cathedral of St. Peter in Đakovo, archdiocese of Đakovo-Osijek, built in 19<sup>th</sup> century in Neoroman style (picture 5). Task is to document inner and outer details and to build a scheme for the church. Documentation will be used for static control of some parts of building, in order to make a plan of preventive protection. Documentation is made under surveillance of architect Tone Papić. With multidisciplinary approach we expect optimal results of conduction of project. Dynamics of documentation depends on a budget that is based on annual level.

*Picture 4 Parish church of St. Grgur – Šljivoševci*

*a) Upper view*



*b) Architectonic structure*



*Source: Geoprem 2012*

*Picture 5 Đakovo cathedral*

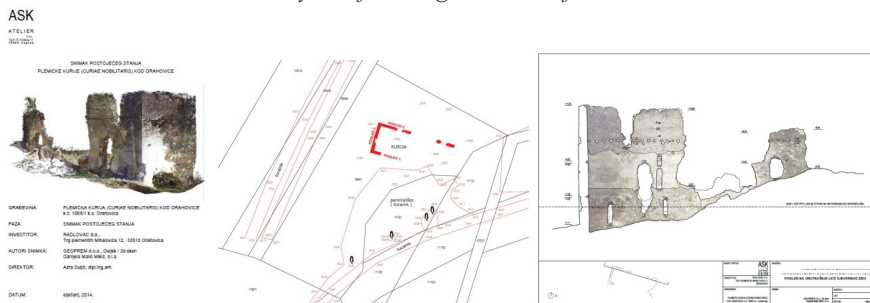


*Source: cloud of points Geoprem 2015*

### **2.3 Documenting of cultural heritage for renovation**

Documenting for renovation has a goal to document current state of cultural good and to provide input data for project of renovation. As an example we have curia underneath Ružica city in Orahovica. Locality is situated near touristic complex Orah, with large tourist potential. Near is situated quarry Hercegovac, with daily stone exploitation. Leftovers of above ground walls are in very bad condition and are submitted to collapse with each more intensive mining in the quarry. Locality has been documented using land surveying methods and architectural plan of sanitation has been made (picture 6)

**Picture 6** Layout of existing condition of curia in Orahovica



Source: Geoprem; Ask atelier 2014

Professional team from Institute of Art History has made preservation study of the castle Eugen Savojski in Bilje, for future renovation (Haničar i dr. 2014). Throughout archive and intensive field work there has been a research and valorization of one of most significant monuments in Baranja.

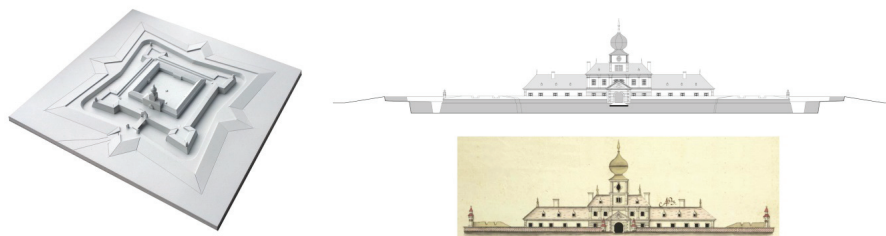
Castle is built in the beginning of 18<sup>th</sup> century with fortifying ring to protect nobles, owned by Prince Eugen Savojski, one of most prominent generals in history. Architectonically it represents uncommon type as a result of requirements in positioning at the border of the Empire.

Research is consisted of archive work, structuring all relevant graphic displays and written sources of European archives, field research with analysis of existing built elements, comprehensive construction and paint probing as well as documenting all relevant discoveries. Goals of process have been defined, and framework underneath functional and content rehabilitation of building is set, with goal to return the original outlook of the whole object in greatest possibility.

Significance of renewed castle for tourist offer of Eastern Croatia today provides a vague image of currently neglected monument.

Study brought graphic reconstruction of original shape of the castle, and for visualization, a model has been made (picture 7) Documenting only remained watchtower using 3D scanning is a groundwork for future reconstruction of these fortifying elements (picture 8)

**Picture 7** Eugen Savojski castle in Bilje, model and documented front



Source: model M. Ambroš; IPU 2014



**Picture 8** Eugen Savojski castle in Bilje – detail of watchtower



Source: scan Geoprem 2013; whitepaper IPU 2014

## 2.4 Documenting for reconstructing of locality

Documenting of locality Korođvar, placed 5 km southeast of Čepin, fortress that has unique layout and presents most preserved layout of fort in swamp environment (wasserburg) has been made with Unmanned Aerial Vehicle (picture 9).

**Picture 9** Korođvar fortress – documented with UAV



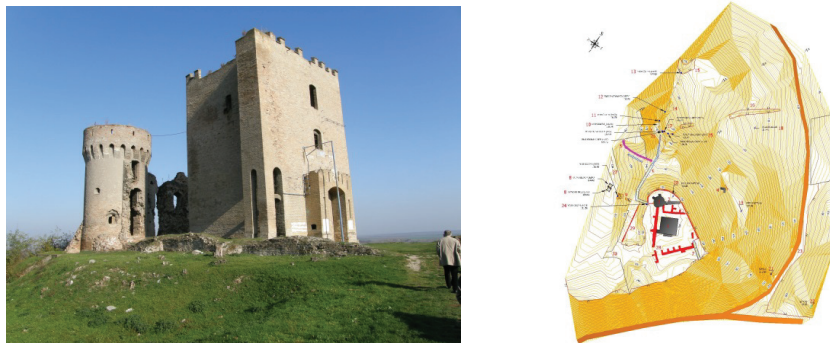
Source: Geoprem 2015

Significance of this fortress is best illustrated by paper Fortress Korođ (Hozjan, 2010): “Fortress Korođ, to my opinion is a book that still hasn’t been finished. There is still space for research, and interest will appear with wide acknowledgment. But, unfortunately it is a long journey. Only with education and use of local history in schools to explain these phenomena, our interest for culture heritage would be popularized.”

In this quotation, guidelines can be found to sensitize future generations for our heritage. Young colleague Hozjan in his paper wrote another sentence: “Using multidisciplinary approach of scientific disciplines we found some answer and they were surprising.”

There is another fortress on right coast of Donau that tickles our imagination. It is Erdut fortress (picture 10). Significant funds have been spent for study and protection of this locality. Patterns that were used for building this type of fortress can be found all over Europe. Is what we see today representing top of the fortress, is part of walls down the hill originally built there, or it is landslide, are some of questions, waiting for the answers.

**Picture 10** Erdut fortress – documentation for protection



Source: Geoprem 2011

### 3. Use of cartographic documentation to study history

Cartographic displays gather large sum of information about time they were produced. In the framework of research led by Ante Grubišić about forest areas in Jankovci, Vukovarsko – srijemska municipality, there was necessary to georeference maps of nobles from certain historical period. Result of procedure is getting historical map to contemporary location in exact scale. Using sw tools, it is possible to determine contemporary and historical forest surface (picture 11)

This logic can be used with different reconstructions of spatial contents.

**Picture 11** Forest surface in Jankovci – use of different cartographic displays



Source: Geoprem 2017

### 4. Technologies applied for documenting cultural heritage

Interpreting knowledge of cultural heritage is important factor in context and significance of cultural good. Subjective of researcher as well as competiveness in charge of documenting cannot be avoided. Authors of this paper are professionals coming from different fields, whose goal is to point to necessity of interdisciplinary approach of studying immovable cultural heritage. Technologies accelerate documenting and also increase accuracy. Implementing principle of spatial documenting in a way to perceive locality as a whole, as well as to incorporate detail into space set with coordinates, enables summing of decades divided research. It is noted that it is common for documenting to be relatively set in space, with totality as a product of chance. Scanners with high resolutions make an acceptable investment, but experience of team, historians, archaeologists, researchers is crucial. Team work is a

presumption for proper documenting, totality as well as some details in cultural good. Technologies in this paper are common practice. They enable intensive documenting for different purposes. Documenting of cultural heritage is only one way to use.

## 5. Budget of Republic of Croatia for work on cultural goods

Sufficiency of budget for cultural goods has always been controversy. Part of funding is enabled through state budget (table 1), and part through municipalities, cities and counties. Funding for cultural heritage is gathered through other way: concession, investors who finance research and protection of cultural heritage, restore institutions, museums, galleries, archives, donations and other sources. Funding is also provided by owners of cultural good. Physical and legal entities, taxpayers who do some economic activity are obligated to pay monument annuity.

*Table 1 Budget of Republic of Croatia for work on cultural goods*

| ŽUPANIJA               | 2016           |               | 2017           |               |
|------------------------|----------------|---------------|----------------|---------------|
|                        | IZNOS (000 KN) | BROJ OBJEKATA | IZNOS (000 KN) | BROJ OBJEKATA |
| ZAGREBAČKA             | 3.343,00       | 36            | 4.769,00       | 44            |
| KRAPINSKO ZAGORSKA     | 6.475,00       | 28            | 4.825,00       | 39            |
| SISAČKO MOSLAVAČKA     | 5.089,00       | 60            | 5.670,00       | 57            |
| KARLOVAČKA             | 6.320,00       | 45            | 7.015,00       | 55            |
| VARAŽDINSKA            | 3.663,00       | 31            | 4.647,00       | 36            |
| KOPRIVNIČKOKRIŽEVAČKA  | 3.423,00       | 30            | 3.615,00       | 24            |
| BJELOVARSKO BILOGORSKA | 3.471,25       | 21            | 3.785,00       | 18            |
| PRIMORSKO GORANSKA     | 5.560,00       | 44            | 6.390,00       | 44            |
| LIČKO SENJSKA          | 3.030,00       | 35            | 4.120,00       | 37            |
| VIROVITIČKO PODRAVSKA  | 970,00         | 8             | 1.550,00       | 9             |
| POŽEŠKO SLAVONSKA      | 1.590,00       | 12            | 2.390,00       | 14            |
| BRODSKO POSAVSKA       | 1.808,00       | 24            | 2.300,00       | 33            |
| ZADARSKA               | 3.730,00       | 35            | 4.938,00       | 39            |
| OSJEČKO BARANJSKA      | 5.046,00       | 51            | 5.601,00       | 52            |
| ŠIBENSKO KNINSKA       | 3.190,00       | 28            | 4.081,00       | 33            |
| VUKOVARSKO SRJEMSKA    | 3.310,00       | 21            | 4.200,00       | 27            |
| SPLITSKO DALMATINSKA   | 11.016,00      | 100           | 12.071,00      | 99            |
| ISTARSKA               | 6.815,00       | 47            | 7.784,00       | 55            |
| DUBROVAČKO NERETVANSKA | 3.519,90       | 26            | 3.945,00       | 30            |
| MEĐUMURSKA             | 2.970,00       | 14            | 3.050,00       | 12            |
| GRAD ZAGREB            | 1.150,00       | 5             | 3.117,00       | 11            |
| ukupno:                | 85.489,15      | 701           | 99.863,00      | 768           |

Source: URL 2, URL 3

Base for direct monument annuity is surface of business premise in immovable cultural heritage, or in some cultural-historic area. Monument annuity is payed monthly from one to four kunas per square meter of net value surface in business premise. Production is free from paying. Funds collected through monument annuity are used exclusively for protection and preservation of cultural goods and are divided in scale 40% state budget, 60% cities (counties). This point to the fact that significant sum is collected on behalf of cultural goods, and thorough economic analysis is required for consequence of these payments. Our economy is redirecting towards services, that are not free from paying monumental annuity. It may be time to reconsider how to commercialize cultural legacy providing more services, at the same time to unburden payers in corporate sector, ensuring funds for economy of Eastern Croatia.

## 6. Conclusion

We put focus of this paper on immovable cultural heritage. Localities listed are partially documented. We would like to encourage explorers and businessmen, tourist community and Slavonian enthusiasts to work on creating a puzzle of history on this area. One of ways is digitalization of rich documentation and it's connection with localities and historical period regarding this documentation. First example of archaeological excavation in Tvrđa listed in this paper points to importance of document accessibility. Information technologies offer solutions

for existing documentation. We can find several examples in our surroundings. Our obligation is to make it happen for next generations.

New technologies of documenting and analysis would improve documenting of details we missed, and we would be able to put pieces together and to offer touristic story based on explored details of our history. In the end, we have to emphasize that multidisciplinary approach brought new quality with motivated experts from different profiles to help us document many details, that were visible for limited amount of time. Today, we can deliver a new product: 3D print of monuments in exact scale.

## REFERENCES

Haničar Buljan, I., Uzelac, Z., Vučetić, R., Žmegač, A. (2014): Dvorac Eugena Savojskog u Bilju, povijesno-građevni razvoj, valorizacija i prijedlog konzervatorskih smjernica, Institut za povijest umjetnosti, Zagreb, 2014. (elaborat).

Hozjan, V. (2010): Utvrda Korođvar, Filozofski fakultet, seminarski rad, Zagreb, 2010

Premužić, M; Suljić, A. (2012): Obnova povijesnih gradova kroz prostornoplansku dokumentaciju konzervatorske studije i projektiranje, International Historic Town Conference, Dubrovnik, 2013

Uzelac, Z.; Ambroš, M.(2014): Srednjevjekovna župna crkva sv. Trojstva u Osijeku, Institut za povijest umjetnosti, Zagreb, 2014 , radovi IPU

Strategija (2011): Strategija zaštite, očuvanja i održivog gospodarskog korištenja kulturne baštine Republike Hrvatske za razdoblje 2011-2015, Ministarstvo kulture Republike Hrvatske, Zagreb, 2011.

Zakon o zaštiti i očuvanju kulturnih dobara (1999), Narodne novine, broj: 69/99, 151/03; 157/03 88/10, 61/11, 25/12, 136/12, 157/13, 152/14

SW 1: AutoCAD Map 3D 2016, SketchUp Pro 2017, Artalntis Studio 5.5.

URL 1: <https://geoportal.dgu.hr/>

URL2: [http://www.min-kulture.hr/userdocsimages/Odobreni%20programi%202016/Nepokretna%20bastina\\_odobreni%2031.12.2016..pdf](http://www.min-kulture.hr/userdocsimages/Odobreni%20programi%202016/Nepokretna%20bastina_odobreni%2031.12.2016..pdf)

URL3: [http://www.min-kulture.hr/userdocsimages/Programi%202017/Nepokretni%202017\\_odobreni%2013.03.2017..pdf](http://www.min-kulture.hr/userdocsimages/Programi%202017/Nepokretni%202017_odobreni%2013.03.2017..pdf)



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## **ECO-HISTORICAL HERITAGE OF DUBROVNIK IN THE FUNCTION OF SUSTAINABLE DEVELOPMENT**

### **EKOHISTORIJSKO NASLJEĐE DUBROVNIKA U FUNKCIJI ODRŽIVOG RAZVOJA**

#### ***ABSTRACT***

*Despite its scarce natural resources, the Republic of Ragusa managed to sustain its autonomy and economic prosperity throughout the centuries as a result of strategic use of diplomacy, skilled trade, and highly developed seamanship. Evidence of this can be found in the opulent cultural and historical heritage of the Republic of Ragusa, which has helped Dubrovnik secure the status of a world-known brand, and not only in the sphere of tourism. Along with famous cultural monuments which are regarded as the cornerstone of Dubrovnik's historical heritage (such as the City Walls of Dubrovnik, the Cathedral, the Rector's Palace, the Sponza Palace etc.), the city teems with many lesser-known – but not any less valuable – examples of historical legacy from more modern times, specifically the 19<sup>th</sup> and 20<sup>th</sup> centuries. These include fountains, parks, walks, bathing places, gardens, etc. Among these, the Gradac park from the late 19<sup>th</sup> century stands out as a prime example of landscape architecture, where a costly Bird Park/mini-zoo was situated during the Interwar period. Since the eco-historical heritage of Dubrovnik is reflected in its very name, which stands for “oak forest” (dubrava) and which used to cover most of the city area, the paper will present a number of examples of Dubrovnik's historical urban landscape that complement the city scenery and serve as an integral element of its eco-historical heritage as well.*

**Key words:** *historical urban landscape, parks, bathing places, sustainable development, Dubrovnik.*

#### **SAŽETAK**

*Bogato kulturno povijesno nasljeđe Dubrovačke Republike, te jedinstvenost ambijenta stare gradske jezgre, omogućili su Dubrovniku svjetsku prepoznatljivost i svrstali ga među top europske turističke destinacije. Uz nadaleko poznate monumentalne spomenike kulture, koji su temelj povijesnog naslijeđa Dubrovnika, (Dubrovačke gradske zidine, Katedrala, Knežev dvor, palača Sponza itd.), grad krasi i mnogi manje poznati, ali ne i manje vrijedni objekti, a koji datiraju iz novijih vremena, točnije iz 19. i 20. stoljeća. U navedene objekte ubrajamo fontane,*

*parkove, šetnice, kupališta, vrtove, i sl. Među njima se kao primjer krajobrazne arhitekture svojim uređenjem i ljepotom posebno ističe park Gradac (izgrađen krajem 19. stoljeća), a u kojem se između dva svjetska rata nalazio ptičji park/ zoološki vrt, čije je održavanje iziskivalo znatna novčana sredstva. Budući da se eko-historijsko naslijeđe Dubrovnika odražava već u samom njegovom imenu koje označava dubravu, odnosno dubovu šumu, koja je nekada pokrivala većinu gradskog područja, u radu će biti prikazani neki od primjera krajobrazne arhitekture, koji upotpunjavaju dubrovački povijesno urbani krajolik, te čine sastavni dio eko-historijskog naslijeđa Dubrovnika.*

***Ključne riječi:*** povijesno urbani krajolik, parkovi, kupališta, održivi razvoj, Dubrovnik.

## **1. Introduction**

The ecological and historical traits of Dubrovnik are noticeable in its very name that denotes oak woods. Recognisable forests that once span all over the city area have been preserved in parts of Dubrovnik scenery. The peculiarities of the landscape of Dubrovnik have been distinguished by the authentic Dubrovnik Renaissance garden. Some two hundred gardens around villas were constructed in the area of the Republic of Ragusa from the 15<sup>th</sup> through 18<sup>th</sup> centuries. In comparison with the then European gardens, these were somewhat more modest, but distinguish themselves into a separate category in a particular manner. The Renaissance gardens of Dubrovnik are a special feature within the European landscape architecture on account of their specifically crafted composition. Even though they intervened into nature in Dubrovnik area, the measured intervention here has a long tradition. A doyen of Croatian landscape architecture, Bruno Šišić (1927-2015), clarified that the developed ecological awareness of the people of Ragusa stemmed from their humanist grasp and the necessity to preserve landscape (Šišić, 1991, 92).

The people of Dubrovnik developed a particular relation towards nature. What set apart gardens and villas in the area of the Republic of Ragusa from those in Europe was the measure of dimensions and proportions, which blended into natural environs. These were situated along the coast or on mountain slopes, and were one with the surrounding nature. In the 18<sup>th</sup> century, the useful and the beautiful often complemented one another for the purposes of aesthetic vista onto the environment – ecology was somewhat less considered. The riches and the prosperity of the Republic reflected themselves in the quality of living in Dubrovnik as well as in the level of preservation of natural environment. Valuable cultural and historical heritage of Dubrovnik therefore consists further of its greenery: gardens, landscaped parks, walkways, bathing places, and agricultural landscape. This paper shall, based on relevant literature and the documentation found in the Fund of construction plans of the Municipality of Dubrovnik 1837-1961 in the State Archives of Dubrovnik, analyse individual examples of landscape that form a part of the cultural-historical and eco-historical heritage of Dubrovnik. Furthermore, through the relationships of prominent persons from Dubrovnik who were part of professional and cultural circles and the public opinion, it shall point to deeply engrained thinking about sustainable development of the historical urban landscape of Dubrovnik.

## **2. Landscape and Sustainable Development**

Apart from the constructed, urban structure, the historical urban landscapes also encompass natural environs. Of course, under environment, one considers as well its topographical, physical and natural characteristics, which have remained recognisable during urban development (Dumbović Bilušić, 2015, 206). The UN World Commission for Environment and Development, in the World Commission on Environment and Development (*Our Common Future*, 1987),

pointed out the role of sustainable development in meeting human requirements without endangering those of future generations. The ways for valuating nature are different, and it is possible to view them in more manners than one; namely: in terms of economics, ecology, and aesthetics. Experience of aesthetic pollution of the environment depends on our ethical values, emotional content and associative mechanisms (Cifrić, 2002, 218). The harmony of natural environment and human intervention was achieved in Ragusa under strict observance of the independent Republic. The historical development was marked by actions of past generations of the inhabitants of Dubrovnik, and, thus, the landscape was formed that is the result of the actions of time and those who formed it. It is important to stress here the relation of people towards the environment as well as the achieved economic and technological level of development in Dubrovnik. The historical landscape and its sustainability must be seen within the concept of long duration as it was implemented in the influential work by Braudel, *The Mediterranean and the Mediterranean world in the age of Philip II* (Braudel, 1992). Sustainable development accordingly has a temporal dimension since the landscape and urban landscape architecture were created through a long process. *Like a piece of architecture, the city is a construction in space, but one of vast scale, a thing perceived only in the course of long spans of time* (Lynch, 1990, 1).

The balance between the three components of sustainable development, economic, social and ecological, was flawed during the years following the fall of the Republic. It was in particular the parks and bathing places of Dubrovnik that were devastated. Unkempt – left to waste, devastated parks, on account of negligence or profit, lost their ecological and social purpose. Likewise, left bathing places were exposed to *onslaught of concrete* and usurpation by hotel chains. The imbalance of the economic component of sustainable development is that more noticeable in the example of Dubrovnik where parks and bathing places are part of its historical and urban landscape. The planned Renaissance urban landscape of Dubrovnik possesses a particular value and its waste creates irreparable damage. Kosta Strajnić (1887-1977), a historian of art and a conservationist, warned of the issues of the preservation of the environment in Dubrovnik, stressing the examples of encroachments upon the planned urban landscape. The relation towards the environment had been constructed in Dubrovnik for hundreds of years and become part of its cultural, urban and religious past. Following the collapse of the Republic in 1808, the relationship between the individual and the environment was changed; however, what became permanently present in the consciousness of the people of Dubrovnik is an experience of the special character of the landscape of their city, and the need to preserve the same.

During the period of the rule of the Yugoslav monarchy, individuals stood up against projects such as the reconstruction of the Odak Hotel or the construction of the Villa Scheherazade, which, according to opinion by the professionals, inappropriately changed the city vista i.e. aesthetically cluttered the environment. Strajnić showed with argument and in detail the issues of sustainable development, the domination of its economic component and the negligence of the preservation of the historical urban landscape of Dubrovnik, its cultural monumental wholes and its historical identity (Strajnić, 1930, 9-14). His opinion was shared by experts, intellectuals and numerous citizens worried about the preservation of the beauty of Dubrovnik and its landscape.

Accordingly, the economic principle was not a generally accepted direction for sustainable development, and neither was it for investments into the future of Dubrovnik and its citizens. The historian and writer Lujo Vojnović was for example infused by an experience of erstwhile harmony of Dubrovnik, which, under the influence of the economic principle of sustainability, rapidly began to change. He toured prominent localities, and wrote of the circumstances as follows: *Dubrovnik is at a fatal intersection, which must be crossed. It will, on account of love towards one, more or less, illusory growth of trade and riches, sacrifice its beauty, or it will keep the beauty entailing certain sacrifice, which are actually not sacrifices at all. If it chooses the former alternative, Dubrovnik will suffer a double defeat. It will lose its irresistible charm, which*

*it still has in decreasing amount (we, older folks, know this all too well), and this loss it will never be able to compensate with vast accumulation of wealth (if this is the proposed fee!), as some dream, for Dubrovnik has vigorous and quite dangerous competition, which are far more protected. It is left, therefore, with the option, if it wants to live in harmony with its historical and monumental mission, to get rid of the other side of the problem: to, first of all, take care of its loveliness (which is also the source of its wealth), and only then to take care of its purely commercial interests. Unfortunately, we inhabit less and less that golden age when Trade and Beauty developed alongside and complemented and helped each other. The former murdered the latter. (Vojnović, 1930, 5-6)*

### **3. Parks in Dubrovnik**

Parks, wooded alleyways and gardens are constructed and artistically shaped examples of landscape architecture, and, as idealised areas of nature, serve for leisure and fun, spiritual and physical pleasure (Šišić, 1991, 5). The first public garden in Dubrovnik, which was located at the venue of today's *Hilton Imperial* Hotel had been constructed by general major Stjepan Jovanović during 1870s. The garden was dubbed the Theodora Park as per Jovanović's fiancé. In the Theodora Park or Theodora's meadow, Dubrovnik folks briefly enjoyed themselves during the years until the construction of the *Imperial* Hotel in 1897. That is, there was negative public perception present towards construction on a green space venue, for the construction of which the Municipality had given significant resources (*Crvena Hrvatska*, 16/03/1895, 4). Fears of the people of Dubrovnik appeared as justified because the construction of the first elite hotel in the area bereft Dubrovnik of its only public park. And so the economic component of sustainable development, which brought economic prosperity to Dubrovnik via the development of tourism to come, subdued the ecological component, while the disappearance of the public green spot affected park beneficiaries i.e. citizens of Dubrovnik. Dubrovnik newspapers published stringent critiques of city authorities, and worries for children were especially voiced, for they were denied the possibility of play in the open. (*Crvena Hrvatska* 08/06/1895, 3)

During the period between two world wars, the *Authority for Art and Monuments* was founded, with the role to supervise construction, protect greenery and the public aesthetics of Dubrovnik (Viden, 2012, 8). Fitting modern hotels within the landscape of Dubrovnik, under the influence of rapid development of tourism, caused consternation of citizens and professionals. In exchange for the Theodora Park, Gradac Park was constructed, which was afterwards complemented by the Bird Park. The principal role in the realisation of the Gradac project was played by the *Dub* association, which promoted the cultural, historical and aesthetic values of Dubrovnik and its surrounding area. For example, in 1928, for the construction of Gradac, the Society spent over 100,000 dinars. (*Narodna svijest*, 27/9/1933, 1). *Dub* Society recognised the value of the projects such as the founding of the Dubrovnik plant seed institution in 1926, a weather station etc., this over a hundred years ago. *Dub* directly supported the development of tourism because it championed activities that would attract visitors. It was therefore that their investments into the City bird garden, the foundation of the Dubrovnik library, the Museum of Ivo Vojnović, the foundation of Dubrovnik orchestra, the repair of the Lovrijenac fortress etc., were composite parts of the activities undertaken by the Society (Izvjestaj o radu 1933. Društva za razvitak Dubrovnika i okolice DUB, 1934). By expanding their scope of activities to areas around Dubrovnik as well, regional offices of *Dub* were established on Koločep and in Postranje in Župa dubrovačka. *Dub* constructed pathways, plants and set up benches, and systematically constructed green spaces in Dubrovnik. Furthermore, within the scope of the Society was planting new wooded areas in surrounding areas, construction of parks, walkways, fun areas, and it emphasised the necessity to supervise the construction aesthetics, the hygiene of streets and the city. *Dub* engaged in protection of the environment and Dubrovnik monuments and published publications and photographs, while directing their goals in all three dimensions of sustainable

development: economic, social and ecological. These are simultaneously activities that were part of the aesthetics of the environment of its age (Delort; Walter, 2002, 249-251).

The construction of Gradac lasted from 1889 until 1898, when the Park was officially opened for the public. The then press, on occasion of the opening of the Gradac Park, reported of the joy of the accomplished, and credited the Dub society which had made this possible ... *vilinsko djelo od proste goljeti i mrkjenje, učiniti udobni park*. [It is a fairy tale act to render bare rocks and shrubs into a comfortable park.] (*Crvena Hrvatska* 30/07/1898, 3). The Park became a venue for walks and escape from the city commotion while its look was complemented by Mihanović fountain erected in 1902. With the area of almost 16,500 m<sup>2</sup> these were Imperial and Royal grounds until 1893, and subsequently it was transferred into ownership of the Municipality of Dubrovnik and the City of Dubrovnik in 1997. In 1929, the entrance to the park was constructed, while the bird garden was opened in September 1929. The works were undertaken by Vilim Doršner, and the cost of the construction for the warden house of the bird garden, and the building for the keeping of birds during winter, amounted to 30,395.53 dinars. (HR-DADU-292, Gradac). For the purposes of the bird garden, numerous citizens of Dubrovnik, apart from money, also donated birds. (*Narodna Svijest* 14/08/1929, 3). The attractive bird garden was closed at the beginning of WWII, and Gradac was reconstructed according to a project by Bruno Šišić at the start of the 1960s. The area of Gradac is protected by a ruling of the Institute for the Protection of Cultural Monuments of Dubrovnik (Šišić, 2003, 114).

Gradac was not the sole project by the Dub society in the immediate vicinity of the Old Town. That is, in 1904, where the defensive moat was, the park in Posat was opened (with the area of approximately 2,700 m<sup>2</sup>). Minor works aimed at reconstruction were undertaken at the close of 1920s, while in 1929 the Mihanović fountain was transferred here from Gradac after its entrance was constructed. The Posat Park enjoys the status of a cultural monument within the city walls. The third public park in Dubrovnik, following Theodora's, and next Gradac, and the Posat Park, was the park of Bogišić. Bogišić Park was opened in 1913. This example of Dubrovnik landscape heritage in the area of Ilijina glavica is rather forlorn while the first incident of its devastation was reported as early as 1933 (Izvjestaj o radu 1933. Društva za razvitak Dubrovnika i okolice DUB, 1934).

**Figure 1** Park Gradac on old postcard



Source: Photographer I.Kulišić 1921.

**Figure 2** Park Gradac, March 2017.



Source: Dujmić, 2017.

Parks were often on covers of dailies, which confirms the frustration of Dubrovnik citizens with the aesthetic pollution of the landscape of Dubrovnik. It is clear that self-promotion of local Dubrovnik political elite was criticised for not taking up responsibility for the preservation of landscape, which is further proof of the developed ecological awareness in Dubrovnik (*Narodna svijesti*, 30/8/1933, 1).



#### 4. Bathing places in Dubrovnik

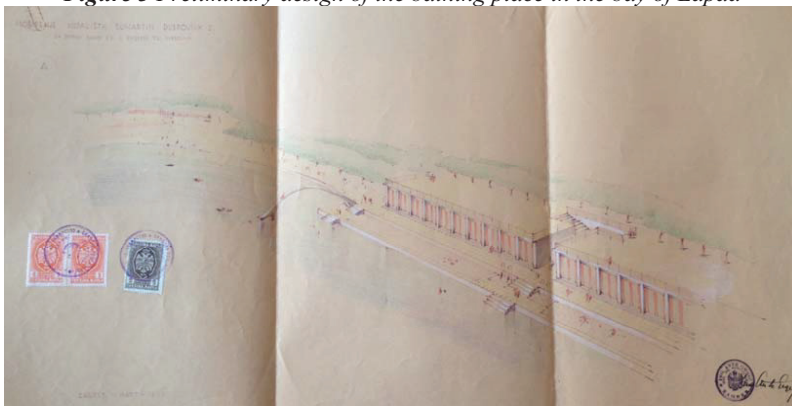
Beaches form a part of the changing scenery because they are exposed to constant transformations caused partly by nature, but also by acts of man, who tries to adjust the coastal area to serve his needs. The bathing places in Dubrovnik are part of the historical urban landscape and an important resource for its tourist development. These are venues of meet ups and getting to know one another, important for the beginning of tourism development. On the bathing places, there were hospitality features, to which changing rooms, gear shacks and constructed entrances to the sea and jump boards were added to. The bathing places of Dubrovnik had their significance in the life of the city, especially during the beginning of beach tourism. That is, bathing places had taken over the role of seasonal meeting points that squares or streets of the Mediterranean had had (Perinić Lewis; Adžija, 2015, 415-447). The bay of Šulić in Kolorina was the first public bathing place in Dubrovnik, opened in 1893, which was reconstructed several times during its history (Foretić, 1997, 140).

During the period between two world wars, rapid development of tourism occurred in Dubrovnik. A vital role in tourist affirmation of Dubrovnik was played by *Srpska banka jsc* from Zagreb, because it owned two leading Dubrovnik hotels: the *Imperial* and the *Grand Hotel Lapad*. By purchasing the Grand Hotel Lapad, the stated bank came into possession of two land plots which were later to become bathing places. The first bathing place was planned in the bay of Gruž on the side where the *Hotel Lapad* is situated, on plots for which the bank tried to obtain construction permits in 1920 (HR-DADU-292, 82/32). However, the project planned for the construction of the bathing place in Lapad in the bay of Gruž was not approved because, as per the opinion of local authorities, it did not fit the surroundings. That is, Srpska centralna banka za primorje jsc, which later became part of Srpska banka jsc from Zagreb, addressed an official request to the Municipality of Dubrovnik and attached layouts for the plan in February 1920 (HR-DADU-292, 82/32, No. 1516). The request was rejected, and the elaboration of the ruling stated that the project planned must meet its intended purpose, but likewise be an adornment to the area of the city it is situated in. There were no technical remarks (HR-DADU-292, 82/32, No. 941). Therefore, the reason for rejecting the project was of aesthetic nature because the style of the construction of part of the building did not fit the landscape. The investors offered to amend the layout without the construction of the outer façade which had been deemed as in disharmony with the surroundings. However, the municipal authorities stuck to their decision, while the bank was enabled to construct but interior parts of the building, which would not prevent subsequent construction in accordance with some new plan (HR-DADU-292, 82/32, No. 1303). But, the stated project was not implemented. The historical urban landscape of Dubrovnik was exceptionally fit for the development of tourism for the purposes of which one had to construct objects for the accommodation of visitors which in turn often caused resistance of local population, and many were not implemented (Kos; Kranjčević, 2016, 18-20)

This was not the first attempt to construct a bathing place on the Lapad coast of the Gruž bay. Namely, in 1912, the owner of the Grand Hotel Lapad, the Austrian entrepreneur Wilhelm Lerch submitted a request for the construction of a bathing place on a nearby location but was rejected. The construction was opposed by the Imperial and Royal War Ministry, the reason being the vicinity of the ammo depot that was located on the Lapad peninsula (HR-DADU-292, 72/9). Giving up on the earlier project that had not been in accord with the environment, Srpska banka plc, of Zagreb, created a new project, this time for the Sumratin bathing place in the bay of Lapad. The project was accepted and realised (HR-DADU-292, 85/5). The bathing place owned by Srpska banka plc in the bay of Lapad went through several development phases which were approved by the local authorities but professionals likewise. Thus the bank got the permit to construct a storage building that would serve as the foundation for constructing of a new wing to the bathing place but also the permit to demolish a decrepit house which enabled landscaping in

March 1924. Furthermore, they obtained the permit to construct a kiosk in the same year via a positive ruling by conservationists for art and monuments. (HR-DADU-292, 87/4, No, 2096 i 2247). In 1928, further 60 cabins were added, and the same year saw the construction of two wooden pavilions (HR-DADU-292, 92/26, No, 2599/28 i 4143/28). Naturally, the stated interventions into the landscape were approved by the Authority for Art and Monuments as well.

**Figure 3** Preliminary design of the bathing place in the bay of Lapad



Source: HR-DADU-292

**Figure 4** Bathing place in the bay of Lapad



Source: Dubrovnik, 1983., str. 73

According to the project from 1937 which was realised on the eve of WWII, the bathing place in the bay of Lapad got its recognisable look: a masonry structure with changing rooms and plumbing, the concrete coastline and a slide. This landmark bathing place was a step forward from the current practice, since wooden changing rooms used to dominate bathing places. The costs of extension were estimated at 311,600 dinars. The Lapad bathing place constructed so was ready for the season of 1938. (HR-DADU-292, 127/5). In contrast to the fast and efficient construction of the Lapad bathing place, the construction of Kolorina lasted for 5 years. Upon a request from the owner of the concession, Kate, Frano and Božo Šulić, a construction permit was issued in 1936 (HR-DADU-292, 122/4, No. 5826/36). On account of complaints from the owner of sub-lease to the concession, Josip Šulić, the works were slowed down. The construction began only in the summer of 1938 while the permit for use was given by the end of 1941 (HR-DADU-292, 122/4, No. 22503/41). The reconstructed Kolorina bathing place started being used only in

the summer of 1942. There were a few other failed attempts to construct bathing places for example at the location between the Odak Hotel and the Banje beach.

*Figure 5 Bathing place in the bay of Lapad, March 2017*



*Source: Dujmić, 2017*

#### **4. Conclusion**

Planned Dubrovnik Renaissance urban landscape possesses a particular value. Dubrovnik is a city protected by UNESCO since 1979, which is set apart by its cultural and historical heritage and harmonious landscape. Measured interventions into the natural environment have a long tradition, while the people developed a particular relationship with nature during their history. Urban landscape architecture of Dubrovnik originally evolved from Dubrovnik Renaissance gardens. A privilege of the wealthy and their private property, these become communal grounds over time. Therefore, citizens of Dubrovnik, and their cultural and professional elite, have inherited a tradition of thought on sustainable development and the preservation of the historical and urban landscape of the City.

A peculiarity of Dubrovnik was a measure in dimensions and proportions of gardens and villas, which blended into the natural environment. These were situated along the coast or on the slopes of mountains and the Renaissance gardens of Dubrovnik had been one with the surrounding nature. Gradac Park, the park in Posat and Bogišić Park at Ilijina glavica are unkempt, small oases of greenery. The characteristic feature of Gradac, that of a wooded strolling venue, was constructed at the turn of the 19<sup>th</sup> century. This was the favourite get together spot of the people of Dubrovnik, incorporating a representative Mihanović fountain and including a regulated bird garden. Today, Gradac is a film set for popular series such as the Game of Thrones, i.e. theatre productions of the Dubrovnik Summer Festival. Even though Gradac Park has enormous potential for the development of film-induced tourism, its present state is not satisfactory. Further, the beaches which constitute common maritime property are available to citizens within limits. Their setting within the landscape is subservient to the interests of quick profit. While the project of the reconstruction of the bathing place in the bay of Lapad was awaited for long, the realisation of which has been envisioned for 2017, recognisable symbols of the bathing place – its concrete parts constructed during 1930s, were meanwhile removed. The economic component in sustainable development of the urban landscape of Dubrovnik cannot be neglected. As we are chasing profits, it is necessary to preserve the parks and bathing places of Dubrovnik according to examples set by earlier wise administrations and with exceptional measure possessed during the



time of the Republic. It is required to maintain the proactive relationship towards landscape preservation for the purposes of future generations.

## REFERENCES

Archival material

Državni arhiv u Dubrovniku, *Zbirka građevinskih planova Općine Dubrovnik 1837-1961* (HR-DADU-292)

Literature

Braudel Fernard (1992): *The Mediterranean and the Mediterranean world in the age of Philip II*, Harper Collins Publishers, London.

Cifrić, I. (2002): *Okoliš i održivi razvoj: ugroženost okoliša i estetika krajolika*, Hrvatsko sociološko društvo; Zavod za sociologiju Filozofskog fakulteta, Zagreb

*Crvena Hrvatska*, (1895): Dubrovnik

*Crvena Hrvatska*, (1898): Dubrovnik

Delort, R.; Walter, F. (2002): *Povijest europskog okoliša*, Barbat, Ministarstvo zaštite okoliša i prostornog uređenja RH, Zagreb

*Dubrovnik*, (1983): Turistkomerc, Zagreb

Dumbović Bilušić, B. (2015): *Krajolik kao kulturno nasljeđe: metode prepoznavanja, vrjednovanja i zaštite kulturnih krajolika Hrvatske*, Ministarstvo kulture Republike Hrvatske; Uprava za zaštitu kulturne baštine, Zagreb.

Foretić M. (1997): *Vodič Dubrovnika*, CROIL d.o.o., Split

*Izvjestaj o radu 1933. Društva za razvitak Dubrovnika i okolice DUB.* (1934): Društvo Dub za razvitak Dubrovnika i okolice, Dubrovnik

Lynch, K. (1990): *The Image of The City*, Massachusetts Institute of Technology, Cambridge, Massachusetts and London.

*Narodna svijest*, (1929): Dubrovnik

*Narodna svijest*, (1933): Dubrovnik

*Our Common Future*, in: Report of the World Commission on Environment and Development (1987): <http://www.un-documents.net/ocf-02.htm>, (accessed 20 March 2017)

Kos, M.; Kranjčević, J. *Fragmentsi prekinutog vremena: neizvedeni projekti turističke arhitekture. Frangments of interrupted time: unrealized projects of tourist architecture*, Državni arhiv u Rijeci, Opatija, 2016.

Perinić Lewis, A.; Adžija, M. (2015): *Globalna i lokalna plaža na primjeru dubrovačkih gradskih plaža i plažnih kultura*, Studia ethnologica croatica, Vol 27, No. 1, pp. 415-447.

Strajnić, K. (1930): *Dubrovnik bez maske: uzaludni napori i teška razočarenja*. Pisac, Dubrovnik.

Šišić, B. (1991): *Dubrovački Renesansni vrt nastajanje i oblikovna obilježja*, HAZU, Zavod za povijesne znanosti u Dubrovniku, Dubrovnik

Šišić B. (2003): *Vrtni prostori povijesnog Predgrađa Dubrovnika od Pila do Boninova*, HAZU, Zavod za povijesne znanosti u Dubrovniku, Dubrovnik

Viden, I. (2012): *O Pravilniku dubrovačkog Nadleštva za umjetnost i spomenik* Godišnjak zaštite spomenika kulture Hrvatske, vol. 33/34, No. 33/34, pp. 7-14.

Vojnović, L. (1930): **Predgovor**, in Strajnić, Kosta. Dubrovnik bez maske: uzaludni napori i teška razočarenja. Pisac, Dubrovnik, pp. 5-7.

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## **SETTLEMENTS AND POPULATION OF THE BELJE MANOR IN CROATIAN BARANJA BASED ON THE CENSUS OF THE BRANJIN VRH DISTRICT IN 1785**

### **NASELJA I STANOVNIŠTVO BELJSKOG VLASTELINSTVA U HRVATSKOJ BARANJI NA TEMELJU POPISA KOTARA BRANJIN VRH IZ 1785.**

#### **ABSTRACT**

*The paper analysis the Croatian translation of the Latin original census of the Branjin Vrh District in 1785 covering the settlements of the Belje Manor in the territory of present Croatian Baranja. The main demographic characteristics, the number and type of settlements, population, and the ethnic and religious structure of the population have been analysed. The economic structure is shown by establishing the occupational and production structure and natural features of the area, including an analysis of social circumstances and certain aspects of the history of everyday life. The analysis has established that by the end of the 18<sup>th</sup> century, the settlements covered by the analysis were of a rural character, that traditional forms of economic activities and the way of life prevailed in them, that they were marked by a complex ethnic and religious population structure; it also examines whether, to what extent, and in which areas the ideas of the Enlightenment had yielded success.*

**Key words:** *Croatian Baranja, 18<sup>th</sup> century, Belje Manor, Joseph II's census, population structure*

#### **SAŽETAK**

*U radu se analizira hrvatski prijevod latinskog izvornika popisa kotara Branjin Vrh iz 1785. godine za naselja Beljskog vlastelinstva na području današnje hrvatske Baranje. Analiziraju se osnovna demografska obilježja, broj i tip naselja, broj stanovnika te etnička i vjerska struktura stanovnika. Prikazuje se gospodarska struktura utvrđivanjem strukture zanimanja i proizvodnje, prirodna obilježja područja te se analiziraju društvene prilike i pojedini vidovi povijesti svakodnevice. Analizom je utvrđeno da su krajem 18. stoljeća naselja obuhvaćena analizom bila ruralnog karaktera, da su u njima prevladavali tradicionalni oblici gospodarske djelatnosti i načina života, da su obilježena složenom etničkom i vjerskom strukturom stanovnika te se ispituje jesu li, u kojoj su mjeri i u kojim područjima prosvjetiteljske ideje polučile uspjeh.*

**Ključne riječi:** *hrvatska Baranja, 18. stoljeće, Beljsko vlastelinstvo, jozefinski popis, struktura stanovništva*

#### **1. Census of the Branjin Vrh District in 1785**

After the liberation from the Ottoman rule in 1687, as part of the regulation of the newly liberated territories by the Habsburg regime, south Baranja (nowadays Croatian Baranja) was divided

between the Darda Manor and the Belje Manor. By virtue of a deed of gift of the Emperor, the Belje Manor went to Eugen Savojski. After his death in 1736, the Manor was taken over by the chamber authorities until 1780, when the Empress Maria Theresa gave it as a present to her daughter Maria Christina and her husband Albert, and after their death, since they did not have any children, it went to Karl Ludwig (Karaman, 1986, 86; Rajcezi, 1986, 170; Sršan, 1992, 208). Through his territorial and administrative reforms, the Emperor Joseph II established, *inter alia*, ten counties, one of them being the Pecs County, which also included the Branjin Vrh District covering the territory of the Belje Manor (Sršan, 1999, 5).

Joseph II's census from 1785/1787 was part of Joseph II's modernisation efforts, (1780-1790) a process started under the rule of Maria Theresa (1740-1780), when the Habsburg Monarchy was infiltrated by the ideas of the Enlightenment, under the impact of which Enlightened rulers strived to adapt the state and the society to new needs by modernising administration, finance, and army and by fostering agricultural development and the economic development in general under the influence of mercantilist ideas (Božić Bogović - Matić, 2006/2007, 84). It was the first census in the territory of the Habsburg Monarchy which covered the total population, regardless of sex, age, or social class, and which, therefore, can be considered a general census of population (Erceg, 1992, 1-2; Skenderović, 2010, 87-88). The settlements belonging to the Belje Manor were listed as part of the census of the Branjin Vrh District on the basis of a decree given by the Count Ferenc Széchényi, King's Regent in the Pecs County in 1785 and 1786. The purpose of the census was to collect various data that would allow for a relatively detailed picture of the census area. A questionnaire was drafted containing almost 400 questions for which the census takers were supposed to collect answers in the field. The first group of questions covers general information on the district, while the second one focuses on individual settlements. Questions cover different topics ranging from data on naturally occurring features of the area, data on economic circumstances to questions on social, religious, health, and partly cultural circumstances. Such a questionnaire structure is in line with the interest of the authorities to implement reforms in the spirit of Enlightened Absolutism (Božić Bogović - Matić, 2006/2007, 84-85; Papp, 1995, 62; Sršan, 1999, 12-22). The Latin original census of the Branjin Vrh District in 1785 was translated into the Croatian language by Stjepan Sršan (Baranja, 1999).

## **2. Settlements and Population of the Belje Manor in 1785**

According to the 1785 census, the Belje Manor covered the following twenty-two settlements in today's Croatian Baranja: Batina, Bilje, Podravlje, Kopačevo, Vardarac, Lug, Branjin Vrh, Popovac, Beli Manastir, Luč, Petlovac, Topolje, Duboševica, Gajić, Draž, Branjina, Zmajevac, Podolje, Kneževi Vinogradi, Kotlina, Suza, and Kamenac. In the census, all these settlements were categorised as villages and all were, as part of the Manor, in the possession of Archduchess Christina. Bilje was the seat of the Manor. At the time of census-taking, the Manor had no urbarial disputes. The Belje Manor had the right of the sword and made use of it, meaning that it had a prison guard assisted by a soldier. At the time of census-taking, there were seven prisoners present in the prison, which consisted of three underground rooms. Despite the fact that it was the seat of the Manor, Bilje had no customs duty or waterage. In the territory of the Manor, there were one waterage in Batina and two customs duties, one of which was in Branjin Vrh. There were no marks on the internal borders of individual settlements' territories, but the borders to other territories were marked by mounds as landmarks, except in the case of natural borders, such as the Danube River separating not only the territories of the settlements along it, but also the Baranja County from the Bačka County. Authentic land surveying in accordance with the regulations was conducted only in several settlements (Kopačevo, Luč, Zmajevac, Podolje, Kotlina), where in some of the settlements subjected to land surveying the land was still not divided in accordance with the surveying, e.g. in Kopačevo and Zmajevac (Sršan, 1999, 33, 42, 51, 129).

The data from the Joseph II's census provide an insight into the population of individual settlements and the ethnic and religious structure of the population. However, since this is not a

case of a modern statistical census of population, there are some limitations to the determination of demographic indicators. For example, the census brings the number of members of individual confessions, but the ethnic affiliation is given generally in the aggregate by indicating that members of one or more ethnic groups live in a certain settlement, which is expressed in the aggregate for all settlements within a single county. Although the census separately records Jews and Roma, as a rule, it is not clear whether the same principle was applied to their census-taking as in the case of the members of other groups.

Just like whole south Baranja, the territory of the Belje Manor is characterised by a wide ethnic and religious diversity in a relatively small territory. This fact was already determined in the general description of the Branjin Vrh District, where it is said that it contains five ethnicities, as stated by S. Papp: “Five nations live in this District, Hungarians, Germans, Croats, also called “Šokci”, Rascians, and Jews.” As to religious affiliation, the general description already establishes that the Catholics make the largest share, with, nonetheless, large numbers of Orthodox and protestant population (Calvinists and Lutherans), while Jews are represented in a small number (Papp, 1995, 64; Sršan, 1999, 31).

**Table 1** Number of Catholics in the settlements of the Belje Manor in south Baranja in 1785

| Settlement        | Number of Catholics | Settlement   | Number of Catholics |
|-------------------|---------------------|--------------|---------------------|
| Batina            | 670                 | Popovac      | 721                 |
| Beli Manastir     | 665                 | Suza         | 18                  |
| Bilje             | 625                 | Topolje      | 1230                |
| Branjin Vrh       | 676                 | Zmajevac     | 634                 |
| Kamenac           | 5                   | Duboševica   | 2676                |
| Kneževi Vinogradi | 287                 | Gajić        |                     |
| Kotlina           | 47                  | Draž         |                     |
| Luč               | 1100                | Branjina     |                     |
| Petlovac          | 535                 | Udvar        |                     |
| Podolje           | 358                 | <b>TOTAL</b> | <b>5689</b>         |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek*, pp. 34-161

**Table 2** Number of Orthodox in the settlements of the Belje Manor in south Baranja in 1785

| Settlement    | Number of Orthodox | Settlement        | Number of Orthodox |
|---------------|--------------------|-------------------|--------------------|
| Beli Manastir | 289                | Lug               | 17                 |
| Luč           | 44                 | Zmajevac          | 7                  |
| Branjin Vrh   |                    | Podolje           | 6                  |
| Branjina      | 621                | Kneževi Vinogradi | 603                |
| Podolje       | 38                 | Suza              | 8                  |
| Gajić         |                    | Bilje             | 30                 |
| Topolje       |                    | Vardarac          |                    |
| Duboševica    |                    | <b>TOTAL</b>      | <b>1663</b>        |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek*, pp. 34-161

**Table 3** Number of Calvinists in the settlements of the Belje Manor in south Baranja in 1785

| Settlement   | Number of Calvinists |
|--------------|----------------------|
| Bilje        | 336                  |
| Kopačevo     | 1090                 |
| Kotlina      | 578                  |
| Lug          | 788                  |
| Suza         | 715                  |
| Vardarac     | 610                  |
| <b>TOTAL</b> | <b>4117</b>          |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek*, pp. 34-161

In 1785, in the territory of the Belje Manor, a total of 11,469 population was included in the census, out of which 14.50% were Orthodox, 35.90% were Calvinists, and 49.60% were Catholics. In the majority of settlements, members of several confessions lived together, although there were also homogeneous settlements in terms of confession (for example, Batina was settled exclusively by Catholics, and Kopačevo exclusively by Calvinists). Since Croats were exclusively Catholics, Rascians exclusively Orthodox, Germans almost exclusively Catholics with several Lutherans, and Hungarians almost exclusively Calvinists with several Catholics, the ethnic structure of the settlements belonging to the Belje Manor in today's Croatian Baranja was diverse, as well as their religious structure. The majority of settlements had also several Roma families, who, in terms of their religious affiliation, were either Catholics or Orthodox. They all were inquilini who bore public burden and paid taxes in accordance with tax assessment, and there were no nomads among them. They mostly did manual work or were craftsmen, most often blacksmiths, although there were also musicians, kettle-makers, and horse-herders among them. As a rule, Roma families lived in their own houses and only exceptionally in the municipal ones. The census includes one Jew in each of the four settlements (these were probably families, but the census holds only records of the head of the family). All of them lived in their own houses, were engaged in trade and visited nearby fairs, paid tax liabilities in accordance with tax assessment, and were characterised as poor.

Based on the census data, it is possible to establish the number of houses in individual settlements, which, in combination with the population, while taking into account the need for caution with regard to the quality of census data, indicates the size of households, certain elements of the family structure, as well as material conditions and the culture of housing. Despite certain inaccuracies, the data analysis (presuming that inquilini lived in their own houses and disregarding incomplete data on few craftsmen and traders) shows that in the settlements belonging to the Belje Manor, an average of 6 to 8 inhabitants lived in a single house. The census data on the number of families living in a single house should be added thereto. For example, as to German houses in all settlements, it is stated that no more than 2 families lived in a single house, often only one, and that, *inter alia*, Germans were free men with no ties to the land. It was typical for the Croatian and Serbian population to have 2 or 3 families living in a single house, where in certain settlements that number was higher than 4, rising up to even 7 families under a single roof, as recorded in Branjin Vrh (Sršan, 1999, 71). There is a need for caution when making final conclusions, as it is not quite clear what was counted as a single family and a single household during the census-taking (Papp, 1995, 83). Houses were made from packed earth, crude or baked bricks, or wood, while woodwork still prevailed, especially in the areas where houses were frequently exposed to prolonged floods, such as was the case in Podravlje, as firm wood proved to be more resistant, (Sršan, 1999, 50). The quality of life was also impacted by the availability of drinking water, which, as it seems from the census data, was not a problem in the territory bordered by Drava and Danube, as the population turned to nearby rivers for water supply when wells were without good drinking water. However, healthcare was not at a particularly high level with only one pharmacist in Pecs, no hospitals, and only one surgeon provided for each district, while the majority of settlements belonging to the Baranja Manor had its own midwife (Sršan, 1999, 29-30).

The census also brings data on the population structure according to occupations, listing separately questions related to farmers, craftsmen, traders, free men, and soldiers. The census questions also cover the aforementioned Roma and Jews, as well as dignitaries and nobility, foreigners and beggars, also providing certain data on social circumstances in the Belje Manor at the end of the 18<sup>th</sup> century.

Since the Manor's economy was primarily linked to agricultural activities and as among the analysed settlements there were no city-like ones, the majority of census data, as expected, relates to farmer population. The economic potential depends to a large extent on the quality of land, a datum the census-takers regularly recorded. As a rule, arable land was assigned to the second class, pastures to the third class, while wines from vineyards located on the slopes of BANSKO BRDO

were mostly rated as being of average quality, although some were categorised as first-class wines. The territory of the Belje Manor in today's Croatian Baranja was relatively rich in forests, and farmers and noblemen had enough firewood at their disposal, but the trees themselves were rated as being of poor quality and unfit for use as woodwork or for boats. Forest land was Manor's property, and farmers did not benefit from it, but they had the right to cut wood for their own use free of charge. The floodplain area, including Kopački rit, caused troubles for the inhabitants because of frequent and often prolonged floods, however the majority of settlements in this area was always rated as having a rich source of reed and freshwater fish, with developed milling on Danube and Karašica.

**Table 4** Structure of the farmer population in the settlements of the Belje Manor in south Baranja in 1785

| Settlement               | farmers    | sessional   | non-sessional | whole session | 3/4 of the session | 1/2 of the session | 1/4 of the session | 1/8 of the session | hosts' houses | inquilini  | subinquilini |
|--------------------------|------------|-------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|---------------|------------|--------------|
| <b>Batina</b>            |            | 15          | 133           |               |                    |                    |                    | 21                 | 110           | 78         | 6            |
| <b>Beli Manastir</b>     |            | 74          | 103           | 3             | 38                 | 10                 | 20                 |                    | 147           | 64         | 8            |
| <b>Bilje</b>             | 148        |             |               | 1             | 8                  | 8                  | 38                 | 6                  | 142           | 75         | 5            |
| <b>Branjin Vrh</b>       |            | 32          | 74            | 25            | 38                 | 12                 | 17                 | 5                  | 91            | 9          | 2            |
| <b>Branjina</b>          |            | 123         | 91            | 7             | 8                  | 28                 | 63                 |                    | 118           | 34         | 1            |
| <b>Draž</b>              |            | 78          | 75            | 2             | 17                 | 25                 | 54                 | 44                 | 161           | 16         | 4            |
| <b>Duboševica</b>        |            | 162         | 64            | 19            |                    | 61                 | 56                 | 21                 | 127           | 18         | 4            |
| <b>Gajić</b>             |            | 112         | 43            | 3             | 11                 | 22                 | 14                 | 14                 | 82            | 17         |              |
| <b>Kamenac</b>           | 27         |             |               |               |                    | 12                 | 10                 | 9                  | 51            | 12         | 2            |
| <b>Kneževi Vinogradi</b> | 147        |             |               |               | 22                 | 37                 | 31                 | 29                 | 214           | 78         | 12           |
| <b>Kopačevo</b>          | 107        |             |               |               | 6                  | 15                 | 69                 | 35                 | 133           | 19         | 11           |
| <b>Kotlina</b>           | 60         |             |               |               |                    | 15                 | 8                  | 27                 | 120           | 31         | 9            |
| <b>Luč</b>               |            | 139         | 72            |               |                    | 17                 | 45                 | 44                 | 114           | 10         |              |
| <b>Lug</b>               | 104        |             |               | 29            |                    | 20                 | 24                 | 2                  | 137           | 13         | 1            |
| <b>Petlovac</b>          |            | 40          | 77            |               |                    |                    | 40                 | 1                  | 84            | 47         | 5            |
| <b>Podolje</b>           |            | 52          | 25            |               |                    |                    | 29                 | 19                 | 65            | 27         | 1            |
| <b>Podravlje</b>         | 27         |             |               |               |                    |                    |                    |                    | 26            | 27         |              |
| <b>Popovac</b>           |            | 122         | 189           | 8             | 58                 | 32                 | 13                 |                    | 250           | 110        | 2            |
| <b>Suza</b>              | 64         |             |               |               |                    | 6                  | 28                 |                    | 105           | 27         | 3            |
| <b>Topolje</b>           |            | 155         | 63            | 30            |                    | 44                 | 33                 | 8                  | 123           | 7          | 6            |
| <b>Vardarac</b>          | 97         |             |               | 18            | 9                  | 21                 | 14                 | 4                  | 110           | 7          |              |
| <b>Zmajevac</b>          | 116        |             |               |               |                    | 13                 | 76                 | 36                 | 234           | 110        | 8            |
| <b>TOTAL</b>             | <b>897</b> | <b>1104</b> | <b>1009</b>   | <b>145</b>    | <b>217</b>         | <b>398</b>         | <b>682</b>         | <b>325</b>         | <b>2744</b>   | <b>836</b> | <b>90</b>    |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek, pp. 36-163*

The structure of the farmer population can be established based on data on their estates, i.e. whether they are, according to census data, sessional or non-sessional inhabitants, in relation to the size of the session owned and in relation to the number of houses of hosts who have a house next to arable land exceeding 3 acres of land, inquilini who have a house and infield next to arable land below 3 acres of land, and subinquilini without a house and land (Sršan, 2002, 84). The data given in the table above show that the majority of inhabitants had smaller estates consisting of 1/4, 1/2, and 1/8 of the session, on the basis of which, taking into account the size of the estate, a conclusion can be made that the financial situation of most farmers was moderate and average, while the number of those who could be considered well off, but also of those who can be ranked as inhabitants in a poor financial situation, was smaller.

**Table 5** Estates in the settlements of the Belje Manor in south Baranja in 1785

| Settlement        | tilled field (acre) | meadow (scythe) | vineyard (hoe) | Settlement | tilled field (acre) | meadow (scythe) | vineyard (hoe) |
|-------------------|---------------------|-----------------|----------------|------------|---------------------|-----------------|----------------|
| Batina            | 73                  | 30              | 486            | Kotlina    | 654                 |                 | 398            |
| Beli Manastir     | 1369                | 459             | 356            | Luč        | 672                 | 312             |                |
| Bilje             | 550                 | 300             |                | Lug        | 1133                | 587             | 240            |
| Branjin Vrh       | 1716                | 278             | 355            | Petlovac   | 176                 | 96              |                |
| Branjina          | 1290                | 621             | 465            | Podolje    | 209                 | 98              | 486            |
| Draž              | 911                 | 440             | 422            | Podravlje  |                     |                 |                |
| Duboševica        | 2055                | 265             | 134            | Popovac    | 1638                | 880             | 480            |
| Gajić             | 601                 | 435             | 302            | Suza       | 769                 | 380             | 399            |
| Kamenac           | 286                 | 42              | 114            | Topolje    | 1473                | 742             | 157            |
| Kneževi Vinogradi | 1662                | 881             | 402            | Vardarac   | 848                 | 419             | 268            |
| Kopačevo          | 853                 | 443             | 368            | Zmajevac   |                     |                 | 620            |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek*

**Table 6** Number of livestock and beehives in the settlements of the Belje Manor in south Baranja in 1785

| Settlement        | horses      | mares      | oxen and male cattle | cows       | pigs        | sheep      | goats     | beehives   |
|-------------------|-------------|------------|----------------------|------------|-------------|------------|-----------|------------|
| Batina            | 40          | 10         |                      | 60         | 88          |            |           |            |
| Beli Manastir     | 106         | 15         | 74                   | 103        | 316         | 83         |           | 28         |
| Bilje             | 110         | 86         | 77                   | 78         | 203         |            |           |            |
| Branjin Vrh       | 65          | 30         | 101                  | 60         | 286         | 205        | 14        | 20         |
| Branjina          | 97          | 30         | 88                   | 56         | 254         | 85         | 49        | 30         |
| Draž              | 84          | 31         | 90                   | 61         | 360         |            |           | 14         |
| Duboševica        | 80          | 60         | 157                  | 78         | 400         | 160        |           |            |
| Gajić             | 30          | 16         | 40                   | 28         | 145         | 73         |           | 10         |
| Kamenac           | 20          |            | 35                   | 24         | 58          |            |           |            |
| Kneževi Vinogradi | 92          | 60         | 101                  | 85         | 430         | 500        | 100       | 60         |
| Kopačevo          | 76          | 48         | 68                   | 61         | 250         |            |           | 53         |
| Kotlina           | 57          |            | 40                   | 50         | 79          |            |           |            |
| Luč               | 80          | 25         | 109                  | 79         | 336         | 82         |           | 20         |
| Lug               | 85          | 60         | 87                   | 60         | 150         | 235        |           | 25         |
| Petlovac          | 60          | 20         |                      | 78         | 90          | 57         |           |            |
| Podolje           | 30          | 17         | 25                   | 40         | 164         |            |           |            |
| Podravlje         | 23          | 34         |                      | 40         | 27          |            |           |            |
| Popovac           | 146         | 30         | 48                   | 113        | 280         | 190        | 34        | 59         |
| Suza              | 44          | 32         | 47                   | 56         | 138         |            |           |            |
| Topolje           | 44          | 33         | 82                   | 67         | 345         | 100        |           |            |
| Vardarac          | 60          | 40         | 80                   | 86         | 150         |            |           | 20         |
| Zmajevac          | 130         | 77         | 61                   | 81         |             | 50         | 20        | 20         |
| <b>TOTAL</b>      | <b>1559</b> | <b>368</b> | <b>539</b>           | <b>700</b> | <b>1680</b> | <b>714</b> | <b>54</b> | <b>144</b> |

Source: Sršan, S. (1999), *Baranja 1785. godine, Državni arhiv u Osijeku, Osijek*

The data concerning their right to move or not also reveal the social and legal position of farmers. As already stated, the German population was, as a rule, free to move, unlike the remaining population, which was mostly tied to the land. The right to move, which had to be granted to farmers by their nobleman, was a significant advantage in relation to the serf position, which did



not allow for such a right to be exercised, although it seems that the farmers who had this advantage did not make use of it to a greater extent. It was indicated that all settlements respected the urbairial decree and had no contracts, except Podolje, which had a contract with the Manor, but the contract was not confirmed since it was not presented at census-taking (Sršan, 1999, 139). Inhabitants of all settlements had tax cards with the records of all payments, which contained no records of debts or outstanding liabilities. Tax was not paid on a monthly basis, but rather on job completion or periodically, as, for example, in Beli Manastir, where it was paid on a quarterly basis (Sršan, 1999, 81). Farmers grew crops (wheat, oat, corn) and various vegetables in vegetable gardens around houses. Agricultural products were mostly grown for own use, as well as for tax liabilities and levies, while only a minor part was sold. Farmers raised livestock mostly on their own (primarily horses and pigs) and, to a lesser degree, purchased or sold it on nearby fairs. There were few craftsmen and traders, and craft and trade activities were only side activities limited almost exclusively to satisfying the modest needs of the local population. Craftsmen included tailors, furriers, blacksmiths, musicians, while the most numerous were labourers (Božić Bogović, 2015, 168-169).

The Joseph II's census reveals that the authorities were also interested in some other groups of the population, such as army, noblemen, foreigners, beggars, and orphans. The Manor did not organise systematic care for the poor and the ill and, in addition to lacking a hospital, it also did not have a poorhouse. However, several orphans included in the census were under the care of guardians appointed and supervised by the Manor, who were also responsible for managing their assets and for reporting on it to the Manor. There were no beggars, apart from two in Zmajevac, one of which was lame and the other one was old and blind. Since there was no poorhouse, they stayed in local inhabitants' houses. The census contains records of only two foreigners in Bilje, one was a forest supervisor and the second one was his subordinate, i.e. a forester, meaning that both of them were Manor officials (Sršan, 1999, 39, 46, 137).

Although the settlements of the Bilje Manor in south Baranja mostly did not accommodate the army, inhabitants of certain settlements were obligated to provide certain contributions for maintaining military squads in the surroundings (for example, in the nearby Osijek's Tvrđa), mostly in the form of portions for horses. The army, which belonged to Osijek's Tvrđa, was located only in Podravlje, in the vicinity of the military bridge, but the population did not provide any contributions, except for the obligation to bring firewood in accordance with tax assessment to the assembly point in Osijek (Sršan, 1999, 49). According to the census, there were no noblemen staying in the Manor.

### **3. Conclusion**

Based on the analysis of the data collected by the 1785 census, it can be concluded that the ideas of the Enlightenment which authorities strived to implement in different areas of lives of their subordinates had only yielded partial success in the Belje Manor, with similar circumstances prevailing also in the Darda Manor, i.e. in the territory of whole south Baranja (Božić Bogović - Matic, 2006/2007, 92-93). The decree of Joseph II ordering that each place had to have a properly set up plate with the name and number of the settlement was fully implemented. Also, it was established that all inhabitants were stripped of arms and that the decree on posting a guard against thieves and arsonists had been implemented. Caught offenders were sent to Bilje, which had a prison. The majority of settlements had fire-fighting equipment consisting of a ladder, a hook, and water pails, while almost a third of settlements did not have the stipulated equipment. Also, the majority of settlements had a teacher. Places with a larger number of inhabitants of Orthodox or Calvinist confession had more teachers, one for each religious community. Six settlements did not have a teacher (Branjina, Topolje, Duboševica, Gajić, Draž, and Podolje). Those were settlements with exclusively Croatian and, in the case of Branjina, Serbian population. In some cases, for example in Gajić, the census-takers recorded that parents strictly kept to the tradition "not to have their children taught". They recorded that in Draž, children were

not taught because parents had "a bad habit of using their children as herdsmen". (Sršan, 1999, 116, 122). With a wish to act for the purpose of enlightening their subordinates and improving their moral condition, the authorities took special care of holidays and other festivities in an attempt to limit their number and, consequently, wasteful spending and overindulgence usually associated with them. Thus, the census separately deals with these questions and establishes that inhabitants worked on cancelled holidays in the majority of settlements, except for Germans in Petlovac and Zmajevac, who did not want to give up their festivities. It was also established that the German population and the majority of the Croatian population did not usually have excessive feasts at funerals, weddings, and baptism celebrations, while the said tradition was kept by part of the Orthodox population.

## REFERENCES

Božić Bogović, D. – Matić, I. (2006 - 2007): *Naselja i stanovništvo Dardanskog vlastelinstva na temelju popisa kotara Branjin Vrh iz 1785. godine*, Povijesni zbornik, godišnjak za kulturu i povijesno nasljeđe, No. 1-2, pp. 83-93

Božić Bogović, D. (2015): *Occupational Structure of the Catholic Population of South Baranja in the Second Half of the 18<sup>th</sup> Century*, in: Zbornik radova 4. Međunarodni znanstveni simpozij gospodarstvo istočne Hrvatske - vizija i razvoj, Sveučilište J. J. Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, May 21-23, 2015, pp. 162-170

Erceg, I. (1992), *Jozefinski popis stanovništva civilne Hrvatske i Slavonije*, RadJAZU, Vol. 461, pp 1-24

Karaman, I. (1986): *Osnovna obilježja imanja Belje i Darda u sastavu kasnofeudalnih / kapitalističkih zemljoposjeda na baranjsko-slavonskom tlu do 1918. godine*, in: Zbornik radova Tri stoljeća "Belja", JAZU, Zavod za znanstveni rad Osijek, 1986, pp. 77-92

Rajczi, P. (1986): *Pravno ustrojstvo i funkcioniranje Dardanskog i Beljskog vlastelinstva od nastanka do 1918.*, in: Zbornik radova Tri stoljeća "Belja", JAZU, Zavod za znanstveni rad Osijek, 1986, pp. 169-180

Papp, T. Z. (1995): *Podaci o nekim mjestima nekadašnjeg kotara Branjin Vrh u opisu Ferenc Széchenyija*", Glasnik Arhiva Slavonije i Baranje, No. 5, pp. 57-88.

Skenderović, R. (2010): *Popis stanovništva hrvatskih i slavonskih županija iz 1773. godine ("Tabella Impopulationis pro Anno 1773)*, Povijesni prilozi, No. 39, pp. 73-92

Sršan, S (1992): *Hrvatska Baranja - povijesni pregled*, Književna revija, No. 1-2, pp. 193-218

Sršan, S. (1999), *Baranja 1785. godine*, Državni arhiv u Osijeku, Osijek

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## **AUSTRO-HUNGARIAN MONARCHY - A PRISON OF NATIONS OR SOMETHING BETTER**

### **AUSTRO-UGARSKA MONARHIJA TAMNICA NARODA ILI NEŠTO BOLJE**

#### **ABSTRACT**

*Austrian Empire and the Austro-Hungarian Monarchy are woven into the political and legal identity of many Central European nations including the Croats. A century ago a number of central European countries were a part of the Austro-Hungarian Empire, and after the First World War they became separate states. In the next century, those countries entered the composition of various other countries or existed independently. They belonged to different political affiliations and had different economic development.*

*I will now try, almost a century since the collapse of the monarchy, to present some of my visions and thoughts whether the Austro-Hungarian Monarchy was indeed so bad and whether the state and the people that came out of the Monarchy progressed and achieved their national and economic interests.*

*In the schools of the former Yugoslavia (including Croatia) it was taught that the monarchy was the "prison of peoples". Some of the best Croatian writers built their work on the merciless criticism of the monarchy; hence, I would like to try to bring some of my views on this matter. And thus show that the Austro-Hungarian Monarchy was maybe not such a bad state and that if there was more understanding by the Hungarian and German politicians and bolder moves by the Emperor Charles, with major reforms, it could have provided a better future for its peoples.*

**Keywords:** *Austro-Hungarian Monarchy, Franz Joseph, Karlo, First World War, prison of nations, Saint-Germain.*

#### **SAŽETAK**

*Austrijska carevina, a potom Austro-Ugarska Monarhija utkane su u državopravni identitet mnogih srednjoeuropskih naroda pa tako i Hrvata. Brojne srednjoeuropske države prije jednoga stoljeća bile su sastavu Austro-Ugarske Monarhije, a po završetku Prvoga svjetskoga rata postale su zasebne države. U narednom stoljeću te države ulazile su u sastav raznih drugih država ili egzistirale samostalno, pripadale su različitim političkim opredjeljenjima i imale različit ekonomski razvitak.*

*Pokušati ću, sada, gotovo stoljeće od raspada Monarhije, iznijeti neka svoja viđenja i razmišljanja jeli Austro-Ugarska Monarhija uistinu bila tako loša i jesu li države i narodi koji su izašli iz Monarhije napredovali i ostvarili svoje nacionalne i gospodarske interese.*

*U školama bivše Jugoslavije (pa i Hrvatske) učilo se da je ta Monarhija bila „tamnica naroda“. Neki od ponajboljih hrvatskih pisaca su svoj opus izgradili na nesmiljenoj kritici Monarhije. Pokušao bih iznijeti neka svoja viđenja o tome pitanju. I na taj način pokazati da Austro-Ugarska Monarhija možda i nije bila tako loša država te da je bilo više razumijevanja od strane ugarskih i njemačkih političara i više odlučnijih poteza od strane cara Karla, uz velike reforme, svojim narodima možda pružila bolju budućnost.*

**Ključne riječi:** *Austro-Ugarska Monarhija, Franjo Jusip I, Karlo, Prvi svjetski rat, tamnica naroda, Saint-Germain.*

## **1. Previous opinions on the Austro-Hungarian Monarchy**

Generations and generations of people in this area grew up learning that the Austro-Hungarian Empire was a state that was a prison of peoples who lived in it. That it was an artificial creation, a kind of jumble created around the idea to enable the Habsburg's dynasty survival on the throne and rule of many nations. It was taught that "our" Slavic peoples in the Empire were suppressed, that they could not express their national identity, that they were economically exploited and that they could not wait the opportunity to break the chains that hindered them. There, in such a terrible Monarchy, waited and languished many countries and many nations to whom the roads and expanses of international affairs and economics were open and the only thing necessary was to throw off the shackles of the monarchy in order to express their immense potential and seize the opportunities.

Top Croatian writers, including the best of them – Krleža, wrote a large part of their works using the idea of oppression of Slavic people in the Austro-Hungarian Empire, especially the Croats, who were devastated in bleeding on the battlefields across Europe in favor of a meaningless and useless state and monarchy . I myself enjoyed reading over and over again the works of Krleža, and enjoyed travelling in my mind to the battlefields of Galicia or going to the imperial military hospitals and quarantines. But if you look closely you can see that the people who lived in the cruel Empire at very young age got educated in it and later built a career by spending their lifetime spitting upon the Austro-Hungarian Empire and ruthlessly criticizing it.

## **2. Situation in the Austro-Hungarian Monarchy before World War I**

Certainly, there were reasons for the dissatisfaction of the people in the Dual Monarchy. First of all it is an emphasized intransigence for any concession from Hungary to the economic, cultural, political and particularly the territorial issue, and stubborn insistence on it until the very end. This intransigence was actually constantly on the verge of blackmail and denial of economic as well as human resources and it resulted in a strong animosity towards the monarchy in Romania, Croatia and the Czech Republic.<sup>1</sup>

In addition, there was the constant agitation of the Serbs in one part of Hungary and in Bosnia with the acquiescence of both Russia and the Western powers.

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<sup>1</sup> David Stevenson, 1914-1918 Povijest prvog svjetskog rata [1914-1918 The History of World War I], Fraktura, Zagreb, 2014, p. 59.

One of the problems was, of course, the age and inflexibility of the ancient Emperor Franz Joseph I, who simply wasn't able and neither knew nor wanted to reconstruct the country from the early 19th century and introduce it to the 20th century.

In 1918 this "dungeon" was finally disintegrated. After many millions of casualties the territory of the Empire was disintegrated into seven countries; State of Slovenes, Croats and Serbs, Poland, Hungary, Austria, Czechoslovakia, Romania and Italy, which, according to the opinion of national apologists and foreign and overseas advisors, finally rejected the shackles of the monarchy and were able to exercise their national and individual dreams. The new states, under the leadership of their national leaders which were able to pull them out of the prison, went in their independent life.

### **3. It might have not been so bad**

But let's go back a little to the Monarchy, the brutal "prison of nations" in which all mighty millions languished to facilitate easy life to the cruel Habsburgs. When you look at the dates of the establishment of e.g. the National Museum, the National Archives, the University, the introduction of national languages in the parliaments, the emergence of national anthems, the construction of school systems in the countries that emerged on the territory of the former Austro-Hungarian Monarchy – all of it took place in that, so called, prison.

Also the upgrading of courts, abolition of torture, the introduction of both civil and criminal codification, the introduction of the legal profession and many more others, took place a lot earlier than in some countries that are now the standard-bearers of development and democracy, and where slavery still existed at the time when in the Austro-Hungarian Monarchy the existence of serfs was forgotten.

In the area of the former Austro-Hungarian monarchy there are even today a minor percentage of newly built railway lines, most of them built in the dungeon of the nation. The same applies to ports, roads (which have only been repaired). It is similar with the factories - in the example of Croatia most economic giants that operated in Croatia during the monarchy; Osijek match factory Drava, Osijek foundry and machine factory and many others, after decades of languishing in the grey communist economy and several years of criminal privatization, turned into nothing - today they no longer exist, and thousands of workers found themselves on the road or were forced retired, and their families were brought to the brink of existence.<sup>2</sup>

Take a look at any city in the former monarchy. All that makes the vision and identity of the city was constructed during the time called "prison of nations". Indeed, in each of these cities alleys in the main streets were planted then and have deeper roots than any other state-building experiment that followed the 1918th.

These evil Habsburgs, the bloodsuckers of nations, somehow had the idea to build a railway station, church, school, hospital in every place of its vast monarchy. To support the founding of universities, museums, music institutes and archives. To build the sea and river ports,

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<sup>2</sup> Miro Gardaš, „Changes in the ownership of economic entities in Osijek during the first half of 20 century“, u: 4 International scientific Symposium Economy of eastern Croatia – Vision and Growth, Osijek : The faculty of Economy in Osijek, 2015.,

promote the sericulture, publish the books for farmers, burrow the new Danube, regulate the flow of the Sava, Drava and other numerous rivers throughout the Monarchy. Throughout these prisons there were established print shops that printed books in national languages, in fact in minority languages as well.

In this evil empire and the "prison of nations" a citizen had a legal and personal safety, there was no inflation and devaluation, his family and home were safe as well as his savings, property and pensions. In fact at every moment of his working life he was able to calculate what would his pension be for ten or twenty years, how much to save and what would be his vocation. Taxes paid for the evil Empire were miserable, Stefan Zweig nicely described them as the "tip to the country."<sup>3</sup>

#### 4. Opportunities

Interestingly, almost to the very end of World War I there was a chance for the survival of the Austro-Hungarian Empire. Woodrow Wilson, in his famous 14 points, at the beginning of 1918, nowhere speaks about the independence of the nation of the Monarchy but only about their autonomy.

After the death of Franz Joseph, the young Emperor Charles simply did not dare to distance himself from Germany, instead, through an intermediary, he sent the allies more peace proposals, but simply he did not find the strength to resist German pressure and "leave the German locomotive that was speeding toward a blind track".<sup>4</sup>

Charles also did not have the strength to resist the Hungarian stubbornness and arrogance in their unreasonable demands and vain about the Lands of the Crown of St. Stephen. He even tried to postpone his coronation of the Hungarian king in Budapest so that he doesn't have to swear to an untenable idea of preserving the unity of the countries of the crown of St. Stephen. However, Hungarian Prime Minister Tisza simply blackmailed him by threatening to suspend delivery of food in Vienna and all Charles's doubts were finished.<sup>5</sup>

All of this actually led to the Allies beginning to wonder if it is worth further insisting on the survival of the monarchy or they should take a new path.

Emperor Charles finally ventured and on October 16, 1918 after the army had been destroyed, the countries broke away, and when everything that could have been lost was lost, the Emperor brought the Manifesto according to which the Austrian half of the monarchy is governed in a federative way. But even then when it is all collapsing, Hungarian government rejects federal regulation and any kind of concessions in the Hungarian part of the monarchy, constantly repeating the mantra of the unity of the Lands of the Crown of St. Stephen.

The federalization of the Austro-Hungarian Empire was the idea which ran through the minds of some politicians, and especially towards the end of the war when the military and political situation dramatically deteriorated. But to achieve this it was actually necessary to acquire the consent of two dominant nations, Hungarians and Germans. This was not an option to them

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<sup>3</sup> Stefan Zweig, „Jučerašnji svijet“ – *The World of Yesterday*, Otokar Keršovani, Rijeka 1965.

<sup>4</sup> David Stevenson „1914-1918 Povijest prvog svjetskog rata [1914-1918 *The History of World War I*], Fraktura, Zagreb, 2014, p. 601

<sup>5</sup> A.J. P. Taylor: Habsburška Monarhija 1809.-1918. [*The Habsburgh Monarchy 1809-1918*], Znanje, Zagreb, 1990, p. 300.

for they had always had powerful means of coercion, Hungarians blackmailed by delivering food, and the Germans had military superiority, so they always managed to blackmail and neutralize the Habsburg court and every idea of federalization.

## **5. Call it a day**

Everyone had had enough of indecision, obstinacy, intransigence and the ostrich. On 18 October 1918 Wilson withdraws the 10th point of his proposal and states that the Austro-Hungarian nationality should decide their fate themselves.<sup>6</sup>

What follows is the Paris conference, treaties of Versailles, Saint-Germain, Neuvillyju, Trianon and Seuresu and drawing of maps of the new Europe. For such negotiations and peace agreements in fact there had never been precedence. Multitude bodies and committees were founded with no mutual coordination at all. There were a lot of superficiality and improvisations, thus concepts and plans were sometimes adopted as contracts. This led to the fall of the Monarchy, establishment of the new states, but it also created the foundations for a new war twenty years later.<sup>7</sup>

## **6. Ways and sideways**

And now let's go back to 1918, to the "liberation", to discard of the shackles and escape from the prison. The nations became independent, and their coryphaeus mostly became national leaders or persons of influence in national politics.

And where they led their peoples to. Let's look at one century - 100 years, a period in the world and national history that represents a moment, click on the face of a clock and the grain in the historical clepsydra of the nation.

In the first 15-20 years of this century, most of the peoples of the former monarchy experimented and entered into another kingdom (as my people), a national coryphaeus were either killed or radically changed their ideology. Some, however, allied in some short-term state formations or joined their "parent" countries - all in all they happily played and experimented. In doing so, the politicians justified all their more or less abortive attempts by blaming once again the old enemy the Austro - Hungarian Empire and the heritage of malefactor with a protuberant lower lip - the Habsburgs.

Then, it came to an end of these mute political experiments. From the gully of Versailles, Saint-Germain and Trianon and inspired by bad advice and decisions from the gentle hills of Eastern America, there came a new specter - National Socialism. Bavarian pubs and Prussian measures took advantage of the economic, political, ethical, moral, in one word social crisis and spawned National Socialism. Immature political elite in the emerging countries of the former monarchy corps spotted the opportunity not to bring good to their people, but to extend their political existence, denying not any more the Empire and the Habsburgs but those attempts of the state to which they introduced their peoples to.

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<sup>6</sup> David Stevenson „1914-1918 Povijest prvog svjetskog rata, [1914-1918 The History of World War I], Fraktura, Zagreb, 2014, p. 704.

<sup>7</sup> David Stevenson „1914-1918 Povijest prvog svjetskog rata, [1914-1918 The History of World War I], Fraktura, Zagreb, 2014, p. 727.



And what happened, thanks to the wisdom of mainly those same politicians who howled in 1918 in honor of the collapse of the Monarchy –the prison of peoples, Europe truly become a prison of nations, but not anymore a prison where University and churches were built, but concentration camps instead. A place where books were burnt, temples were destroyed and people were oppressed.

It would be interesting, in the light of modern statistical methods, exit polls and other wisdom of the new political scene, to guess how many people, and in what way, would express their opinion on the Austro - Hungarian Empire some 20 years after its destruction, at the time just before the upcoming World War II.

After several years of Hitler's rampage through Europe and especially through the remains of the Austro - Hungarian Empire, it came to liberation. The liberators came from the East and West and destroyed Hitler's criminal system, but unfortunately at the same time destroyed Europe as well. If you take a stroll through mostly German, Austrian, Hungarian, Polish and a large part of other major European cities, you will notice that there are actually not so many buildings that survived World War II.

And then what, freedom came, people lived happily, there was no more dungeon of nations - ha, ha, ha the Iron Curtain came. Europe was divided into two blocks, and the strongest boundary, the famous Iron Curtain, divided the territory of the former Monarchy. Hundreds of thousands of soldiers, divisions of tanks, aircraft fleet, nuclear missiles all this guarded the freedom and national identity of the people who came out of the prison of nation, but also the political interests of world powers.

And what happened to these nations. My Croatian people in the early 70s of the twentieth century, only fifty years after the collapse of the Austro - Hungarian Empire and after there had been five different state creations in this region, started talking about a new prison of the nation, this time Yugoslavia and its rulers, who this time did not rule from Vienna but from Belgrade. All this led to a bloody exit from the former Yugoslavia and the formation of national states.

Czechoslovakia was also short-lived, fortunately it peacefully split into two independent states.

Hungary, on several occasions, saw Russian tanks on the streets of their cities and experienced the fraternal concern of comrades from the east, but fortunately peacefully came to its independence.

Hey, and here we are at the end, it is the year 2017, but you know what, this one century of ours, the little click in the world's history, after the collapse of the Austro - Hungarian Empire - the dungeon of the nation, has not yet passed.

And, where are we at the moment, we have our own little countries that eagerly welcomed to again unite in a new European creation, in the Second World War millions of people died, in the wars for independence of Croatia and Bosnia and Herzegovina new tens of thousands lost their lives, foreign tank divisions are again on Polish and Ukraine (Galicia) territory, the economy has largely collapsed, tips are again coming from other continents, the obedient are again playing in their favor maddening the mass - and those very trees that have roots back in the Austro - Hungarian Monarchy are still growing.

I wonder what would my favorite writer Miroslav Krleža say whether we live in a prison of the nation or perhaps in the Neverland or in the mire of Galicia or perhaps that there will always be a light at the end of the tunnel, or perhaps, seeing all this that had happened after



the collapse of the Austro-Hungarian Empire, he would conclude that it was not such a bad state.

Now, even a century since the breakup of the Austro - Hungarian Empire, when all the states that were born from its corpus are again within the European Union, after they had experienced the horrors of World War II, and some of them even a bloody struggle for independence, after these countries had seen a whole a series of political experiments; national socialism, fascism, communism, Americanism, it is time to ask ourselves whether the old Monarchy was maybe the country where it was nice and worth living.

## **7. Conclusion**

This work is of course not to be understood as a call for restoration of the Monarchy, it would be absurd. My guess is that at one point in Croatian history (and probably the history of other nations from the Austro-Hungarian Empire as well) a mistake was done. I think that we had to try to reorganize the Monarchy, to release the national interests of the people, to suppress the Hungarian blackmails and perhaps to establish the Federation. And probably this would bring people more good than what followed.

When I look around, my answer is clear.

## **REFERENCES**

Miro Gardaš, „Changes in the ownership of economic entities in Osijek during the first half of 20 century“, u: 4 International scientific Symposium Economy of eastern Croatia – Vision and Growth, Osijek : The faculty of Economy in Osijek, 2015.

David Stevenson, 1914-1918 Povijest prvog svjetskog rata [1914-1918 *The History of World War I*], Fraktura, Zagreb, 2014,

A.J. P. Taylor: Habsburška Monarhija 1809.-1918. [*The Habsburgh Monarchy 1809-1918*], Znanje, Zagreb, 1990,

Stefan Zweig, „Jučerašnji svijet“ – *The World of Yesterday*, Otokar Keršovani, Rijeka 1965.

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## **COUNTY, CITY AND MANORIAL JURISDICTION IN SLAVONIA FROM 1687 TO 1850**

### **ŽUPANIJSKA, GRADSKA I VLASTELINSKA SUDBENOST U SLAVONIJI OD 1687. DO 1850.**

#### **ABSTRACT**

*During the 18th and the first half of the 19th century a feudal system of jurisdiction was applied in Slavonia. At the end of the 17th century Slavonia was liberated from the long Turkish rule and was incorporated in the composition of the Austrian Empire. However, in the first decades after the liberation of Slavonia, all walks of life were administered by the army, thus, the military law was also applied in the area of jurisdiction in the military courts. Cities had very little judicial authority. The situation improved only after 1746, when Maria Theresa re-established counties and introduced civil authority in the territory of Slavonia. In these parts the civil forms of justice was introduced, and judgments were pronounced by the county, manorial and municipal courts. In the rest of Slavonia, in the part along the border with the Ottoman Empire, military rules continued to be applied in the judicature.*

**Key words:** Feudal jurisdiction, county court, Slavonia.

#### **SAŽETAK**

*Tijekom 18. i u prvoj polovini 19. st. na području Slavonije primjenjivao se feudalni sustav sudbenosti. Krajem 17. st. Slavonija je oslobođena od dugotrajne turske vladavine i inkorporirana se u sastav Austrijske carevine. No, u prvim desetljećima nakon oslobođenja u Slavoniji, u svim segmentima života vlada vojska, pa se tako i na području sudbenosti primjenjuju vojni zakoni i sude vojni sudovi. Gradovi su imali vrlo malena sudbena ovlaštenja. Stanje se popravljalo tek nakon 1746. godine, kada Marija Terezija ponovno osniva županije i uvodi građansku vlast na dijelu slavonskog teritorija. Na tome dijelu uvode se i građanski oblici sudovanja, pa presude počinjaju izricati županijski, vlastelinski i gradski sudovi. U ostatku Slavonije, u dijelu uz granicu s turskim carstvom i dalje se primjenjuju vojna pravila u sudovanju.*

**Ključne riječi:** Feudalna sudbenost, županijski sud, Slavonija

## 1. Introduction

In the 18th and early 19th century there was in effect a feudal system of jurisdiction in Slavonia and Osijek. However, in the application of this system there were certain specifics conditioned primarily by long-term Turkish rule in this area, and the specific situation of the country conquered by military force by the Austrian army. The cruel military regime gradually and very slowly started retraining before civilian organization, however, due to the proximity of the Ottoman Empire, almost two centuries after the liberation from the Turks, large parts of Slavonia remained under military rule. All this caused a number of specific features and adjustments of the feudal judicial system.

At the end of the 18th century Slavonia was liberated from the Turks. After their long-term rule the country was left devastated and desolate. Not only were the cities, villages, houses and churches ruined but it also came to the interruption of continuity with all aspects of life, which in the area of Slavonia existed in the Middle Ages, and withdrawal of Turks also caused the end of existence of the system which existed during their reign. In order to prevent the country falling into anarchy, and in order to secure it from the new Turkish raids, in the first years after the liberation organization and establishment was taken over by the military (Bosendorfer, 1910, 340). This was handled through the supreme military administration in Buda, whose competence was extended to the Drava River. In order to organize authorities in Slavonia such a chamber office was established in Čakovec.<sup>1</sup>

In 1695 the chamber inspection received an instruction to register all estates in Slavonia and Croatia. It was supposed to establish the boundaries of the forest, make an inventory of serfs and regulate civil and criminal jurisprudence, but in such a way that the judges were not military personnel, but officials of the chamber.

In the first decades of the 18th century difficult situation continued, thus various commissions were sent to identify the cause. The findings of these commissions were almost identical, and all the blame was laid on the army, landowners and officials. To create such a situation terriers were passed as well as other regulations whose purpose was to regulate land relations, to at least some point. The first such terrier was passed on May 22, 1733 by Charles VI, and on March 3, 1756 by his successor Maria Theresa.

Slavonia was divided into two military districts, and a joint command was in Osijek. In each of the two military districts, there was a military court that had no jurisdiction in civil matters. Jurisdiction belonged to the general who had to affirm the judgments and submit them to the court war council. The courts were conferring with the presence of delegates of chamber and citizens. In addition, the courts did not properly perform their duties as well. Judges were usually people who were familiar neither with Croatian language nor with local customs and laws which existed in this area before the Turkish rule. Their main concern was to obtain as much money as possible, so to achieve this they often put in jail both the prosecutor and the defendant, who then had to redeem a certain amount of money. In the first half of the 18th century Slavonia was ruled by three masters: the army, the chamber and the noblemen, and each were looking at their own interests and sought to promote them.

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<sup>1</sup>Indeed, King Leopold formally nominated county prefects: The prefect of Požega and Vinkovci, Franjo Count Ivanović, was nominated in 1688, and the second prefect, Ivan Dolenc, was nominated in 1694. The nominated prefect of Vukovar was Ivan count Drašković, and the prefect of Srijem was Bishop Franjo Jani, however the administration was held by the army

## 2. County jurisdiction

In order to strengthen the border regions and exclude any risk of a new Turkish invasion the army subjected part of the land along Sava River to its own direct administration and constituted Military Border, and in 1746 the rest of the land was constituted into three Slavonian counties: Virovitica, Požega and Srijem (Šišić, 2004, 216). Already in 1741 empress and queen Maria Theresa ordered that Slavonia and Srijem be reincorporated into Croatia. In 1743 a special delegation was established that was supposed to incorporate lower Slavonia and Srijem into Croatia and establish new counties.

The head of the county was a county prefect (*supremus comes*), who was the highest official in the county. The county prefect was to manage, on behalf of the King, all administrative, judicial and military affairs, he chaired the county assemblies and all judicial deliberations in his county, and he was a representative of the county council in the parliament. The county prefect had to originate from his own county, he could not be a stranger. He had to stand out by birth, the land possession and personal merits and abilities. When resuming the position the county prefect had to take an oath of fidelity to the king, and in order to perform the duties of a county prefect he was supposed to reside permanently in his county (Beuc, 1985, 216). In the administrative organization of the county there were vice-county prefects who were to replace the county prefect in case of his inability to perform his duties. Vice-county prefect *ordinarius* was to replace the county prefect in county and judicial affairs, and Vice-county prefect *substitutus* in administrative affairs (Beuc, 1985, 217).

Apart from these the important function in the organization of individual counties belonged to the noble judges (*iudices nobilium*) and noble vice-judges (*viceiudices nobilium*). In each county district there were two or more noble judges and vice-judges who watched over law and order in the district, published instructions from the higher bodies, and in cases within their jurisdiction dispensed justice and pronounce judgment. At their disposal they had jurats of the County Judicial Court (*curia iudicaria comitatensis assessores*) – *jurassori* (Beuc, 1985, 217).

In every county there were county prosecutors. They acted before the court as public prosecutors in cases against criminals and as defenders of the proceedings against the poor and widows. In every county there was a number of other officers who enabled the smooth functioning of the county and meeting public needs: doctors, archivists, engineers and surveyors ((Beuc, 1985, 217). It is interesting that every county had its own executioner, *vindex iustitiae* who had a fairly high salary of 150 forints (Bosendorfer, 1910, 345). The executioner was carrying out the sentence on the county scaffold (*patibulum*) (Bosendorfer, 1942, 38).

In addition to these officers each county had its police officers dressed in special uniforms. The county of Virovitica was divided into three districts (*processus*): Osijek, Virovitica and Đakovo. The head of the district was a noble judge (*iudex nobilium*) who was assisted by one or two vice-judges (*vice iudex nobilium*) ((Bosendorfer, 1910, 407). The Noble Judge Josip Delimanić and Vice-Judge Karlo Odobašić were seated in Virovitica, Noble Judge Petar Jelačić and vice-judge Jakov Šambek in Osijek, Noble Judge Baltazar Mikšić in Đakovo, Vice-Judge Stjepan Radetić in Našice and Vice-Judge Stjepan Radetić in Dalj (Šišić, 2004, 99).

Judicial power in the county was a county judicial court (*sedes iudicaria, tabula iudicaria*) which worked at the headquarters of the county prefect, and could be convened either by the prefect or deputy prefect. Court hearings were held every 14 days where all appeals of royalty and commoners were discussed. County Court consisted of the president, who was usually one of the two vice- prefects, noble judges, a noble jurant, prothonotary and an unspecified number of honorary assessors who were nominated from the ranks of royalty by the county prefect. In the

first instance County judicial court discussed fiscal matters, civil litigations of greater significance, and all major crimes except treason and insulting the ruler. In the second instance the county judicial court decided on appeals against decisions of the deputy prefects and noble judges as well as against the courts of privileged towns and marketplaces (Gardaš, 1996).

Judicial court was a judicial body of first instance in civil and criminal litigation, and as the Court of Appeal it dealt with the appeal against the judgment of vice-county prefect, noble judges and manorial courts. After the reform of the judicial system from 1723 the County court became primarily the court of appeals and the court acting in criminal cases (Beuc, 1985, 214).

In criminal proceedings vice-county prefect had the right to judge in cases of all kind of robberies, violence of commoners and nobilis unius sessionis, for the forgery of money, in cases of the escape of land-owning serfs, and to carry out investigations of those crimes for which the Ban's Court was in charge. In criminal matters vice-county prefect had also the right of *ius gladii*. After various reforms the powers of vice-county prefect were significantly increased, especially in the civil proceedings, so, for example, he could resolve disputes of a lien regardless of the value of the dispute. In the litigations regarding the liquidation he was in charge until the disputed value exceeded the amount of 12,000 forints (Beuc, 1985, 215).

In the county districts (*districtus*) there were district courts where disputes were handled by noble judges and vice-judges, and at the manors (*dominia*) manorial judicial courts (*sedes dominiales*) where the justice was imposed either by the manorial lord himself or manorial lawyer (*fiscalis dominalis*). Until judicial reform the noble judges (*iudex nobilium*) could judge in debt and mortgage disputes if the value of the dispute did not exceed the amount of 25 forints, then to a farmer because of the escape from the homesteads, and in criminal disputes they carried out all investigative actions for more judicial instances upon their request. Their territorial jurisdiction extended only within the districts allocated to them (*processus*). In case of absence of noble judge to perform his functions, he was replaced by the noble vice-judge (*viceiudex nobilium*). After judicial reforms their powers were increased so that solving the debt and mortgage disputes up to the amount of 3,000 forints also fell within their competence (Beuc, 1985, 212- 215).

In the first years after the establishment of Slavonian counties banditry was widespread (Gardaš, 1993). Therefore, the County Court conducted numerous trials against bandits and robbers in which the death penalty was barred, but at the end of 1746, thus, just one year after the establishment of the county, there were hundreds of lawsuits involving the death penalty led in the county court (Bosendorfer, 1910, 367). In such proceedings the prosecution was represented and the indictment was submitted by the county attorney.

County Court barred various corporal punishments, often very brutal and apparently inherited from the time when this region was ruled by the Turks. Typical punishments were: beheading, hanging, nailing on the pulley, cutting tongue, pulling tongue, lashing, branding, burning living person, etc. Also in the case of non-recognition of the indictment, as an investigative activity, torture was also carried out, which usually consisted of four stages. The implementation of torture was recorded. After the founding of Slavonian counties, Virovitica County had no suitable buildings for the performance of sessions, so the sessions were held at private homes, monasteries or even inns. In 1759 there was a two-storey building of the processual County Court built in Osijek with special prisons.<sup>2</sup> It was noted that once upon a time the environment of the buildings used to echo of screams and groans of prisoners who were flogged (Bosendorfer, 1942, 40).

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<sup>2</sup> The building still exists and it is located in Strossmayerova street, No. 33

### 3. City jurisdiction

First municipal organization took place in Osijek in 1690, when a special commission issued a judge and the city council of Osijek a Municipal instruction, and appointed the first judge of the city of Osijek Daniel Ferdinand Vesentini and a number of city councilors (Firingner, 1971, 161). Next municipal statute Osijek was given in 1698, when General Johann Ferdinand Carl Count Caraffa di Stigliano, Andre Theobald von Mayrren and the secretary of the Vienna Court Chamber Rudiger von Gosswin Furstenbusch assigned the town charter to the fortress of Osijek and its associated suburb (Lopaši, 1981).

According to the provisions of the Statute the city council had jurisdiction to resolve civil disputes, while appeals were resolved by the Imperial Slavonian Chamber inspection. Resolving of criminal cases was not entrusted to the city administration, but it was reserved by the Imperial Slavonian Chamber inspection under the justification that the city did not have enough "capable and skillful legal persons" (Firingner, 1971, 166).

Most likely there was only one Chamber municipality at first, Osijek Fort, which also included the surrounding suburb. Military authorities decided to build strong hold because of the proximity of the Turkish Empire and continuing military threat in the Osijek area, so there was a need to move residents from the suburb due to the construction of fortification. Residents of suburbs were displaced somewhat to the west and thus became the foundation of later Upper Town (Ober Varosh). Because of its distance from the Fortress (Tvrda) this settlement was in 1709 declared an independent municipality, thus had its own judges appointed (Bosendorfer, 1936, 41).

East of the Osijek Fortress there were also various settlers: residents of Drava Island fleeing the flood, fugitives from southern Hungary, fleeing the war danger caused by the Rákóczi uprising, and settlers from Germany and Serbia. Since 1726 this settlement had had the status of chamber municipality so there were judges appointed as well.

There were, in fact, three cities on a relatively small area, each with its own magistrate, judge, notary and senators. There were initiatives on several occasions for unification of these three municipalities into one city. One of these was initiated by the Empress Maria Theresa, so, the county assembly appointed a special commission to examine this request and express their opinions. The commission also argued that trials would be significantly more difficult if there were only one judge in the city. If the Empress still insisted on pooling of the town, the commission prepared the proposal as follows (Bosendorfer, 1910, 389):

1. The city judge may be alternately selected from each city. He must be a Catholic, and he will sit in the lower city, because he is more secure there against bandits. Every Wednesday and Saturday he will convene Municipal session, which will address all the important jobs,
2. Seven senators are to be elected among the residents of Upper and Lower Town (five from Upper Town and two from Lower Town) among whom the oldest one would sit in the inner city and resolve minor issues, while all important things are to be referred to the entire magistrate.
3. In one of the cities there should be found a capable man to perform the function of a regular notary, and the notary assigned to the judge should be more skillful citizen.
4. each city should have its own special treasury
5. Each of the cities should pay judges, senators, notary and other officials from its own budget
6. The Upper Town should not be settled by a non Catholic.

After 1746, the organization of the county Osijek remained separated from the county government, and continued to be ruled by the Chamber, which, since then, performed in the manner of a manorial lord. Therefore, in 1746, the Chamber of Osijek founded its own manorial court (Sedes Dominalis Cameralis Essekiensis, Herrschafts Stuhl Essegg). The Chamber court in

Osijek was a second instance court in relation to the city municipalities, and discussed exclusively on property rights disputes of citizens, i.e. with the city municipality, or on the property and legal disputes with the citizens of another city or military person.

In 1809 Osijek was proclaimed a free royal city and since then the chamber government and the chamber court had become unneeded and were, therefore, repealed. However, the chamber court, was not immediately decommissioned, but still continued to deal with individual backlogs for a few years until their completion. Therefore archives of this court, which is kept in Osijek State Archives, dates back to 1812.

After that, free royal city of Osijek, as an independent entity, has the right to its own jurisdiction, and its scope is best seen from the inaugural diploma of Emperor Francis I of March 24, 1809. Free and royal cities (*liberae et regiae civitates*) were such cities which were granted all special rights by the king, and which as a community of citizens had all noble privileges. They were subjected to the king's direct authority and administration of its government. These cities belonged to the crown's goods and they could not be assigned to anyone as fief. Areas of free royal towns were not subjected to any other legal authority other than to the king directly, and they represented a real noble juristic person. Each of the free royal towns had the right to send two delegates to the Parliament. Free royal towns had the right to make statutes which were affirmed by the king and which were not allowed to oppose provincial laws, and were applied only in the metropolitan area (Beuc, 1985, 219).

Gaining the status of the Royal Borough the township gained a number of revenue which was very profitable for the city. Among other things the city could charge a fee for the importation of beer, wine, wood, etc. In their area cities were allowed to charge road and bridge tolls, navigation, fees for display of goods at fairs, etc. Furthermore, the city was allowed to pour drinks and sell retail meat, and the right to carry out a series of trades in the city area: milling, brandy and beer making, brick production, hunting and fishing.

The right of citizenship in a free royal city was able to be acquired by those who owned the property in the city, who performed a public service or exercised any crafts, and also by those who were morally blameless. Ineligible for the acquisition of citizenship were considered murderers, perjurers, public fornicators, thieves, kidnappers, adulterers, persons who carried out the fraud and rogues. If an immigrant was granted admission to the citizenship of the Royal Borough, he had to pay the receiving fee and take an oath of fidelity to the king and obedience to the city government. After that the newly recruited citizen acquired the following rights:

- He was subjected only to the judiciary of the city judge in the first instance, and if not satisfied with the judgment, he could complain to the royal master of the treasury,
- The city government was not allowed to undermine freedom or property of a citizen without legal calls, without proper disciplinary proceeding and imposed legal decision,
- A citizen was not allowed to be arrested without a valid reason and without any legal basis, and the fugitive was not allowed to be stopped by anyone who did not have the permission of the King,
- Based on the oath of the citizen to the King, he was, in terms of homagium, likened to the nobleman, and if someone killed a citizen, he was required, in addition to other penalties, to pay 100 forints as if he had killed royalty,
- in terms of contracts or the legacy each citizen was able to litigate in his own name and in matters concerning violence or personal disputes assisted by a lawyer appointed by the city council; the city was able to judicially act, actively and passively, against church Capitol, monastery or regular provincial judge,
- It was not allowed for the citizens of a free royal city to be charged a toll, otherwise the toll collector could have been sued for violence,



- A citizen did not pay tolls in the city for his cattle, wagons or own goods, and if he had confirmation of his government, he did not have to pay both in the country and at the border,
- If a citizen imported or exported goods for personal needs, he did not pay the thirtieth, and if he did so because of the trade, then he was obliged to pay the thirtieth,
- Anyone who possessed citizenship could participate in the management of the city offices, regardless of ethnicity or economic status,
- Every citizen of the Royal Borough had the right to slicing meat or pouring retail drinks,
- A son of every citizen, 12-15 years old, could, if he had a good school records, ask to be admitted to a military academy,
- Based on the recommendations of their cities and the two court counselor's citizens could request the status of nobility.<sup>3</sup>

In the area of jurisdiction the city was also acquiring very important powers and rights. The basic judicial authority of free royal towns was that all citizens and residents of the city were exempt under county jurisdiction and were subject to legal authority of the city magistrate (Beuc, 1985, 220). The city magistrate was, in the first instance, in charge of jurisdiction for adjudication in all civil and contentious matters, and in criminal cases. If the dispute was to be conducted against the nobles who were citizens of the Royal Borough, this was possible only if the subject of the dispute was not a manor or a noble right. In this case, the responsible ones were noble judges in the county.

Free royal city was managed by the city council, which consisted of 8-12 lifetime senators, among which the citizens would chose the city judge and notaries. Judicial functions in smaller disputes were exercised by a municipal judge himself, and in major disputes together with one or more senators. As a free royal city was exempt from county authorities, appeals against the judgment of the city court were not submitted to the county courts, but directly to the king or the royal master of the treasury or king's personnel, thus, certain cities were referred to as belonging to the royal treasury or personnel. In exercising of judicial functions free royal cities had to respect the common laws, royal treasury articles, laws of Croatian-Slavonian Parliament and the statute.<sup>4</sup>

#### **4. Manorial jurisdiction**

In the area of Croatia and Slavonia there were several large feudal estates, and their owners were holders of judicial powers in relation to their vassals. Within the individual estates there were established, so called, Manorial or Dominal or Landowner's courts. These courts had the power to adjudicate in disputes between a landlord and a farmer, a farmer and a farmer and a farmer and other citizens.

The manorial jurisdictions could be civil, criminal and political-administrative. Civil jurisdiction was exercised by a landowner within the special court, which was called Landowner's court or manorial court (*sedes dominialis*). This court was presided by a landowner or his regent skilled in law, or manorial official. Apart from them, the court was attended by the three assessors (*convocati*), county judge as *testimonium legale*, and manorial fiscal as a notary and reporter (Bosendorfer, 1950, 159). The position of a Chairman of the manorial court was rarely exercised by the manorial landowner himself. In most cases the landowner was not constantly on the estate, therefore, he could not even preside over the court, so on his behalf, this function was usually exercised by a district mayor (*Rajczy*, 1986, 173).

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<sup>3</sup> Inventory of the archive fund of the City Administration in Osijek, p. 10

<sup>4</sup> Inventory of the archive fund of the City Administration in Osijek, Historical archives in Osijek, p. 9



Manorial court dealt with all civil disputes between landlords and serfs, serfs and third parties and among serfs themselves. Manorial court also declared all political and administrative orders of higher authorities. The criminal and political jurisdiction treatment of a feudal court depended on whether it was awarded the so called right of the sword (*ius gladii*) or not. If it wasn't, the manorial landowner was supposed to report to the county court any major delict, and if he failed to do so, he was punished by a fine of 500 forints (Bosendorfer, 1950, 160).

The most common penalty to be imposed in the judgments of the manorial court was beating. The court imposed sentences to 6-100 blows, and the consequences of such penalties were often death or disability for life (Rajczi, 1986, 174). Such cruel beatings were becoming very rare in the early 19th century. The authorities introduced the medical examinations which were to determine whether a convict was able to bear the beatings, and such kind of medical examination soon became mandatory for each prisoner punished to beatings. Very often, doctors declared convicts unfit to bear the beatings, so they were sentenced to imprisonment instead.

Osijek State Archives keeps records and files of several Slavonian manors: Valpovo, Vukovar, etc., and within their funds there are also archives of the manorial court. There are also preserved files of Osijek feudal court of the period from 1746-1809, while Osijek had the status of the Manor of the Chamber Court, i.e. until 1812 when all the ongoing procedures were completed.

## **5. Chamber Manorial Court in Osijek**

In Osijek National Archives there are preserved the archives of the Chamber Manorial Court, so called *Gospoštijski sud* (*Sedes Dominalis cameralis Essekiensis*, *Herrschaftsstuhl Esseg*) from 1746 to 1812. Within this fund there are also preserved about a thousand objects that are providing us with a wealth of information about more than sixty years of Osijek history of the 18th and the early 19th century. In these archives there can be found valuable information about everyday life and traditions of the city, the shopping and commercial relations, the monetary system, information on the very beginnings of the works of lawyers.

In 1745, during the reign of Empress Maria Theresa, re-establishment of Slavonian counties began. After the separation of a part of the country along the Sava River, which became a part of the Military Border, it was suggested that the rest of the country be divided into four counties, and the establishment of only three was accepted: Virovitica, Požega and Srijem. The area of Osijek was exempt from county government, and it remained under the authority of the Chamber, which since then had the status of a manorial owner, and Osijek had the status of manorial i.e. chamber property. Accordingly, in Osijek, in 1746, the Chamber established its Manorial Court (*Sedes Dominalis Cameralis Essekiensis*, *Herrschafts Stuhl Esseg*).

In this fund the largest number of disputes is related to the various debts and hereditary disputes. From the archive material of this fund, it is evident that a small number of cases are complaints about the work of the magistrate of particular manorial municipalities, i.e. that they indicate the effect of Chamber Manorial Court in the second instance.

A number of cases are complaints on the work of some of Osijek judges mentioned by name. If one review the list of judges at the Osijek chamber municipalities, it will be noticed that some of these judges performed their activities in different chamber municipalities; some of them in the Fortress, some of them in the Lower Town, while some of them worked in the Upper Town. In fact these cases, too, are appeals against decisions of magistrates of particular chamber municipalities, and against the work of the Chamber Manorial Court in the second instance.

In 1809, the city of Osijek was granted the status of a free royal city. This act created a new chapter in the history of the city, because it was then that it became autonomous. One of the

important novelties is that since then justice, too, was in the hands of the city, i.e. town clerks, thus the work of the Osijek Chamber Court became moot. Nevertheless, the accumulated court documents of the Osijek Chamber Municipal Court date back to 1812. This is because this court had ended all its cases before the city of Osijek was granted the status of a free royal city, and in certain cases it lasted until 1812.

## 6. Conclusion

In the 18th and early 19th century there was in effect a feudal system of jurisdiction in Slavonia and Osijek. However, in the application of this system there were certain specifics conditioned primarily by long-term Turkish rule in this area, and the specific situation of the country conquered by military force by the Austrian army. The cruel military regime gradually and very slowly started retraining before civilian organization, however, due to the proximity of the Ottoman Empire, almost two centuries after the liberation from the Turks, large parts of Slavonia remained under military rule. All this caused a number of specific features and adjustments of the feudal judicial system.

In order to strengthen the border regions and exclude any risk of a new Turkish invasion the army subjected part of the land along Sava River to its own direct administration and constituted Military Border, and in 1746 the rest of the land was constituted into three Slavonian counties: Virovitica, Požega and Srijem.

In 1809, the city of Osijek was granted the status of a free royal city. This act created a new chapter in the history of the city, because it was then that it became autonomous. One of the important novelties is that since then justice, too, was in the hands of the city, i.e. town clerks, thus the work of the Osijek Chamber Court became moot. Nevertheless, the accumulated court documents of the Osijek Chamber Municipal Court date back to 1812. This is because this court had ended all its cases before the city of Osijek was granted the status of a free royal city, and in certain cases it lasted until 1812.

## REFERENCES

Beuc, I. (2006): *Povijest institucija državne vlasti Kraljevine Hrvatske, Slavonije i Dalmacije*, Pravni fakultet Zagreb, Zagreb

Bosendorfer, J. (1942): *Structura novae Domus Curalis*, Proceedings No. I, Osijek, pp. 38

Bosendorfer, J. (1910): *Crtime iz slavonske povijesti*, Slavonska naklada Privlačica, Osijek

Bosendorfer, J. (1936): *Series iudicum trium cameralium civitatum ac triunae civitatis, necnon consulum liberae regiaeque civitatis Osijek ab anno 1690 usque ad recentissimos annos*, Collection of archaeological club Mursa, Osijek, pp. 41

Bosendorfer, J. (1950): *Agrarni odnosi u Slavoniji*, Izdavački zavod Jugoslavenske akademije znanosti i umjetnosti, Zagreb

Firinger, K. (1971): *Magistratska instrukcija za grad i tvrđavu Osijek od 18.VII. 1690*, Proceedings No. XIII, Osijek, pp. 161

Firinger, K. (1971): *Pravosuđe u Slavoniji kroz stoljeća, an excerpt from the book of proceedings I of the scientific convocation of Slavonia and Baranja*, Osijek, 1970, pp. 653

Gardaš, M. (1993): *Progoni razbojnika u Slavoniji u 18. i 19. stoljeću*, Legal gazette No. 1/4

Gardaš, M. (1996): *Ustrojstvo sudova i pravnička djelatnost*, (period from 1687 until 1918), Od turskog do suvremenog Osijeka, Proceedings The Institute for Scientific Research HAZU in Osijeku, City Administration, Školska knjiga, Osijek

Gardaš, M., Mušić, B. (1981): *Ustrojstvo sudova i pravnička djelatnost u Osijeku od 1850. do 1945. godine*, 43, No. 3-4, pp. 423-438.

Lopašić, R. (1981): *Slavonski spomenici za XVII vijek*, Antiques JAZU XXX, pp. 143-144,

Rajczi, P. (1986): *Pravno ustrojstvo i funkcioniranje dardanskog i beljskog vlastelinstva od nastanka do 1918., Tri stoljeća Belja*, Osijek, pp. 173

Smičiklas, T. (1910): *Dvjestogodišnjica oslobođenja Slavonije*, Zagreb,

Šišić, F. (2004): *Povijest Hrvata, Pregled povijesti hrvatskog naroda 600.-1526*. Available at: [https://hrvatskoobrambenostivo.files.wordpress.com/2015/07/sisic\\_povijest\\_hrvata\\_i.pdf](https://hrvatskoobrambenostivo.files.wordpress.com/2015/07/sisic_povijest_hrvata_i.pdf)  
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## **NATIONALISATION OF MANORIAL ESTATES AND SOME CURRENT ISSUES OF RESTITUTION OF THE PROPERTY CONFISCATED DURING THE YUGOSLAV COMMUNIST RULE IN EASTERN CROATIA**

### **NACIONALIZACIJA VLASTELINSKIH IMANJA I NEKA AKTUALNA PITANJA POVRATA ODUZETE IMOVINE ZA VRIJEME JUGOSLAVENSKE KOMUNISTIČKE VLADAVINE NA PODRUČJU ISTOČNE HRVATSKE**

#### **ABSTRACT**

*The end of the Second World War resulted in numerous attempts to establish a new organization of property rights relations on the territory of FNRJ. Following the adoption of the Constitution of 1946 there were attempts to regulate by the post-war legislation the question of nationalization of various forms of private property. The above legislation thus became the foundation of the establishment of a new social and legal order. The process of nationalization strongly affected the legal status of individual manorial estates in eastern Slavonia. Although listed manors had lost their distinctive shape and size of the property by the agrarian legislation adopted between the two World Wars, the application of regulations on nationalization resulted in a weakening of economic activity and some proprietary issues that are still trying to be solved by the application of The Act on Restitution/ Compensation of Property Confiscated During the Yugoslav Communist Rule. This study will seek to determine whether there are legitimate beneficiaries to whom the property may be granted, when it comes to the former manors in eastern Croatia, also to determine the legal basis of their claims as well as to determine the possibility of their realisation.*

**Key words:** *World War II, property rights relations, agrarian reform, nationalization, The Act on Restitution/ Compensation of Property Confiscated During the Yugoslav Communist Rule.*

#### **SAŽETAK**

*Završetak Drugog svjetskog rata rezultirao je brojnim pokušajima uspostave novog uređenja vlasničkopravnih odnosa na području FNRJ. Nakon donošenja Ustava iz 1946., poslijeratnim propisima nastajalo su urediti pitanje nacionalizacije, tj. podržavljenja raznih oblika privatnog vlasništva. Navedena je zakonska regulativa time postala temelj uspostave novog društvenog i pravnog poretka. Postupak nacionalizacije snažno se odrazio na pravni status pojedinih vlastelinskih imanja na području istočne Slavonije. Premda su navedena vlastelinstva izgubila prepoznatljivi oblik te veličinu posjeda još agrarnim zakonodavstvom donesenim između dva svjetska rata, primjena propisa o nacionalizaciji rezultirala je slabljenjem gospodarske djelatnosti te nekim stvarnopravnim pitanjima koje se još uvijek nastoji riješiti primjenom Zakona o povratu oduzete imovine za vrijeme jugoslavenske komunističke vladavine. Ovim će se*

*istraživanjem nastojati utvrditi postoje li uopće zakoniti ovlaštenici povrata oduzete imovine kada je riječ o bivšim vlastelinskim imanjima na području istočne Hrvatske, odrediti pravni temelj njihovih zahtjeva te utvrditi u kojem je obujmu uopće moguće očekivati njihovu realizaciju.*

**Ključne riječi:** *Drugi svjetski rat, vlasničkopravni odnosi, agrarna reforma, nacionalizacija, Zakon o povratu imovine oduzete za vrijeme jugoslovenske komunističke vladavine.*

## 1. Introductory remarks

The Constitution of 1946 was the basis for the establishment of the Federal People's Republic of Yugoslavia, the federal national state with the republican form, a community of equal nations, who, based on the right to self-determination, expressed their will to live together in a federal state.<sup>1</sup> The establishment of the new state order aspired to the harmonization of economic and property rights relations with fundamental principles of the socialist system, which was promoted by the communist government in the area of FPRY (more on the organization of the country according to the Soviet model, see in: Pavličević, 2000, 469-47., Matković, 1998, 287) following the example of the Constitution of USSR. Aiming to introduce a planned economy and constitutional<sup>2</sup> harmonization of socio-economic order, for the purpose of reconstruction of the war-torn country and the revitalization of economic life, in the following years agrarian reform and nationalization process was repeatedly carried out as well as confiscations and expropriation of property of civil population.<sup>3</sup> (more on the adoption of the legal text and the implementation process of nationalization see in: Antić, 2007, 49-57 with special reference to the note 90.; Gams, 1980, 226-233).

No discussion on the content of certain legal provisions of the law that sought to regulate the post-war economy of FPRY, which in this part of the research are nor of particular importance, efforts will be made to determine the influence of such economic and political measures which in the mentioned period significantly affected the status of individual manorial estates in the eastern Croatia.

With the establishment of independent Republic of Croatia and for the purpose of settling the existing, complex ownership relations and correcting injustices done to former owners by forced confiscation of their property and acquired rights, in the function of further economic

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<sup>1</sup> Article 1 of the Constitution of FPRY.; More about the fundamental principles and the establishment of national authorities see in the content of the Constitution of the Federal People's Republic of Yugoslavia (hereinafter: the Constitution of FPRY); Constitution of the Federal Republic of Yugoslavia, Official Gazette of the FPRY, year II, number 10, in 1946.

<sup>2</sup> See the Constitution of FPRY, chapter IV, Article 14-20

<sup>3</sup> Expropriation as a measure for nationalization is governed by the Basic Law on Expropriation, which was published in the "Official Gazette of FPRY", no. 28/1947 of 04/04/1947 Article 1 of the mentioned law says: "The immovables and rights to immovables may be expropriated when required by the general interest of performing useful work for the purposes of socio-economic and cultural development and raise of the nation ..."; The Law on Confiscation of Property and Execution of Confiscation of 1945 published in the "Official Gazette of DFJ", no. 40/1945 of 12/06/1945 defined confiscation as a measure of forced confiscation without compensation to the State of all property (complete confiscation) or a specific piece of property (partial confiscation) which is owned by a person or property share in the joint property with other people; See Article 1 on the Law of confiscation of the property and the execution of the confiscation. The process of nationalization, i.e. nationalization of private property was administered in three attempts, i.e. by the three laws. According to the nationalization of private economic enterprises in 1946 and the amendments of the same in 1948 ("The Official Gazette FPRY" no. 98/46, no. 35/48.) Law on Nationalization of Leased Buildings and Construction Land from 1958 ("Official Gazette of FPRY" no. 52/58.) Law on nationalization of construction land in cities and towns from 1968. ("The Official Gazette FPRY " No. 52/1958, 3/1959, 24/1959, 24/1961, 1/1963.).

development of entire Republic of Croatia, the Croatian Parliament passed the Act on compensation for the property confiscated during Yugoslav communist rule ("Official Gazette", number 92/96 - hereinafter: the Law on Compensation).<sup>4</sup> As the subject of natural restitution, when it comes to estates, only real estates are covered (since in accordance with the Law on Compensation movable property have special status provided by Art. 48), it is going to be attempted to individualize them and determine the extent to which the former owners, ie. their successors succeeded in realizing their claims for the return of confiscated property.

## 2. Legal status of manorial estates in the interwar period (1918-1939)

The legal basis for the formation and main characteristics of late feudal manorial relations in Slavonia and Baranja are the result of the events that occurred immediately after the war for liberation from Turkish rule. The emergence of feudal estates on the basis of grants for special merits to prominent individuals in the liberation war greatly affected the legal system of management of individual estates, which until 1848 mostly followed the same model and effective way of economic functioning until 1918.

The end of World War I and the disintegration of the Austro-Hungarian Empire directly influenced the change of the legal status of some manorial estates in eastern Croatia, especially the estate "Belje" (For more information see: Kolar-Dimitrijević, 1998, 507, Lachner, Roškar, 2016, 70-79).<sup>5</sup> As a result of demarcation between Hungary and the Kingdom of SCS, after World War I, "Belje" lost its manorial characteristics and became the state property cultivated and exploited by the state government (Novaković, 1986, 246, Šimošić- Bobetko, 2000, 107).<sup>6</sup> This is why after becoming the state property "Belje" estate, known as private property of the Habsburg-Teschen family until 1918, lost its importance in the continuation of this research since the period to which we refer, after the Second World War, is not exposed to the aforementioned measures which at present time serve as the basis for restitution of the property nationalized during the Yugoslav communist rule (Gardaš, Peres, Roškar, 2013, 276, Novaković, 1986, 250).<sup>7</sup>

Contrary to the above-mentioned estate, which as the result of political decisions lost its characteristics of private property by 1918, feudal estates which are going to be discussed further in the text kept the characteristics of private land even after the end of World War I. Despite the basically unchanged ownership structure, in the interwar period, the estates were subjected to an attempt of change of legal status, surface reduction and impoverishment by the procedures that were primarily focused on the abolition of the nobility and the strengthening of the economy of a

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<sup>4</sup> Draft of the Law on Amendments to the Law on Compensation for the Property Taken during the Yugoslav Communist Rule: <https://vlada.gov.hr/UserDocsImages//Sjednice/Arhiva//139%20-%209.pdf>, 06/02/2017.

<sup>5</sup> The position of "Belje" was regulated in more details by the Trianon treaty signed on June 4, 1920. This agreement established the final delimitation between the Kingdom of SCS and Hungary. Before the definitive demarcation of the Hungary the overall goods "Belje" amounted to 110,385 cadastral acres, and by a definitive withdrawal of a border 24,108 cadastral acres went to Hungary. Therefore, the size of "Belje" after the Trianon agreement amounted to 86,227 acres or about 590 square kilometers. It made out about 30% of the former Baranja County, and now it became an integral part of the Kingdom of SCS. Yugoslav side was given almost all factories, but was left out without a certain part of arable land and pastures.

<sup>6</sup> Official Gazette No. 195/1921, 03/06/1921.

<sup>7</sup> This does not mean that in the past there were no requirements of the successors of the family Habsburg-Teschen focused on the return of the property which was in the period of the requirements covered by the prominent national good. With the Peace Treaty of Saint-Germain (France) pursuant to Art. 208 The Habsburg family-Teschen lost 86. 277 square acres of surface, virtually the southern part of Baranja, famous hunting ground and known habitat of birds, today's Nature Park and the Reserve "Kopacki rit". Albrecht Habsburg sent a request to the Minister of Justice Bárdossy for the repossession of their property, who in 1942 brings the decision according to which the State goods "Belje" is transferred from the State property of the Kingdom of Yugoslavia to the state property of the Kingdom of Hungary, causing a property law case that was resolved at the end of World War II.

particular regime under which the reforms were implemented. The end of World War II had a particularly adverse effect on the legal status of estates throughout the country. Even more emphasized abolition of feudal characteristics and seizure of valuable assets of individual estates, which will be mentioned in the content of this research, is the basic framework of actions and economic policies of FPRY towards their owners. The legal basis for seizures of estates were regularly the decisions of the district people's committees that conducted the procedure of confiscation and which, therefore, served as a legitimate legal basis for the refund of the assets in accordance with the Law on Compensation. It is important to emphasize that these decisions often did not reflect actual and detailed inventory of seized property, so the authorized persons had to prove their claims in connection with the recovery the hard way and by means of valuable archival material held by individual manorial funds.

### **3. The procedure of compensation of expropriated property**

#### **3.1. Valpovo manor**

A particular influence of economic policy of the Kingdom of Yugoslavia can be seen in the example of the Valpovo manor. In the economic and historical analysis of the Valpovo manor, Karaman points out that the conclusion of the first World War had a particularly critical influence on the economy of the estate (Karaman, 1962, IX). In particular, it referred to the period after the implementation of the first agrarian reform in 1935 when the Valpovo estate, which was owned by Rudolf Normann Jr.<sup>8</sup>, lost a considerable area. The total remaining area of the estate was 865 acres (Karaman, 1962, 106).<sup>9</sup> With the implementation of the land reform the estate was liquidated as agricultural property, and the remaining area of the estate were the forests. After examining the archives it can be determined that as a result of the agrarian reform 3,714 acres of arable land was confiscated from Count Rudolf Norman, i.e. 9, 28%, and the forests remained the property of the estate.(Sršan, 2003, 21, Šimošić- Bobetko, 1997, 399). It is important to note that the administrative and accounting books after the implementation of agrarian reform and the liquidation procedure do not reflect the actual state of the estate and that after 1935 it is almost impossible to determine the real economy and the ownership status of the estate. These data are of critical value for determining the size of the estate of the Counts of Norman-Prandau immediately after World War II, which was as a result of the political and economic measures fully transferred from private to public ownership. Great efforts have been made in search of archives in order to find the court decision or an administrative decision to get a clear picture of the real size of the estates at the time when the property was nationalization. Unfortunately, the efforts remained unsuccessful. Preserved archival documents provide many answers to the question of management of the manor in the period prior to the implementation of agrarian reform and colonization, while it is almost impossible to have the insight into the manor after the mentioned period. For this reason, along with the search of archival fund of Valpovo

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<sup>8</sup> Rudolf Konstantin Gustav Graf von Normann-Ehrenfels was born on 24 March 1821, and died on 16 October 1965. He had two children, a daughter Maria Pereira-Arnstein and a son Rudolf Richard Gabriel Maria von Normann-Ehrenfels who died on 13 August 1939 in Austria. This way the successor of the property of Count Rudolf Konstantin is considered only a daughter Maria Periera-Arstein: <https://www.geni.com/surnames/von-normann-ehrenfels>, 14 February 2017.

<sup>9</sup>In parallel with earlier periods in which the estate had 150,000 acres (allodial and socage land) and 85,000 acres (before 1830) it could be concluded there was a significant impoverishment and devastation of the estate as a result of the implementation of the first agrarian reform in 1935. More on the total surface of the estate in certain periods of economic development can be found in a very comprehensive analysis of economic business of the property. It is worth noting that according to the assessment the total area of the estate consisted of: 13,091,12 acres of arable land (arable land, meadows, gardens, orchards and vineyards) and 1, 973 acres of pasture land, 23,558 acres of forest, 206 acres of marshes and reeds, and 1,256 acres of arid land.



manor<sup>10</sup> it was necessary to determine the contents of the archive fund of the governing body that in the period after World War II, and in the context of the newly created state, was authorized to implement legislation related to the creation of general state property. In this regard it was crucial to search the archives<sup>11</sup> of the district's People Committee of the Board of Directors in Valpovo. As the remaining assets of the Normann Prandau manor were confiscated after World War II by the final decision on confiscation of the district's People Committee of the Board of Directors in Valpovo, with reference to AVNOJ (Anti-Fascist Council for the National Liberation of Yugoslavia) decision of 21 November 1945, in 2002 the living descendents of the family earned the right to demand restitution of property seized during the Yugoslav communist rule. (See more on the interpretation of Article 10 of the Law on Compensation: Gagro, 2008, 3).<sup>12</sup>

Upon their claim counts Normann Prandau, whose descendent is the family Perreira from Austria, were legally entitled to compensation, i.e. to the restitution of the seized property by the court decision in 2016.<sup>13</sup> The process of restitution started on 31 December 2002 after the legislation on the restitution of confiscated property had been amended. As the counts Normann Prandau were owners of numerous real estate, agricultural land and forests in the area of Valpovo and neighboring towns and municipalities, the question is how much they really managed to compensate. The well known Valpovo Castle, the center of Valpovo manor until 1945, is certainly the most important facility which became the property of the descendent Maria Periere Arnstein, i.e. her son George, after the administrative procedure had been completed and the first instance decision was made in favour of the plaintiff.<sup>14</sup> The decision was issued on May

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<sup>10</sup> [0476] THE MANOR OF VALPOVO - Valpovo (1721-1945); 1727/1945: book 1251, box 2119; 275 SI.

<sup>11</sup> [1881] DISTRICT'S NATIONAL LIBERATION COMMITTEE OF VALPOVO – Valpovo; 1944-1945: 0,1.

<sup>12</sup> The law on compensation for expropriated property during the Yugoslav communist rule ( "Official Gazette", No. 92/96) was amended by the Law on Amendments to the Law on Compensation for expropriated property during the Yugoslav communist rule (Official Gazette 80/02 and 81/02 ), after the decision and the decision of the Croatian Constitutional Court No. UI-673/1996 and others of 21 April 1999 (Official Gazette 39/99) repealed certain provisions of the Act, including those of Article 9 and Article 11 The Constitutional Croatian court canceled the part of the provision that read: "which of the date of this Law has Croatian citizenship. "Under Article 11, paragraph 1 of the Act on Compensation it was provided that foreign natural and legal persons are not entitled to the rights of this Act, while paragraph 2 of this Article stipulated that notwithstanding the provisions of paragraph 1 of this Article, the rights provided by this law can be admitted to foreign natural and legal persons, if determined by an international agreement. The Constitutional Court quashed the above provision, in the part that read: "natural and". The content of the provisions of Art. 10 (provision of Article 2 Amendments to the Law on Compensation) now reads: "The former owner is not entitled to compensation for expropriated property in case the compensation issue is settled through interstate agreements." Of particular importance for achieving the restitution of property of the family Normann Prandau is the amended Article 10 para 2, which reads: "Notwithstanding the provisions of paragraph 1 of this Article, the rights provided by this Act may also be acquired by foreign natural and legal persons if determined by an international agreement."; See more on the decision of the Supreme Court no. Uzz 20/08-2 of 26 May 2010, which is significantly influenced by the initiation of a procedure for amending the Law on Compensation in: <http://www.iusinfo.hr/DailyContent/Topical.aspx?id=8140>, 11 February 2017.

<sup>13</sup> Many immovables owned by the members of family Norman- Prandau are subject of claims in the restitution process. The park, todays building of the Government, a hotel that is privately owned, the building of a parade barn and at least 5,000 hectares of farmland and forest. As most of the land is owned by the shareholder company PPK Valpovo, aristocratic descendants cannot retrieve it. Probably, the owner who is entitled to the restitution of the property will also be entitled to the compensation according to the provision of the Law.

<sup>14</sup> Examination of the land book entry 4002 for the cadastral plot no. 1948 shows that the owner of the Castle in Matije Gupca street (in full 1/1) is Georg Pereira Arnstein, son of Marie Pereira Arnstein Received on: 1/7/2013 Z-2041/13. In the land book entry there is a dispute registered on the basis of the proposal of 8 July 2013 and confirmation of the administrative court in Osijek of Nov 12, 2013 no. Url-134/13 on the property in A proposed by Pereira Arnstein George from Austria. On January 15, 2016 there was submitted a proposal for the removal of the rejected implementation of the arrangements under the Z-530/15 and the removal of the rejected complaints under the Z-850/15.

18, 2009.<sup>15</sup> As the Ministry of Culture made multiple investments on the castle in the amount of eleven million kuna, the lien was registered on the property of the castle Normann Prandau in favor of Croatia.<sup>16</sup>

The city of Valpovo is also the subject to property restitution of building land and the building which houses the city administration<sup>17</sup>. As the final decision in that case is still pending, in the conversation with the staff of the city administration it was found out that the proposed budget of the city for the next year includes purchase of the building because it is a basic requirement that the City becomes the owner in full, so that the building could be nominated to the funds for co-financing of energy renewal. And in this regard the dispute for the return of the property was initiated between the city of Valpovo and an authorized person since the city has invested significant funds in the renovation and expansion of the property and therefore there is the possibility of establishing a co-owned part of the property for the benefit of those entitled to compensation.

### 3.2. Pejačević Manor in Našice

The Našice manor had continuously existed since the period of the 13th century, and it became the property of Pejačević family in 1732 when the estate was purchased by Franjo Ksaver Antun Pejačević for 18,000 forints (Sršan, 2008, 98). Just as previously mentioned feudal estates in the interwar period, the Našice manor was also exposed to multiple attempts of agrarian reformation that resulted in the reduction and impoverishment of the property until the beginning of World War II (About the size of the property and other proprietary rights relations of the Našice manor until 1933 see in: Šimošić- Bobetko, 2000, 386).<sup>18</sup> These attempts of seizure of Našice estate and the transfer of valuable assets to the state, culminated with the adoption of decisions on agricultural reform and colonization<sup>19</sup> and confiscation of assets of the estate in 1745<sup>20</sup> which served to the living descendents as the legal basis for the refund of the seized property on the basis of the Law on Compensation. Before the decision on nationalization Pejačević family owned a lot of property and the ones that in particular stand out are the large and the little castle,

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<sup>15</sup> The city appealed at that solution for specific reasons such as his investment in the castle complex, the use of space in the castle by the city institutions and associations, and others. The reasons for the appeal were not accepted in the second instance decision and the City initiated an administrative dispute before the Administrative Court, which on 24 December 2013 issued a judgment for dismissing the claim for annulment of second-instance decision as being unfounded.

<sup>16</sup> Received: 8 November, 2013 Z-2856/13: Based on the proposal of ODO in Osijek of 7 November, 2913 under the No. IP-DO-69/2013, in connection with the Agreement on the use of funds of the Ministry No. 16-502-05 of 25 February 2005 No. 16-355-06 of 22 March 2006, No. 16-574-07 of 8 February 2007, No. 16-454-08 of 21 May 2008, No. 16-464-09 of 2 March 2009, No. 16-328-11 of 7 February 2011 and annex of the Agreement on the use of funds of the Ministry No. 16-328-11 of 19 July 2011, mortgage is registered on cadastral plot No. 1948 in A, to secure monetary claims totaling 1,900,000.00 HRK, for the benefit of the Republic Of Croatia The Ministry Of Culture.

<sup>17</sup> In the property register of the land book entry no. 3167 for the cadastral plot number 1140/01 there is still the entry of social ownership, and the city of Valpovo is mentioned as the user of the building. Received on 11/07/2013 under the number-2039/13. Based on the proposal template from 8 July 2013 and confirmation of the Ministry of Justice, Administration for Civil, Commercial and Administrative Law of 16th September 2013 the dispute of the applicant Pereira- Arnstein George from Austria is registered.

<sup>18</sup> According to the data presented in the previous source of the estate in 1933 he owned 32,446 k. acres of land (fields, forests, pastures and other). After the land reform the estate was reduced to about 24 000 k. Acres. See table 10 on page 348

<sup>19</sup> See more in archival funds: HR- DAOS- 60, 340 Agrarian reform and the district of Našice: - Agrarian reform and the colonization of the manor of count Pejačević.

<sup>20</sup> Confiscation of all property of the family was carried out pursuant to the judgment of the District People's Court in Osijek. 20/09/1945. no. Kz. 94 / 45-7 and the District People's Court in Zagreb on 11/27/1945. no. Kz. 520 / 45. See details in: HR DAOS- 60, box 340, Agrarian reform and colonization - Našice district: - Agrarian reform and colonization of estates of Count Pejačević

agricultural land, forests and numerous movable properties of which the most significant works of art are stored in the Museum of Slavonia in Osijek, and some have not been found or are most likely stolen (More about the original documents based on which it is possible to inspect the part of the confiscated libraries of the family Pejačević see Bošnjaković ,2012, 139).<sup>21</sup> As all movables are not the object of natural restitution but movables according to the provisions of Article 48 of the Law on Compensation, they can be submitted in the ownership of the former owners provided that they have cultural, artistic and historical value. If the movables are a part of collections, museums, galleries and other similar institutions, they can be submitted in the property but not in the possession of the former owners, but they are entitled to special benefits that is determined by a special regulation by the Croatian Government.<sup>22</sup> In further research, trying not to exceed the assumed framework established in the introductory remarks, I will try to determine the objects of the returned immovables of the Pejačević family in accordance with the provisions of the Law on Compensation. The procedure of the return of nationalised property was initiated by the descendants of the previous owners in January 1997.

The procedure for the return of the large castle was completed in 2006 with the decision of the State Administration in Osijek-Baranja County, Department of Planning, Environment and Property Affairs, Branch Našice in favor of the descendant, Ladislaus Pejacsevich and Wilczek Nicolas Pedro Pejacsevitch.<sup>23</sup>

The procedure for the return of the small castle was completed with the decision of the Ministry of Justice on July 1, 2008.<sup>24</sup> In addition to the decisions which were the basis for the return of the family Pejacsevich property, descendants of the former owners of the castle and the city of Našice signed an out of court agreement in order to settle property and legal issues related to the small castle.<sup>25</sup> The settlement concluded that the city of Našice must pay the amount of 720 thousand euros to Marac Pejacsevitch, the co-owner of the property Small Castle.<sup>26</sup> The deal was signed under the condition that the co-owners of the Big Castle<sup>27</sup> cede their ownership of the property to the city of Našice. This way the agreement on the transfer of property rights is a part of the aforementioned court settlement.

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<sup>21</sup> The list of movable property seized in the confiscation after World War II was compiled by the KOMZA (Commission for the collection and preservation of cultural monuments and antiquities). On the basis of the documents of that Commission, it is possible to partially reconstruct the legacy of family Pejačević after 1945. The list of confiscated property of the Pejačević family is stored in the Ministry of Culture.

<sup>22</sup> See Article 48, para 2, The Law on Compensation.

<sup>23</sup> Class: UP/I-943-01/97-01/28, RefNo: 2158-14-03/02-06/27 of 6 October 2006.

<sup>24</sup> Class: UP/II-942-01/06-01/942, RefNo: 514-03-07/5-08-2 of 1st July 2008; Although there was a proceeding instituted before the Administrative Court in Osijek against the decision of the Ministry of Justice to reverse decisions and conclusions of the Ministry of Justice Class: UP/II-942-01-11-01 / 301 of 17 January 2014, which allowed reopening of the proceedings in the case of Marac Pejacsevich for the return of confiscated property in order to determine the ownership of the city of Našice on the property of Mali Dvorac in order to invest in that property. With Article 5 of the Settlement this procedure was interrupted by pulling the claim, as well as the procedure which was initiated by the city of Našice before the Municipal Court in Našice seeking a declaration of co-ownership on the same property (P-348/11).

<sup>25</sup> The text of the settlement is available in the content of the "Official Gazette" of the city of Našice no. 1 from 20, p. 18:19.; In the property register of the land book no. 5111 for the cadastral number 1714/3 the owner is the city of Našice.

<sup>26</sup> The amount of € 500,000 was paid immediately after the conclusion of the settlement, and the remaining amount of € 220,000 the city of Našice pledged to pay in three installments (April 30 2016/2017/2018 each in the amount of 73 € 333.33). For details see: Art. 2 of the Settlement.

<sup>27</sup> Real estate a big castle is marked as cadastral plot no. 1697 and registered in the land book entry 5110. Until the signing of the contract on the transfer of the property the co-owners of the property were Ladislaus Pejacsevich and Wilczeka Nicolas Pedro Pejacsevitch, each of them with a half share of the property. The provision mentioned in the agreement is the content of the Article of the Settlement. The contract on the transfer of the ownership was published in the Official Gazette of the city of Našice, no. 2, 2015, p. 61-62

As the official documentation related to resolving of the remaining claims for the return of nationalized property was not publicly announced, it was learned unofficially from the public media, given that we failed to access the documents we have requested, that according to the settlement agreement, which was adopted by the City Council, the descendants of the family were paid out by the city of Našice in the amount of 530,628 kuna for the seized land, thus the descendants were recorded as owners of four infrastructure fitted plots<sup>28</sup> in the future industrial zone. Also, in the process of return<sup>29</sup> they were returned around several thousand hectares of forests.

### 3.3. Eltz manor in Vukovar

From the late 17th century until 1728 the Vukovar manor was in the possession of the Vienna crown, and in 1736 it was awarded by the imperial grant to the noble Eltz family in whose possession the manor remained until 1945 (On the history of the manor see more in: Sršan, 2008). The latest data of the manor deed can be seen in the work of Šimošić-Bobetko, which minutely determined the subjects of agrarian reform on the manor on June 21, 1932. (Šimošić-Bobetko, 2000, 251).

Count Eltz instituted proceedings for restitution in 1997.<sup>30</sup> In this procedure, except for 476 acres of land that had been taken by the decision on confiscation in 1945<sup>31</sup>, Count Eltz also requests for the restitution of agricultural areas, forests, residential buildings, schools, hotels<sup>32</sup>, real estates of the city of Vukovar, Croatian Forests, Croatian Waters, Ina, Vupik<sup>33</sup>, Velepromet and of other legal and natural persons that have been built over the past decade. In the content of the entry of the land book of the Eltz<sup>34</sup> castle, which undoubtedly represents the most valuable property in which respect the conditions for restitution are also fulfilled, interestingly, there are no records of the instituted proceedings for restitution.

As the process of return of confiscated property of Eltz family in terms of the Vukovar manor is still going on, the only decision that has been made in this case is a judicial decision of March 11, 2014, by which the procedure of fees was recorded on 500 cadastral plots in cadastral municipality of Vukovar, Berak, Bršadin, Čakovci and Negoslavci. The lack of archival material because of its destruction during the homeland war is the reason that the restitution process to the count of Eltz has not yet been completed by the final decision of the competent authority. After examining the archives of the mentioned manor we can see the correspondence of the State Archives in Osijek and an authorized person to the return of the property of Eltz family, which clearly shows that there is no documentation which could determine the scope of property rights

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<sup>28</sup> The plots are registered in the land book entry No 3510, KO Našice.

<sup>29</sup> Procedure for the return of the property which is the object of the return was initiated on 18/06/1997 and concluded by the partial decision Class: UP/I- 943-01/97-01/28, RefNo: 2158-14-03/02-04/15 on 08 April 2004.

<sup>30</sup> The proceeding is pending before the Office of State Administration in Vukovar-Srijem County, Department for Regional Planning, under no class: UP / I-943-01 / 01-01 / 07.

<sup>31</sup> The proceeding is pending before the Office of State Administration in Vukovar-Srijem County, Department for Regional Planning, under no class: UP / I-943-01 / 01-01 / 07.

<sup>32</sup> The record of the previous procedure was also entered by the court decision on the cadastral plot number 1793/1 on property hotel Lav II. (Hotel No. 18 and a castle in J. J. Strossmayer Street) registered in the land book entry No. 9318.

<sup>33</sup> Some of the numerous properties requested for the repossession by the count Eltz, and which were nationalized during the Yugoslav communist rule are in the ownership of the joint stock company Vupik: cadastral plot number 1760 (3 buildings and a castle in the street I. L. Ribar) registered in the land book entry no. 10938; cadastral plot no. 1761/1 (a building and a castle in Županijska street) land book entry no. 9497 and cadastral plot no. 4017/1, 4084, 1300/1, 1301, 1302, 1303, 1481, 1482, 1483,, 1484, 1485, 1487, 1488.

<sup>34</sup> The Eltz castle (cadastral plot no. 1185/1 registered in the land book entry no. 3380) is the property of the Republic of Croatia and in the land book entry there is no record of the proceedings of the compensation for the nationalized property.

of the family at the time of its seizure according to the decision on confiscation in 1945. It should be noted that, in spite of numerous registrations in land books entries owned by legal and private persons, according to the Article 52 of the Law on Compensation it is impossible to seize the property of the mentioned persons, but the owner who is entitled to the restitution of the property is to be paid out compensation according to the provision of the Law.

#### 4. Concluding remarks

Procedures of the seizure of property in the period after World War II resulted in the appearance of estates which has been continuously existed in eastern Croatia since the late 18th century. Multiple measures of agrarian legislation made in the interwar period reduced the size of individual holdings, and measures of seizure of property in the procedures of repressive criminal law nature ultimately changed their ownership and legal regime. In administrative proceedings conducted by the district People's Committees valuable assets of previously mentioned manors of Valpovo, Našice, and Vukovar passed into the state ownership and were used for achieving the economic goals of the communist regime. With the establishment of the independent Republic of Croatia and with a strong need to harmonize the legal order with the Western European acquis, the entry into force of the Law on Compensation enabled to demand for the return of or compensation for the confiscated property to former landowners, i.e. to their descendents of the first order. Compared to Valpovo and Našice manor, where the procedure of compensation of expropriated property has almost been completed, it can be said that significant progress towards the correction of the injustice of war has been made. The return has been made in terms of the most valuable property, agricultural land and forests. In terms of Našice castles, which represent cultural heritage and in that sense were subjected to special legislation, out of court settlements have been achieved upon which the ownership of the property was transferred to the city of Našice, and the descendents were paid an amount of money that cannot be concluded proportionate to the value of the property but only a partial satisfaction, which, in line with available funds of the city budget, is the only possible solution. The castle of Valpovo manor was returned to the descendents, while Eltz castle, now owned by the state is not included in the process of compensation. The process included another valuable asset of the Vukovar manor where the final verdict has not yet been reached, but as its value exceeds the framework and possibilities of the local government it is going to be necessary, in this case, to engage state funds as well. We hope, for the protection of the interests of descendets, it will happen as soon as possible.

#### REFERENCES

Antic, T., *Normative framework of nationalization of property in Croatia / Yugoslavia*, Journal of Contemporary History (ČSP) God. 39, no. 1, 25- 62 (2007)

Bošnjaković, Renata, *Knjižnica obitelji Pejačević u Našicama i njezina muzealizacija [Family library of Pejačević family in Našice and its musealisation]*, Museology 48/49, 2012.

Gagro, Božo, *Naknada stranim državljanima za imovinu oduzetu za vrijeme jugoslavenske komunističke vladavine*, Novi informator 5634 [Compensation to foreigners for property confiscated during the Yugoslav communist rule, New informant 5634], 2008.

Gams, A., et al., *Fundamentals of the real law*, Belgrade 1980.

Gardaš, M., et al., *Manors and Baranja County in the 18th and 19th century*, Law, Regions, Development / Tímea Drinóczi, Mirela Župan (ed.), Pecs-Osijek: Faculty of Law, J.J. Strossmayer University of Osijek, Faculty of Law, University of Pecs, 2013.

Karaman, Igor, *Valpovačko vlastelinsko, Ekonomsko-historijska analiza [The Manor of Valpovo, Economical and Historical analyses]*, Zagreb, 1962.

Kolar-Dimitrijevic, M., *Belje between the two world wars. The role of politics in the organization of Belje manor from 1918 to 1941*, Journal of Croatian History 3/30, Zagreb, 1998.

Lachner, et al., *The impact of the Trianon Treaty on the economic situation of Belje*, 5th International Scientific Symposium "Economy of Eastern Croatia-Vision and Growth", Osijek, 2016; p. 70-79.

Matkovic, H., *History of Yugoslavia*, Croatian Review, Zagreb, 1998.

Novaković, S., *Državno dobro «Belje» from 1918-1941 [The state goods Belje]*, The three centuries of Belje, JAZU, Osijek, 1986.

Pavličević, D., *Croatian History, 2nd changed and expanded edition*, Zagreb, 2000.

Sršan, Stjepan, *Doprinos slavonskih vlastelinstava od kraja 17. stoljeća procesu europskih integracija*, Povijesni zbornik: godišnjak za kulturu i povijesno naslijeđe, Vol. 2 No. 3. [Contribution of the Slavonian manors of the late 17th century to the process of European integration, Historical code: yearbook for culture and historical heritage, Vol. 2 No. 3], 2008, p. 98.

Sršan, Stjepan, *Nestanak veleposjeda u Slavoniji 1848.-1918. godine [The disappearance of estates in Slavonia 1848 to 1918]*, Glasnik Arhiva Slavonije i Baranje br. 7 [Gazette of the Archives of Slavonia and Baranja No. 7], 2003.

Sršan, Stjepan, *Vukovarsko vlastelinstvo 1719.-1945. Sumarni inventar [The Manor of Vukovar 1719-1945 summary inventory]*, Osijek, 2008.

Šimošić Bobetko, Zdenka, *Agrarna reforma i kolonizacija u Hrvatskoj 1918.-1945. [Agrarian reform and colonization in Croatia 1918-1945]*, Zagreb, 1997.

Šimošić Bobetko, Zdenka, *Agrarna reforma i kolonizacija u Hrvatskoj II., Izbor iz grade [Agrarian reform and colonization in Croatia II, Selection of materials]*, Zagreb, 2000.

*Draft of the Law on Amendments to the Law on Compensation for the Property Taken during the Yugoslav Communist Rule:*  
<https://vlada.gov.hr/UserDocsImages//Sjednice/Arhiva//139%20-%209.pdf>, (accessed 06 February 2017)

*The right of foreigners to return confiscated property*  
<http://www.iusinfo.hr/DailyContent/Topical.aspx?id=8140>, (accessed 11 February 2017)

*Von Normann-Ehrenfels Genealogy and von Normann-Ehrenfels Family History Information* <https://www.geni.com/surnames/von-normann-ehrenfels>, (accessed 14 February 2017)



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## **BLACK SLAVONIAN PIG – THE TRACES OF CULTURAL HERITAGE IN EASTERN CROATIA**

### **CRNA SLAVONSKA SVINJA – TRAGOVI KULTURNE BAŠTINE U ISTOČNOJ HRVATSKOJ**

#### ***ABSTRACT***

*Black Slavonian pig- Fajferica is an autochthonous or native breed that originates from the farm Orlovnjak near Osijek (19th century), where it was bred by and named after count Karl Pfeiffer. The role of the Pfeiffers in the selection process (awarded (inter)nationally, Vienna 1873 and 1905) has not been fully investigated. Although it was the most important and numerous breed in Slavonia until the first half of 20th century, there is a lack of information from the historical, economical, cultural and ethnological point of view. Since agriculture's importance in our country's history can be easy to forget, information about the history of the breed should be more available to scholars, students, tourists and others. After WWII, namely, its population drastically decreased and reached the critical survival level. Therefore, the Black Slavonian Pig preservation program was started in 1996. Today, the breed is included in the National program of preservation of autochthonous and protected breeds of domestic animals in Croatia and is kept in almost all continental counties in Croatia. In the last fifteen years, the number of fajfericas has increased significantly: breeders were led primarily by economic interests, but also by their love towards tradition. Following the traces of national cultural heritage (songs, pastoral games and folk costumes) an unusual combination was born, where tradition and art meet agriculture (from acorn grazing to naïve art, sculpture and literature). In this paper, methods of description and comparative analysis were applied in the investigation of private and public collections (LAM institutions) in order to reach the conclusion on the impact of black Slavonian breed on Osijek and Eastern Slavonia in the European context.*



**Key words:** *Black Slavonian pig, cultural heritage, the Pfeiffers, LAM institutions, Eastern Slavonia*

## SAŽETAK

*Crnu slavonsku svinju – Fajfericu, autohtonu hrvatsku pasminu, uzgojio je u 19. stoljeću na farmi Orlovnjak u blizini Osijeka grof Karl Pfeiffer, po kojemu je dobila i ime. Uloga članova obitelji Pfeiffer u selekcijskom radu (nagrade u zemlji i u inozemstvu, Beč 1873. i 1905.) nedovoljno je istražena. Iako je do sredine 20. stoljeća bila najbrojnija i najznačajnija pasmina svinja u Slavoniji, o njoj se danas malo zna s povijesnog, ekonomskog, kulturnog i etnološkog stajališta. Kako se u modernom društvu vrlo lako zaboravlja značenje poljoprivrede u povijesti naše zemlje, znanstvenicima i istraživačima, studentima, turistima i ostalim zainteresiranim informacije o povijesti uzgoja pasmine trebale bi biti dostupnije. Naime, nakon II. svjetskog rata populacija fajferica je drastično smanjena te se našla u kritičnoj fazi za opstanak. Stoga je pokrenut program za njezino očuvanje (1996.). Danas je crna slavonska svinja uključena u Nacionalni programa očuvanja izvornih i zaštićenih pasmina domaćih životinja u Republici Hrvatskoj i uzgaja se na području skoro svih kontinentalnih županija. U proteklih petnaestak godina, broj fajferica se značajno povećao: uzgajivači se bili vođeni primarno gospodarskim interesima, ali i ljubavlju prema tradiciji. Na temeljima narodnog kulturnog stvaralaštva (pjesme i glazbeni izričaji, pastirske nošnje i igre) nastao je pomalo nesvakidašnji spoj poljoprivrede i umjetnosti od žirovanja/žirenja do naivne umjetnosti, kiparstva i književnosti. U radu su primjenjene metode istraživanja privatnih i javnih zbirki (AKM-ustanove), metoda deskripcije i komparativna analiza kako bi se došlo do zaključka o doprinosu autohtone hrvatske pasmine crne slavonske svinje na značenje Osijeka i istočne Slavonije u europskom kontekstu.*

**Ključne riječi:** *crna slavonska svinja, kulturna baština, obitelj Pfeiffer, AKM-ustanove, istočna Slavonija*

### 1. Introduction

By ratifying the Convention on Biological Diversity in 1996, Croatia demonstrated its commitment to the conservation and sustainable use of biodiversity, including agricultural biodiversity. Furthermore, in 2010 Croatia endorsed its National Programme for the Protection of Native and Protected breeds of Domestic Animals in the Republic of Croatia. Awareness of the roles of Croatian animal genetic resources should be raised, threats to indigenous breeds of livestock minimized and the importance of indigenous breeds for the maintenance of habitats stressed. During the development of European civilisation during the past millennia, indigenous animal species were adapted to the local climate and habitat conditions, were semi-resistant to local pests and diseases and required little water and feed. They lived in harmony with nature, and formed part of the local ecosystems. The maintenance of autochthonous livestock breeds is therefore a necessity. Changes in livestock breeding methods and the demands of the modern market influenced the older indigenous and domesticated animal breeds, many of which have already disappeared (Barać et al., 2011). One of them is Black Slavonian pig, a breed selected near Osijek.

In this paper its importance will be viewed not from agricultural or economic, but from cultural and historical perspective.

## 2. Black Slavonian pig (*fajferica*)

Black Slavonian pig (*fajferica*) is a native Croatia dopamine pig, produced as a result of a systematic and planned crossing between swallow bellied mangalitsa and berkshire pig, with the participation of poland china. It emerged in the late 19th century in the vicinity of Osijek, on the estate Orlovnjak, by the owner Karl Pfeiffer and his son Leopold. Not only was the black Slavonian pig awarded, but also recognized as the breed (Sršan, 2008) at the agricultural fair in Vienna in 1873, which proves the fact that it was highly appreciated in Austria at the time. From the end of 19th until the mid-twentieth century black Slavonian pig was the most widespread breed in Croatia (Uremović, 2004). Since some new combined and meaty breeds were introduced after World War II, the number of black Slavonian pigs drastically decreased and reached its biological minimum (Barać et al., 2011). Due to current protection measures the effective population rather increased (Karloly et al, 2010).

*Image 1 Count Pfeiffer, Višnjevci near Ruma (1896)*



*Source: V. Margeta, by courtesy of Pfeiffer's heirs*

There is a growing movement in Croatia to return to more traditional methods of pork production, which are more humane for the pigs, better for the environment, and healthier for the consumer than pork produced by modern factory farms. Today most pigs grown on family farms are not market competitive, and it results in a drastic reduction in the total number of sows. In order to prevent a further decline in the number of pigs, it is necessary to develop alternative keeping systems that will maximize the resources and capacities of family farms, for which black Slavonian pig is an adequate solution.

This noble breed belongs to the fatty meat-type pigs. It is characterized by strong constitution, good resistance and adaptability to extensive and semi intensive keeping conditions. Fertility is between 6 and 10 piglets per litter, and the share of muscle tissue in the carcass is between 30 and 45%. One of the most important characteristics of this breed is exceptional quality muscle and fatty tissue, which is suitable for the processing and production of traditional meat products (kulen sausage, ham, sausage, bacon, scrap).

### 3. Pig acorn feeding / Mast

The history of swine production and meat processing is a dramatic story full of many turning points. It was the Egyptians who allegedly started the domestication of wild pigs. In ancient times pigmen or swineherds were given the Latin honorary title “porcarius” and an ascribed status within the society by kings. There is a common motif in European arts: swineherds carrying a pole or stick to knock down acorns for his pigs frequently appeared in the calendar tradition as the activity proper to November. Acorns were the principal fodder in fattening up swine to be slaughtered and salted for winter food. While green acorns contain toxins that are poisonous to cattle and to people, they are not harmful to pigs.<sup>1</sup> Historical human activity had profoundly influenced the composition of forests in Europe. Due to feudal structures, the power over and ownership of forests was not at all clear for many centuries, which resulted in widespread overexploitation. As a result, during the period 1750-1850 forests in Europe as well as in Croatia had been decimated, causing a serious lack of timber (Alebić T., Ipšić I., Vranješ-Šoljan B., 2009).

Pigs were native to the forests of Eurasia and more than a hundred years ago swine production was based on non-timber forest products (NTFPs) for direct consumption for livestock. Swine population was fed with acorns (*Quercus* species) or masts (*Fagus* species) and it was called “žirenje” (acorn grazing/feeding, mast<sup>2</sup>) in Croatian<sup>3</sup>. In some regions of Europe, unlike Croatia, these ancient, traditional methods of raising pork never disappeared.<sup>4</sup> But, one of the indisputable facts about acorn feeding is that at the time when wood pasture in Croatia was allowed, a significantly larger number of swine herds was kept despite the extensive used pastures. The Sava River Basin with its tributaries has been known for its outstanding biological and landscape diversity, for being the host of the largest complex of alluvial wetlands in the Danube Basin (Posavina - Central Sava Basin) and large lowland forest complexes.

### 4. Cultural and historical importance

When it comes to acorn grazing or mast in Croatia, not many documents could be found. One of the records describes acorn feeding tradition in the Draganić woods<sup>5</sup>, according to which “old pigmen believed that wood pasture was mutually beneficial to both swines and forests, since swines dig up root systems quite successfully with their task oriented physique.”<sup>6</sup> In the simplest terms, forests are areas of land covered with trees and undergrowth. The amazing sense of smell the pigs possess make them formidable diggers, capable of sniffing out food despite the considerable depth it may be buried in. However, while it is true that forest landscapes are dominated by trees, in reality these ecosystems are far more complex than they may first appear, supporting a whole host of different species. By hoeing, they kill weeds; rather than being

<sup>1</sup> The Metropolitan Museum of Art, <http://blog.metmuseum.org/cloistersgardens/2009/11/13/pigs-and-pannage/>

<sup>2</sup> The term “mast” was applied to any autumnal fodder on which pigs might forage, including beechnuts, haws (the fruit of the hawthorn), and acorns, as well as fungi and roots.

<sup>3</sup> *de bellota* in Spanish

<sup>4</sup> The legendary *jamón ibérico de bellota* (Iberian acorn-finished ham), also known as *pata negra*, is widely considered to be the finest pork in the world. This Spanish ham comes from the black Iberian pig (*cerdo negro*) and is raised in southern Spain near the border with Portugal in oak forests called *la dehesa*. During the six month period (*la montanera*) every fall and winter that they forage in the Dehesa, the pigs eat 15-20 pounds of acorns (*bellotas*) every day, gaining up to two pounds a day, and enjoy fresh air and exercise. After they are “sacrificed,” the hams are cured for 12-36 months, producing a truly artisan meat.

See: [http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A52016XC0610\(01\)](http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A52016XC0610(01))

<sup>5</sup> Karlovac County

<sup>6</sup> [http://www.zraka.com/Poucna\\_cesta.html](http://www.zraka.com/Poucna_cesta.html)

threatened by pig herding, as is commonly believed, some plant species may grow thanks to them. Based on the above mentioned record from Draganić, huts and pigpens were built all over the wood (*kolibišće*). These one room wooden shelters were used for sleeping and preparing a meal. Plank beds were covered with hay (*štraja*) in order to be more comfortable. One hut was owned by four masters: it was agreed that every four weeks one of them should send his servant (*konadžija*). He was supposed to be in the hut all the time and perform various tasks: bring the water for meal preparation and washing, collect firewood, keep the hut warm, wash the dishes. In order to lead herds in/out of the woods, pigmen used either their high-pitched voices or the horn of a goat as a signal instrument, and the animals would respond to the call. During rainy season swineherds would wear self-made raincoats of grass from the woods (*lasenj*) that could not provide them any protection from strong winds.

In terms of pig acorn grazing in eastern Slavonia, especially the Sava Basin, there are valuable ethnological and historical documents written by Marko Kadić (1900-1988), a famous Croatian veterinarian. Thanks to his efforts, a lot can be learned about the history of pig feeding in Slavonia. During his prosperous career he improved not only equine, swine and poultry industry but also veterinary practices in Slavonia and Baranya. In numerous scientific and professional journals as well in newspapers M. Kadić published some 1.200 articles. He was also known for his work in the field of ethnoveterinary medicine and ethnology. In his paper “On Pig Feeding in the History of Slavonia” (1975) Kadić gives an insight into the way pigs were fed from the 18th until the beginning of the 20th century. His detailed presentation is mostly based on the report written by Friedrich Wilhelm von Taube “Description of Slavonia and Srijem 1777/1778”. Within Katić's scope of interest is Spačva, a geographic microregion in Croatia, located in the south-western part of Sarmatia—the latter being divided by Croatia and Serbia—and the southeastern part of Slavonia macroregion of Croatia. The region is famous for its biggest contiguous oak (*Quercus robur*) forest in the Europe, which – along with black Slavonian pigs - has been an inspiration for many generations of artisans.

Interestingly enough, The City of Vinkovci's Library and Reading-Room owns two versions of the above mentioned paper. Both share the title and both are published in the same year, but there are some differences. The first one is a separate reprint of the article with three photographs and an illustration that originally appeared in the larger publication. The second is a type-written document, with a sub-title “An excerpt from Bilten no. 5/75 “Poljodobro” that was published in Zagreb. This paper lacks images, but it is enriched with three exquisite quotations from folk songs, the leitmotif of which is pig acorn feeding. The first two<sup>7</sup> are performed even today by folk ensembles or tamburica orchestras. According to Kadić (1975) the latter is dedicated to the pig plague outbreak in 1895<sup>8</sup>. All of them are written in decasyllable verse. Tradition has not faded away: Đuka Galović (1924-2015), who in 2014 won the award “Šokačka rič” for his efforts in the promotion of Slavonian dialect in literature (Klapka M., 2006), also wrote about pig acorn feeding in Slavonia<sup>9</sup>. His poetry is known for its decasyllable, a poetic meter of ten syllables used in poetic traditions of syllabic verse.

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<sup>7</sup> “*Kad su stari svinje žirovali\** (Kad su stari svinje žirovali, / debele su krmače imali. / Male prasce u panje metali, / veliku bi vatru naložili, / kruh rezali, slaninu topili! / Ej, svinje moje bile i debele, / jeste l' mi se žirova najele! Kad su stari svinje žirovali, / krmače su na 'rašće vješali, / džigerice na travu bacali, / meso sjekli pa na ražnju pekli, / prasce krali, kurvama davali. / Kulinje su u odžak vješali, / jedan drugom iz odžaka krali. / Rakiju su u tikve ljevali, / a mi, rode, nemamo ni vode!\*) and “*Ej, sad moj dika u šumi kod svinja\**” (Sad moj dika u šumi kod svinja/ naložio vatru od jasinja! / Da je meni do te vatre doći, / ja bi stala pa se grijala!)

<sup>8</sup> „Kugo, tugo, nemoj tako dugo! / Mnogi braca ne će zaklat bravca!“

<sup>9</sup> „Zima došla i palo je inje/ a ja čuvam po šumama svinje./ Čuvam svinje po rastovom žiru/ pivam pismu i živim u miru.“ (available at: <http://www.anaveric.in/Galerija.html>)

The sculpture of the black Slavonian pig was created by Robert Frangeš Mihanović (1872-1940), a pioneer of modern Croatian sculpture. He made animal sculptures while allegedly having stayed on the count Pfeiffer's farm. "The first lady of naïve painting"<sup>10</sup>, Ana Verić (1928), is a naïve painter<sup>11</sup> from Babina Greda in Slavonia. She lives and works in her native village, where she has already been tirelessly creating for half a century. Paintings done in her favourite technique, oil on a hardboard or flaxen canvas, rarely on perspex, expose to view her deep roots. Following the thematic guidelines of the Croatian naïve art, that first appeared in 1930s (at first connected with the works of peasants and working men, ordinary men and women), her work includes themes from her childhood, nature and rural life. Despite no formal art training, she has achieved her own creative style and a high level of art. Among other motifs, it was pig acorn grazing that inspired her. On her website, there is a list of 9 maps of her paintings. In the Map 2, there are two paintings "Žirovanje svinja" and "Slavonska šuma" (Images 2 and 3), showing black pigs in Slavonian forest as a recollection of a rare moment from the past.

*Image 2 "Pig acorn feeding" by Ana Verić*



Source: <http://www.anaveric.in/Slikarstvo.html>

*Image 2 "Slavonian Forest" by Ana Verić*



Intensive forest exploitation and its devastating results in some parts of Europe led to the end of the golden era for free pig keeping. The forests of Slavonia had been deforested during the 19th century, when the size of Slavonian woodlands decreased from approximately 70% to about 35%.<sup>12</sup> Pigs were moved to pig stalls, and the selection of breeds started.

## 5. Manor Orlovnjak and Bezenica

By the end of the 19th century, the former estate of the baron and landowner Adamović near Osijek was subdivided into several lots. One of them known as Orlovnjak (Image 4) and Bezenica (Image 5) was bought by Dragutin Pfeiffer, noble. To the existing app. 6.000 ha arable land a new 1.000 ha tract of land was attached: it was Belin dvor along with Bamoćin (Ovčara), previously owned by the noble family Schapringner de Csepreg. After the Great War, the Pfeiffers also owned a planned agricultural settlement, Seleš, once a lowland saturated with water (1880), where horses and Simental cattle were kept. Another planned agricultural settlement in their possession, Ovčara, was known for the production of industrial plants and a private hemp

<sup>10</sup> <http://www.anaveric.in/index.html>

<sup>11</sup> Exhibitions of her work were held not only in the Republic of Croatia, but also in Italy, France, Spain, Germany, Hungary, Bosnia and Herzegovina, Serbia (available at: <http://www.anaveric.in/O%20Ani%20Veric.html>)

<sup>12</sup> <http://www.historiografija.hr/prikazi.php?id=236036>



processing plant. Manor Orlovnjak and Bezenica was mainly oriented towards pig and cattle breeding.

*Image 4 Manor Orlovnjak in Pfeiffer's time*



Source: V. Margeta, by courtesy of Pfeiffer's heirs

*Image 5 Manor Bezenica in Pfeiffer's time*



Source: V. Margeta, by courtesy of Pfeiffer's heirs

There were two Pfeiffer families in Osijek: members of the baronial family (German-Hungarian) were big landowners. Their most famous representatives were noble Karl and Leopold Pfeiffer, established cross-breeders in Austro-Hungarian Monarchy. Members of the second family were Jewish, mostly involved in printing, The best known member was Julius Pfeiffer, the publisher of the most important newspapers in German “Die Drau”<sup>13</sup> (1868 - 1930’s)<sup>14</sup> and the owner of the printing house (Sršan, 2008). It should be mentioned that it was he who published two books

<sup>13</sup> „Die Drau“ was known for its pro-Hungarian sentiments

<sup>14</sup> <http://mso.hr/?p=3808&lang=en>

on swine breeds (1902)<sup>15</sup> and their keeping (1912)<sup>16</sup> written by G.A. Vichodil. Both examples can be found in the Museum of Slavonia, being a part of the *Essekiana* collection. None of them contain any information on black Slavonian pig, which proves Sršan's statement that in the absence of the primary documents about Manor Orlovnjak and Bezenica, the potential research should be based on the information from newspapers, literature and other sources.

*Image 6*      *Black Slavonian pigs at Orlovnjak*



Source: V. Margeta, by courtesy of Pfeiffer's heirs

## 6. Conclusion

A few months ago, an application was submitted and funds for *Virtual Museum of Black Slavonian Pig* were allocated through calls for project proposals at the University of J. J. Strossmayer in Osijek. *Virtual Museum of Black Slavonian Pig* will address the above mentioned concerns by providing a way for scholars, students, tourists and others to learn more about history of the breed itself and its perseverance. The website will include an interactive virtual tour of Fajferica's history, a database of primary sources, links to relevant resources. Moreover, this website is going to be a place where tradition and art meet agriculture (from acorn grazing to naïve art, sculpture and literature). Digitalization will enable the promotion of this segment of cultural heritage and make it more accessible to the interested users, which has already been the case in similar projects in numerous galleries, museums, libraries and archives all over the world.

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<sup>15</sup> *O pasminama svinja i njihovoj gojitbi*. Napisao Gust. Aug. Vichodil. Preštampano iz „Gospodara”. 1902. Nakladom „Slavonskoga gospodarskog društva u Osijeku”. Tiskom Julija Pfeifferra u Osijeku, 1902. <http://www.mso.hr/essekiana/katalog.php?page=45>

<sup>16</sup> *Uzgoj domaće svinje*. Napisao: Prof. A. Vichodil. Posebni otisak iz „Gospodara”. Izdalo u vlastitoj nakladi Hrv.-slav. gospodarsko društvo kao središnja zadruga u Osijeku. Tiskom Julija Pfeifferra, 1912. <http://www.mso.hr/essekiana/katalog.php?page=64>



## REFERENCES

- Barać Z. et al. (2011): *Zelena knjiga izvornih pasmina Hrvatske*, Kerschoffset d.o.o., Zagreb
- Bartolović, T. (1951): *Praktična uputstva za rad u svinjogojstvu*, Zadržno izdavačko preduzeće, Sarajevo
- Belić, J., Ognjanović A., Šterk V. (1961): *Savremeno svinjarstvo*, Zadržna knjiga- Beograd
- Ensminger, M.E. (1957): *Swine Science (Animal Agriculture Series)*, The Interstate Printers and Publishers, Danville Illinois
- Kadić, M. (1975): *O hranidbi svinja u prošlosti Slavonije*, izvadak iz Biltena br.57/75. "Poljodobra"
- Kadić M., (1975): *O hranidbi svinja u prošlosti Slavonije*, Veterinarski glasnik, god.XXIX, br. 4, Beograd
- Kellner, D. (1924): *Ernährung der landwirtschaftlichen Nutztiere, Lehrbuch aus der Grundlage physiologischer Forschung und praktischer Erfahrung*, Verlagsbuchhandlung Paul Parey, Berlin
- Schmidt J., Kliesch, J., Goertler (1956): *Lehrbuch der Schweinezucht, Züchtung, Ernährung, Haltung und Krankheiten des Schweins*, Paul Parey in Berlin und Hamburg
- Uremović, M. (2004): *Crna slavonska pasmina svinja, hrvatska izvorna pasmina*, Insula Ivanich d.o.o., Klošar Ivanić
- Vukina, R. (1961): *Praktično svinjogojstvo*, Štamparski zavod „Ognjen Prica“, Zagreb
- Sršan S. et al (1998.): *Gospodarstvo Osijeka 1196-1996*, Gradska tiskara Osijek, d.d., Osijek
- Margeta V. (2013): *Perspektive uzgoja crne slavonske svinje u Hrvatskoj u kontekstu pristupanja Europskoj uniji*, in: 48 hrvatski i 8. međunarodni simpozij agronoma
17. – 22. veljače 2013. Dubrovnik, Hrvatska, plenarno izlaganje, available at: [http://sa.agr.hr/pdf/2013/sa2013\\_p9903.pdf](http://sa.agr.hr/pdf/2013/sa2013_p9903.pdf) (accessed 15 March 2017)
- Alebić, T., Ipšić I., Vranješ-Šoljan B. (2009.): *Stanovništvo Drenovaca (1870-1880): predtranzicijsko doba*, Anali Zavoda za povijesne znanosti Hrvatske akademije znanosti i umjetnosti u Dubrovniku, No.47, str. 63.-90., available at: [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=61440](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=61440) (accessed 15 March 2017)
- Karolyi, D., Salajpal K., Luković Z. (2010): *Crna slavonska svinja*, Meso: prvi hrvatski časopis o mesu, Vol.XII No.4, str. 222-230.
- Klapka M. (2006): *Cvelfer stari ili o Đuki Galoviću*, Aleph, available at: <http://oziz.ffos.hr/aleph/index.php/aleph/article/viewFile/94/92> (accessed 15 March 2017)

Sršan, S. (2008): *Doprinos Slavonskih vlastelinstava od kraja 17. stoljeća procesu europskih integracija*, Povijesni zbornik : godišnjak za kulturu i povijesno naslijeđe, Vol.2 No.3, str. 85-110

Sršan S. (2012): *Friedrich Wilhelm von Taube: Opis Slavonije i Srijema 1777./8. godine*, Med Vjesn 2012; 44(1-4): str.183-195, available at: [https://library.foi.hr/m8/S01131/2012/2012\\_01-02\\_00021.pdf](https://library.foi.hr/m8/S01131/2012/2012_01-02_00021.pdf) (accessed 15 March 2017)

<http://www.fondazione Slow Food.com/en/ark-of-taste-slow-food/fajferica-black-slavonian-pig/> (accessed 15 March 2017)

Mast Tree Network (2009): *Acorn-Finished Pork: An Ancient Tradition*, Restoring the bounty of North America's native woodlands, <http://www.mast-producing-trees.org/2009/11/acorn-finished-pork-an-ancient-tradition/> (accessed 15 March 2017)

Poljoprivreda i selo (2014): *Šumski plodovi u ishrani stoke*, S. Đ. Magazin "Selo", broj 60. <http://poljoprivredaiselo.com/2010/09/sumski-plodovi-u-ishrani-stoke/> (accessed 15 March 2017)

Slow Food Foundation for Biodiversity: *Fajferica (Black Slavonian Pig)*

The Metropolitan Museum of Art (2008): *Pigs and Pannage*, The Medieval Garden Enclosed

Udruga „Zraka“ Draganić (2010): *Žirovanje svinja i kabanica od lasenja*, Poučno-povijesna cesta kroz draganičku šumu, [http://www.zraka.com/Poucna\\_cesta.html](http://www.zraka.com/Poucna_cesta.html) (accessed 15 March 2017)

Wren Library (2015): *Labours of the Month: November*, Trinity College Library, Cambridge <https://trinitycollegelibrarycambridge.wordpress.com/tag/medieval-art/> (accessed 15 March 2017)

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**THE JEWELS OF EASTERN CROATIA - MONUMENTAL HERITAGE OF  
ERDUT**

**DRAGULJI ISTOČNE HRVATSKE - SPOMENIČKA BAŠTINA MJESTA  
ERDUT**

***ABSTRACT***

*Monumental heritage of the village of Erdut (approximately 600 residents) is a significant tourism potential of the whole Eastern Croatia. Historical site Erdutska kula (The Tower of Erdut) is a monument once belonging to category zero, and now according to the new classification of monumental heritage it is a monument of A category. It is one of the major tourist attractions of the whole region. Domestic and foreign visitors come on a daily basis to visit the tower and admire the landscape which can be seen from its viewpoint. Besides the tower, there is an old castle in Erdut, the Manor of Counts Adamovich-Cséh, which together with Erdut wine cellars and winery from the 17<sup>th</sup> century also presents a significant part of the tourist offerings. Within the Erdut winery there are facilities for receiving tourists with overnight stays, a complete gastronomical offering, and facilities for recreation, a walking path and tennis courts. Besides these facilities which are partially in function, there are findings and archaeological sites still not sufficiently explored which would also significantly contribute to Erdut's tourist offerings. The findings which are registered and located in the settlement of Erdut are prehistoric site Mali Varod, Veliki Varod and Žarkovac, and prehistoric site Stari prkos and Kremenuša. Registered archaeological sites in the settlement of Erdut are medieval site Centar naselja and prehistoric site Orašje. There is also a protected area of nature, the significant landscape of Erdut, with an area of 160 hectares.*

*Furthermore, there are elements of sacral monumental heritage, a Roman Catholic Church of All Saints and Orthodox Church of St. Archangel Gabriel.*

*The Erdut Agreement on Peaceful Reintegration of the Occupied Part of the Croatian Danube Region was signed in Erdut on 12 November 1995.*

*The goal of the paper is to present the potential of the village of Erdut, considering its valuable monumental heritage, ethnic values and unexplored archaeological sites, in order to include it in the program of rural and regional development with significant potential for development of cultural and sacral offers of continental tourism. However, the Conservation Department in Osijek and the Institute for the Protection of Cultural Monuments should urgently implement revitalization of the Tower of Erdut in order not to collapse. Since it is not protected, it deteriorates on a daily basis and this is also a threat for visitors because a brick or a piece of building material can suddenly fall off during a visit. Furthermore, it is necessary to conduct a revitalization of the castle, the Manor of Counts Adamovich-Cséh, and also to initiate the activities for exploration of archaeological sites and prehistoric finds. If the revitalization of the buildings was started and put into function, a complete tourist offer would be achieved, thus increasing the interest of visitors from home and abroad. This would increase employment and stop the departure of entire families from the village of Erdut.*

**Key words:** *monumental heritage, The Tower of Erdut, Erdut vineyards, tourist potential, rural development, regional development.*

## SAŽETAK

*Spomenička baština malog mjesta Erdut (cca 600 stanovnika) značajan je turistički potencijal cijele istočne Hrvatske. Povijesno naslijeđe Erdutska kula, predstavlja spomenik, nekada multe, a sada po novoj klasifikaciji spomeničke baštine A kategorije, jedna je od glavnih turističkih atrakcija cijelog kraja. Svakodnevno dolaze, domaći, a i strani, posjetitelji običi kulu i diviti se krajobrazu s njenog vidikovca. Osim kule u Erdutu postoji i stari dvorac, zvan Kurija grofa Adamovica Cseha koja zajedno s Erdutskom podrumima i vinarijom još iz 17. stoljeća predstavlja također dio značajnog turističkog sadržaja. Uokviru Erdutske vinarije nalaze se uređeni sadržaji za prijem turista s noćenjem i kompletnom gastronomskom ponudom i sadržajem za rekreaciju, šetnicom i teniskim terenima. Osim ovih sadržaja koji su djelomično u funkciji, postoje još do sada nedovoljno istražena nalazišta i arheološki lokaliteti koji bi također značajno doprinijeli turističkoj ponudi Erduta kao što su u samom naselju Erdut, koji su registrirani, „Mali Vard, Veliki Vard i Žarkovac“ – prapovijesno nalazište „Stari prkos i Kremenuša, prapovijesno nalazište. Arheološki lokaliteti u naselju Erdut evidentirani su „Centar naselja“ srednjovjekovno nalazište, „Orašje“ prapovijesno nalazište i zaštićeni dijelovi prirode: Značajan krajobraz, površine 160 ha. Tu se nalaze sakralna spomenička baština katolička crkva Svih Svetih i pravoslavna crkva sv. Arhangela Gavrila. U Erdutu je 12. studenog 1995. godine potpisan je Erdutski sporazum o mirnoj reintegraciji okupiranog dijela Hrvatskog Podunavlja.*

*Cilj rada je prikazati potencijal malog mjesta Erdut, s obzirom na vrijednu spomeničku baštinu, etno vrijednosti i neistražene arheološke lokalitete, za uključivanje u program ruralnog i regionalnog razvoja sa značajnim potencijalom za razvoj kulturne i sakralne ponude kontinentalnog turizma. Međutim, Konzervatorski odjelu u Osijeku i Zavoda za zaštitu spomenika kulture trebaju provesti pod hitno revitalizaciju Erdutske kule kako se ne bi urušila. S obzirom kako nije zaštićena svakodnevno propada, a prijeti i posjetiteljima kod obilaska od mogućeg iznenadnog*

*pada opeke i građevnog materijala. Isto tako neophodna je revitalizacija dvorca – Kurije grofa Adamovic Cseh, ali i aktivnosti oko istraživanja arheoloških lokaliteta i prapovijesnih nalazišta. U koliko bi se pristupilo revitalizaciji građevina i stavilo u funkciju postigla bi se kompletna turistička ponuda, a time povećao i interes posjetitelja iz zemlje i inozemstva. Na taj način povećala bi se zaposlenosti i zaustavio odlazak cijelih obitelji iz mjesta Erdut.*

**Ključne riječi:** *spomenička baština, Erdutska kula, Erdutsko vinogorje, turistički potencijal, ruralni razvoj, regionalni razvoj.*

## **1. Introduction**

According to the OECD definition, rural areas are communities with less than 150 residents per square kilometre. In the Republic of Croatia rural areas make up 90% of total land, or 61% of inhabited land where approximately 47% of the total number of residents live.

These are areas where agricultural and forestry areas prevail, where the local population lives in smaller or bigger settlements and deals mostly with agriculture, farming, cattle breeding, fruit growing and viticulture, growing a variety of other crops, or sometimes crafts that gradually go into extinction. These are areas where people are mostly related to agriculture, but also to ethno-content, they cherish their monumental and sacral heritage, and recently more and more want to engage in rural and regional development programs through tourist offerings. Although the village of Erdut still does not have telecommunications, sewage, gas, and even electricity is occasionally out, since new waterworks are being introduced, areas are regulated, and waste disposal is organized, there are all preconditions for its development.

Considering the variety of nationalities in the village of Erdut, and thus variety in ethnic and sacral values, through a joint work, relations and networking they can achieve a significant tourist product in the mosaic of offers. It is this diversity that provides a special atmosphere for tourists who come in this region and wish to get to know the landscape, people, their traditions, habits and culinary specialties. Variegated offering, together with numerous other features that Erdut has, with tourist stories throughout the past and the present, can be a significant factor for a complete tourist offer of Erdut.

All the stories for tourists are related to life in the Tower of Erdut, Adamovich-Cséh Castle, and people who lived here in the past and who are still remembered by some and gladly told to those who wish to hear them.

However, only networked into a joint offer with the indications of individual parts of the content can they attract tourists and encourage their interest in coming and experiencing the atmosphere provided by the beauty of people, monumental and sacral heritage, archaeological sites, ethnic values, culinary specialties, and landscape beauty.

## 2. Settlement of Erdut

Settlement of Erdut<sup>1</sup> - according to ancient records the “Town of Erdut” - with its famous Tower of Erdut from the late 15<sup>th</sup> century, situated on the inner side of the great Danube meander, on the eastern vineyard slopes of *Erdutska kosa*, lately a monument of category zero and recently of A category<sup>2</sup> and the castle called Manor of Counts Adamovich-Cséh, according to the 2001 census had 964 residents. However, the fact is that in 26 streets there are approximately 600 people in Erdut.<sup>3</sup> Others are listed as residents, but they live and work elsewhere.

It is a place of extraordinary possibilities for development of tourism considering it is a vineyard area, the Tower of Erdut, the Manor - the old castle, the Danube River, the view on the mouth of the Drava River in the Danube, numerous Danube branches and the landscape. In the very centre of Erdut there is the Manor - an old castle Adamovich-Cséh with Erdut winery.<sup>4</sup> Its cellars date back into 1730. Within the winery, a former administrative building has been adapted for the reception of tourists for overnight stays, a complete service and relaxation, and also with recreation facilities. Along the walking paths going to the viewpoint from which one can see the Tower of Erdut as well as the Danube, extends a wide view of everything from Bogojevo to Sombor, and on a clear day even to Novi Sad. There are organized tennis courts to make the tourist offer as much comprehensive and enjoyable as possible for visitors to stay.

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<sup>1</sup> Erdut – once a medieval fortified feudal town, then the seat of an estate, is today a settlement on the eastern slopes of Dalj Mountain, along the Danube River bank, in the micro-region *Erdutska kosa* of the Eastern-Croatian plain, 46 kilometres away from the city of Osijek, the centre of Osijek-Baranja County to which the village and the Municipality of Erdut belong. It is a treasury of history, located on the inner side of the great Danube River meander, on the eastern wine-growing slopes of *Čvorkovo brdo* with the widely known wine-cellars. The ancient, still preserved towers of the medieval town, which is said to be mostly collapsed into the river, provide a view of the surroundings, the vineyards and the Danube River. The soil around Erdut was very fertile and suitable for the cultivation of many agricultural crops, especially vineyards. Erdut had already in the Middle Ages had a Danube port, which made it a small market-town, so it was first mentioned as the castellum Erdeed in the second half of the 14<sup>th</sup> century, that is in 1359.

<sup>2</sup> Ibidem

<sup>3</sup> Personally counted by Vinko Albert, resident of Erdut

<sup>4</sup> Erdut castle - manor. The Adamovich family built a sizeable manor on the eastern part of Erdut, which served as a seat of the estate. So, besides a residential part (a small castle), it used to have the necessary commercial buildings and several large wine cellars that are still used today. The exact time the manor was built is not known. Namely, a rather modest ground floor manor was built either at the end of the 18<sup>th</sup> or in the first half of the 19<sup>th</sup> century. It had a ground plan in the shape of an elongated rectangle. It was fundamentally renewed and upgraded in time of nobles Franciska Adamović Čepinski and Ervin Cséh, probably in the last decade of the 19<sup>th</sup> century. It was then when it changed its ground plan and facades received historicist features. The old rectangular castle got the following additions: the octagonal tower on the southwest corner, the porch over the southwestern entrance, the extension in the form of a shallow wing on the southeast corner and a one-floor extension on the north-east facade. In the place of the old garden, on the south side of the castle, a small late prehistoric park was arranged. Its construction is related to the renovation and restoration of the castle. At the beginning of the 20<sup>th</sup> century it was a densely planted area with diverse trees, bushes and flowers. Only some original parts of the park are preserved. In the direction to the north of the castle, towards the viewpoint over the Danube, leads a straight line of grape vine lattices.

From the life of the Adamovich-Cséh family. In the old basement there were, from the second half of the 19<sup>th</sup> century, several static barrels size of a small living room that had been internally coated with ceramic tiles. According to legend, Count Ervin Cséh and his companions played cards and drank inside them, hiding in them from his wife.

Erdut is connected by road through the Erdut vineyards and the Dalj Mountain by a windingly landscaped road with Aljmaš. The village of Aljmaš is a well-known sanctuary where pilgrims come during the Assumption to visit the church of Our Lady of Salvation and the Calvary. Besides, Aljmaš is well-known for the refuge of the inhabitants from Aljmaš by Danube to Osijek during the Homeland War on 1<sup>st</sup> August 1991. Thus, the village of Aljmaš, together with Erdut, have their charisma due to the extermination of the domicile population from their homes, suffering and destruction - without a provocation, but politically persecuted only because the aggressor's appetites were to evict them and replace them with some other people who have never lived here before, or belonged to this ambient.

Erdut is rich in houses of traditional architecture. Family farms in Erdut have prepared their houses for rural tourism and tourist activities, offering traditional culinary specialties consisting predominantly of fish dishes, but also some meat dishes, prepared according to the recipes of the old cuisine masters. These are usually spicy dishes with strong spices and pleasant aroma.

Furthermore, monumental heritage of Erdut is made of architectural heritage:<sup>5</sup>

- Medieval town of Erdut is the name for the Tower of Erdut - the remains of a late 15<sup>th</sup> century tower, renovated on several occasions, and now in decay;
- Ivana Adamovich-Cséh Manor or „the Great Castle“, sometimes called a mansion, is a part of “a commercial-residential complex”. Together with a winery it has been the centre of viticulture, “vineyards and other agricultural production in this region for over 250 years”.

Registered archaeological sites in the village of Erdut:

- *Mali Varod, Veliki Varod and Žarkovac*, prehistoric site;
- *Stari prkos and Kremenuša*, prehistoric site.

Recorded archaeological sites in the village of Erdut:

- *Centar naselja*, medieval site;
- *Orašje*, prehistoric site.

Sacral heritage:

- The Church of All Saints, destroyed in 1991/92, renewed in 2005;
- Orthodox Church of St. Archangel Gabriel restored from 2003 to 2005.

Protected area of nature:

- Significant landscape of Erdut, with an area of 160 hectares.

It is important to emphasize that the well-known Tower of Erdut has been forgotten by the Institute for the Protection of Cultural Monuments, and restoration cannot be expected from EU funds.

On 12<sup>th</sup> November 1995 the Erdut Agreement<sup>6</sup> was signed in Erdut. It was preceded by the Agreement on Basic Principles for Negotiations on Eastern Slavonia, Baranja and Western Srijem,

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<sup>5</sup> A. Mašek: *Overall Development Program of the Municipality of Erdut*. in 2007; pp. 173 - 175;

<sup>6</sup> **Erdut Agreement** is the name for the *Basic Agreement on Eastern Slavonia, Baranja and Western Srijem*, which was reached during negotiations in the American Dayton (Dayton Agreement) between Croatian President Franjo Tuđman and Serbian President Slobodan Milošević. It was signed on 12<sup>th</sup> November 1995 in Erdut by delegation of the local Serbian community, and in Zagreb by delegation of Croatian Government (Milan Milanović on behalf of the Serb negotiators and Hrvoje Šarinić on behalf of the Croats), with the mediation of Peter Galbraith (US Ambassador to Croatia) and Thorvald Stoltenberg (UN mediator). The signing of the Erdut Agreement initiated a



signed on 3<sup>rd</sup> October 1995 in Erdut. With Erdut Agreement Croatia has agreed upon a peaceful reintegration of the occupied part of the Croatian Danube Region, and at the same time it guaranteed all minority rights and other civil rights to the Serbian community.

**Picture 1** *The Tower of Erdut*<sup>7</sup>



**Picture 2** *Manor, Adamovich-Cséh Castle*



*Source: the authors of the paper*

**Picture 3** *House of traditional architecture*



**Picture 4** *Wine cellar with wine barrels*



*Source: the authors of the paper*

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process of peaceful reintegration of the Croatian Danube region in the constitutional and legal system of the Republic of Croatia.

<sup>7</sup> Remains of the medieval town. Erdut is famous for its medieval fortification, whose remains rise above the Danube. From the medieval town remained the ruins of two towers and a wall. The round tower is best preserved, almost in its original form, with protruding upper part on the consoles, reminding of Renaissance Italian buildings from the 15th century. The three-storey building is expanded on the final part and reinforced by counterforts. From the circular tower in the north there is a part of the wall separated from the tower. And toward the east are the remains of the walls (large fragments) leading to the main square tower located in the centre of the site. In the medieval Erdut it played the role of the main (defence) tower. This main tower was incorrectly restored in 1891 and converted into a tomb of the Adamovich and Cséh noble families; At this time, the quadrilateral tower changed its original appearance; it was reduced by one floor. On the southwestern corner a small rectangular tower with a crown on top was added, and the main south facade has been added the decorative portal with the toothed ends and the coats of arms of Adamovich and Cséh families.

In the region of the Erdut vineyards there are numerous private wine cellars which offer tourists a wine tasting. The Erdut winery is proud to own the largest wine barrel in Europe that is in operation. The barrel has a capacity of 75,000 litres, and is made of oak wood<sup>8</sup>. As an added value the barrel is woodcut with a central motif of the Last Supper, and it has been made by the sculptors Mato Tijardović, Ivan Forjan, Vedran Jakšić and Saša Matković.

### 3. SWOT Analysis of Erdut

The SWOT analysis of Erdut shows strengths and weaknesses, opportunities and threats for the village of Erdut.

**Table 1: SWOT analysis of Erdut**

| STRENGTHS  | + | WEAKNESSES  | - |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>- Erdut Agreement on Peaceful Reintegration from 12<sup>th</sup> November 1995; there is a memorial plaque in the Castle;</li> <li>- Medieval town of Erdut is the name for the Tower of Erdut - the remains of a late 15th century tower, renovated on several occasions, and now in decay;</li> <li>- Ivana Adamovich-Cséh Manor or „the Great Castle“, sometimes called a mansion, is a part of “a commercial-residential complex”. Together with a winery it has been the centre of viticulture, “vineyards and other agricultural production in this region for over 250 years”;</li> <li>- Erdut winery with approximately 470 hectares of land area, 361.33 hectares of fertile plants<sup>9</sup>;</li> <li>- wine barrel for 75,000 litres of wine in the cellars of Erdut winery;</li> <li>- <i>Brzica winery</i>, in Erdut Mountain, with a modern organized wine storage cellar;</li> <li>- Gallery of Fine Artists in Erdut, 5 J. Pavića Street; owned by A. Mašek Tonković;</li> <li>- An excursion site with maintaining colonies of academic painters and sculptors in Erdut, 22 I. Horvata Bečara Street; owned by Predrag Stojčić;</li> <li>- Family farm for tourism and catering <i>Stari dud</i>, 53 I. Bakića Street;</li> <li>- Family farm for tourism and catering <i>ERK HIM</i>, 60 I. Bakića Street;</li> <li>- Grocery store <i>NTL</i>, 10 I. H. Bečara Street;</li> <li>- <i>River D</i> inn, 8 I. H. Bečara Street;</li> <li>- Vicinity of Osijek;</li> <li>- Built-up stairs of health from the Tower to the Danube, approx. 250 stairs, built with funds of EU funds;</li> <li>- High quality land for the development of crop production;</li> </ul> |   | <ul style="list-style-type: none"> <li>- Close to the border - increased traffic affects bad living conditions due to noise and environmental pollution caused by a large amount of exhaust gases,</li> <li>- Insufficient infrastructure,</li> <li>- The lack of sewage,</li> <li>- Public lighting largely on homes,</li> <li>- There is no old-age care,</li> <li>- Unmanaged and neglected channel network,</li> <li>- Illegal dumpsites that still exist, although the landfill renovation project arranged two dumpsites,</li> <li>- Low voltage network in poor condition,</li> <li>- Extremely old population structure,</li> <li>- There are no young experts,</li> <li>- Computer illiteracy,</li> <li>- Abandoned ramshackle houses, and fences,</li> <li>- The Adamovich-Cséh Manor is not completely restored - facades, windows,</li> <li>- The Tower of Erdut is not illuminated by night, so ships that cruise the Danube do not see it at night, modeled on the illuminated castles along the Rhine in Germany;</li> </ul> |   |

<sup>8</sup> The barrel was made in DIK Đurdenovac, ordered by Aron Nadjevci, then director of the IPK accounting centre Osijek, to charge the work of his programmers.

<sup>9</sup> A. Mašek: *Overall Development Program of the Municipality of Erdut*. in 2007; p. 157;

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>- Water - the Danube and Drava River pass through the outskirts of the settlement and enable the inhabitants to develop fishing tourism;</li> <li>- Development based on river waterways;</li> <li>- The mountainous region suitable for planting vineyards and wine growing (famous Erdut wines), and wine cellars</li> <li>- Source of geothermal and sulfuric water in Erdut, (to date not yet explored);</li> <li>- Houses of traditional architecture;</li> <li>- Of sacral buildings there is the Church of All Saints in Erdut and Orthodox Church of St. Archangel Gabriel in Erdut;</li> <li>- Registered archaeological sites in the village of Erdut: <ul style="list-style-type: none"> <li>o <i>Mali Varod, Veliki Varod and Žarkovac</i>, prehistoric site;</li> <li>o <i>Stari prkos and Kremenuša</i>, prehistoric site</li> </ul> </li> <li>- Recorded archaeological sites in the village of Erdut: <ul style="list-style-type: none"> <li>o <i>Centar naselja</i>, medieval site,</li> <li>o <i>Orašje</i>, prehistoric site;</li> </ul> </li> <li>- Protected area of nature: Significant landscape of Erdut, with an area of 160 hectares;</li> <li>- In the Erdut area there are 58 family farms.</li> <li>- A peaceful reintegration was carried out;</li> </ul> |   |
| <b>OPPORTUNITIES</b> ++  | <b>THREATS</b> --   |
| <ul style="list-style-type: none"> <li>- The vicinity of Osijek enables faster development of the economy;</li> <li>- The vicinity of the border enables the development of cross-border cooperation;</li> <li>- Wine roads for tourism development</li> <li>- Development of rural tourism;</li> <li>- Development of catering industry;</li> <li>- Development of traditional crafts;</li> <li>- Development of modern family farms;</li> <li>- Production of healthy food;</li> <li>- Development of recreational tourism;</li> <li>- Corridor Vc will contribute to a greater flow of goods and connectivity of the north to the Croatian south;</li> <li>- Improving the quality of life through the construction of the main drinking water pipeline, which is underway in Erdut;</li> <li>- Maintenance of folklore groups, ethnic dances, and the local tradition of playing the musical instruments with an incentive of local governments;</li> <li>- The illumination of the Tower of Erdut at night would have the effect of creating the image of Erdut and its monumental heritage;</li> <li>- Development of rural tourism with special emphasis on:</li> </ul>   | <ul style="list-style-type: none"> <li>- Departure of young people and whole families;</li> <li>- Collapse of the Tower of Erdut;</li> <li>- Collapse of the Adamovich-Cséh Castle;</li> <li>- Devastated park;</li> <li>- Abandoning Ethnic Values;</li> <li>- Flooding along the river Danube;</li> <li>- Old crafts are unprofitable and do not open;</li> <li>- Negligent empty spaces;</li> <li>- Polluted wells because there is no sewage network;</li> <li>- Pouring wastewater into the channels;</li> </ul> |

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>○ Making souvenirs</li> <li>○ Making handicrafts</li> <li>○ Gold embroidery</li> <li>○ Fashion details</li> <li>○ Various handicrafts</li> <li>○ Decorating ethno houses</li> </ul> |  |
|--|--|

#### 4. Potentials of Sustainable Development of the Erdut Settlement

Erdut has all the predispositions for sustainable rural development, as it has rich monumental and cultural heritage and archaeological sites, witnessing the time and living in this area, the natural potential of the Drava River and the Danube, connecting the east and west, there are still preserved houses of traditional architecture, ethnical values, wine cellars that want to be included in an organized tourist offer with all accompanying amenities and gastronomic specialties within family farms.

The rural development of Erdut starts with the following content activities:

- Reconstruction of the Tower of Erdut under the protection of the Conservation Department for the Protection of Cultural Monuments;
- Reconstruction of the Manor - Adamovich-Cséh Castle;
- Reconstruction of the park according to the historical features of the park (as before the devastation);
- Arrangement of streets and buildings that have been abandoned and forgotten, by the decision of the Municipal council (according to the Law on Local Government Planning);
- Arrangement of wine roads to expand the tourist offer of Erdut Municipality;
- Protection of monumental, cultural and sacral heritage in order to create a complete tourist product.
- Construction of a cycling path alongside the Danube.
- Folklore Society of Erdut
- Within the activities of hunting and fishing associations, a tourist offer program is being developed.
- Putting in function the tourist offer of houses of traditional architecture with economic contents and customs;
- Activate the Gallery of artists with displays of academic painters;
- Arrangement of complete infrastructure in the settlement; Electricity, water is being introduced, sewage, telephones, secondary roads and gas for the purpose of better living of the locals and creation of conditions for tourism development and sustainable development of Erdut;
- NGOs and local government are involved in the organization of the neglected and protected parts of nature in the settlement area, the Significant landscape of Erdut, with a surface area of 1.22 hectares;
- Implementation of education and project development is needed for application to the world institutions, donors and pre-accession and cohesion funds of the EU by the County Development Agency.

## 5. Conclusion

Due to the rich monumental and sacral heritage of the Tower of Erdut, Manor - Castle Adamovich-Cséh, churches, Erdut winery, wine association, landscape, the river Drava and the Danube, rich history and the present, and sacral values, Erdut can contribute to the development of rural areas not only in Erdut and Eastern Croatia, but also in the whole Croatia..

In order to achieve this, cooperation of all relevant stakeholders of the Municipality and the County is necessary - non-governmental organizations, family farms, entrepreneurs and craftsmen, but also the care of the Institute for the Protection of Monuments of Construction and Culture and the Ministry of Regional Development of the Republic of Croatia.

The activity of non-governmental organizations (NGOs) within the Municipality of Erdut represents a significant factor for rural development, in particular the tourist activities with which the Municipality is to partner and to work on their networking at the Micro-region level. By combining, it is easier to achieve the goals for which they have been established, to work jointly on projects in order to use the resources of international donors, money institutions, pre-accession and cohesion funds of the EU.

However, without the Ministry for Rural Development and the Ministry of Tourism of the Republic of Croatia all efforts to include Erdut as a priority need for reconstruction and arrangement with the purpose of a comprehensive tourist offer will not be feasible.

## REFERENCES

Gleick, James: *Kaos, rađanje nove znanosti*; Izvori, 2000;

Group of authors: *Strategy of Development of the Republic of Croatia in the 21<sup>st</sup> century*;

Mašek, Anka: *Program ukupnog razvoja Općine Erdut u okviru Mikroregije općina Borovo, Erdut, Markušica, Negoslavci i Trpinja*. in Osijek, 2007; ISBN 978-953-253-030-8, ISBN 978-953-283-009-5

Radermacher, F. J.: *Ravnoteža ili razaranje*. INTERCON, Nakladni zavod Globus, in Zagreb, 2003;

Rifkin J.: *Biotech Century*, Penguin Putnam Inc., in New York, 1999;

Rifkin J.: *Doba pristupa, Nova kultura hiperkapitalizma u kojoj je cijeli život iskustvo za koje se plaća*. Biblioteka Click and Point, in Zagreb, 2005;

Jeffrey M. Smith: *Sjeme obmane*. Planetopia Biovega, in Zagreb, 2005;

<http://www.erdutski-vinogradi.hr/index.php/2016-11-04-08-29-10/povijest-erduta> (accessed on the 7<sup>th</sup> May 2017)

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## HISTORIC PRESERVATION OF ARCHITECTURAL HERITAGE AND ITS IMPORTANCE FOR TOURISM IN THE CITY OF OSIJEK

### ZNAČAJ SPOMENIČKE BAŠTINE ZA TURISTIČKU PONUDU GRADA OSIJEKA

#### ABSTRACT

*The big and small Hornwerk barracks together with the former military bakery and warehouse were recognized as buildings that could one day be potential tourist attractions in the city of Osijek. The construction of the aforementioned buildings started in the first half of the 18<sup>th</sup> century and lasted till the mid-18<sup>th</sup> century on the eastern or peripheral northern part of the Osijek Fortress, which was fortified during the period of their construction modeled on Vauban's fortification.*

*The professional literature does not offer a single historical-artistic perspective or unified valorization of certain construction phases to the previously mentioned objects. Therefore, we will present a complete overview based on archive materials and the results of conservation and restoration research.*

*Both the big and small Hornwerk barracks as well as the former military bakery and warehouse were continuously used throughout history, which has preserved them from further decay until modern times, when inadequate use and degradation led to their rapid decay. With proper renovation, which includes the use of active protection methods and the assignment of their new functions, former military facilities can become an indispensable starting point during visits to Osijek Fortress.*

**Key words:** *Osijek Fortress (Tvrđa), Hornwerk barracks, military bakery and warehouse, tourism, conservation and revitalization.*

#### SAŽETAK

*Velika i mala Hornwerk vojarna te nekadašnja vojna pekara i skladište prepoznati su kao potencijalni objekti za razvoj turističke ponude grada Osijeka. Izgrađeni su u prvoj pol. i sredinom 18. stoljeća na rubnom istočnom, odnosno rubnom sjevernom dijelu osječke Tvrđe koja je u periodu njihove izgradnje bila utvrđena fortifikacijskim sklopom po uzoru na Vaubanove fortifikacije nizinskog tipa.*

*Kako u stručnoj literaturi nije zastupljen pojedinačni pristup navedenim objektima iz povijesno-umjetničke perspektive i valorizacije pojedinih građevinskih faza iznosimo cjelovit prikaz na temelju podataka iz arhivskog građiva i rezultata konzervatorsko – restauratorskih istraživanja. Kontinuirana namjena objekata kroz povijest sačuvala ih je od daljnjeg propadanja sve do novijeg doba kada neadekvatna namjena i degradacija dovode do njihovog rapidnog*

*propadanja. Pravilnom obnovom koja uključuje primjenu aktivnih metoda zaštite i dodjelom njihovih novih odgovarajućih funkcija, nekadašnji vojni objekti mogu postati nezaobilazna polazišna točka prilikom turističkih posjeta osječkoj Tvrđi.*

**Ključne riječi:** *osječka Tvrđa, Hornwerk vojarnje, vojna pekara i skladište, turizam, konzervacija i revitalizacija.*

## 1. Introduction

The area of Osijek Fortress (Tvrđa) developed on the 14th century medieval nucleus and was retained even later by the arrival of the Ottoman invaders and adapted to the needs of the time. It was expanded and divided into the Tvrđa (Fortress), Varoš and Podgrađe. The development of its urban structure and the relationship between the core and the city can be monitored even from the 16th century Ottoman Osijek. The development of the medieval and Ottoman Osijek was studied by many authors [MAŽURAN I. (1994), MAŽURAN I. (1996), MAŽURAN I. (2000), S. SRSAN (1996)]. Considering its natural, strategic and economic importance, Osijek was considered to be the largest trade and transport centre and it could be compared with many cities of the Western Europe.

At the end of the 17th century, after departure of the Ottomans and arrival of the Austrian army to the city, the key changes followed. Then, a new era of the city development begins, based on the existing urbanistic concept, with the addition of modern visions, new knowledge and effort to build the modern fortification structure. In accordance with the modern military needs, the prohibited construction area was formed around the fortified city and the local population from this area was moved to western or eastern parts of the city.

When Osijek was granted the status of the *free royal city* at the beginning of the 19th century, the unification of three city municipalities started. Although still in the city centre, the Fortress lost its original central role.

Once the 18<sup>th</sup> century modern fortress, it gradually loses its importance and the role at the beginning of 19<sup>th</sup> and the early 20<sup>th</sup> centuries. It was caused by the industrial revolution, advancement of military industry and new forms of warfare.

Due to the new situation, conditioned by the social and economic needs, the developmental economic and housing functions were directed and realized in the Upper Town and Lower Town where the new urban centres emerged.

Based on the emerging needs for traffic and communal connection of all parts of the city, the Regulatory Basis was created in 1912 as the backbone for further planning and construction of the modern centre on the unpaved area around the Fortress.

Due to these changes, the baroque core of the Fortress lost its circle wall and consequently its volume and original form. But, due to this change it was connected with other parts of the city [JUKIĆ T., PEGAN S. (2005), KRAJNIK D., OBAD ŠĆITAROCI M. (2008), UZELAC Z. (2009)]. As the consequence, this change caused the sudden deterioration of the individual military facilities grouped along the peripheral parts of the city core, which often were given the inadequate purpose throughout the history.

Today, the Fortress represents the main tourism potential of the city of Osijek together with belonging facilities. The renewal and reconstruction would stop their further decline, and by allocating adequate purpose, they would make a significant contribution to the extended tourist offer.



**Figure 1** The satellite view of Osijek Fortress (the explored objects marked)



Source: [www.google.hr/maps](http://www.google.hr/maps)

## 2. Methodology

The paper will cover three buildings: large and small Hornwerk barracks and former military bakery and warehouses. Conservation and restoration research for the barracks was funded by the Ministry of Culture in 2013, and former military bakery and warehouses by the Croatian Youth Hostel Association in 2011. The works were carried out by employees and associates of the Croatian Conservation Institute, Osijek Department for Conservation. Available literature and archival materials, as well as graphic and visual documentation were reviewed as part of the historical archival research, while conservation and restoration research included an overview of the existing documentation from other sources, analysis of the situation, technical documentation, *in situ* testing and a final study containing the description of the results and suggestions for renewal of the buildings.

## 3. The monumental heritage of the Osijek Fortress

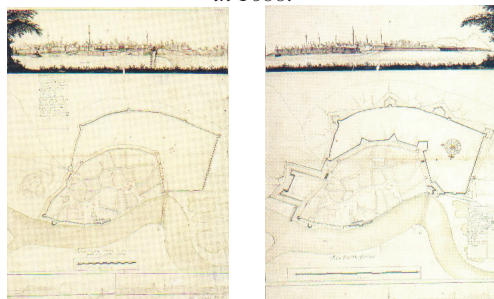
### 3.1. Large and small Hornwerk barracks

Immediately after the departure of the Ottoman army from the town of Osijek in 1687, the imperial military engineers started modernizing and fortifying the existing city structures. The elevation from the eastern side of the fortress was recognized as the weakest point of the city defence, so there was a plan to build a new fortress (citadel) in the form of a horn - Hornwerk. [(GAĆINA S., IVANKOVIĆ G.M. (1996)]. In its space a large and a small Hornwerk barracks<sup>1</sup> were built as free-standing military facilities, for the accommodation of officers and soldiers with relevant facilities.

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<sup>1</sup>The ground plan of the large Hornwerk barrack was constructed as a long, L-shaped ground floor building. The main, west facade is parallel to the road leading to the Baranja Bridge and the eastern part of the Fortress (Tvrdra). The north facade is directed to the Street of the Emperor Hadrian and the City Transport Building for trams. The small Hornwerk barrack was built vertically in relation to the large barrack building along the former bulwark trench. They were completely made of bricks.

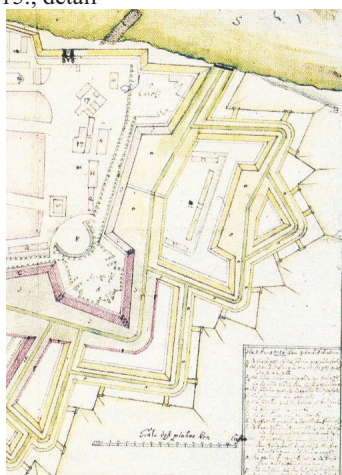
**Figure 2** The Ottoman Osijek Plan and the project plan for fortifying the existing Ottoman fort, in 1688.



Source: *Planovi i vedute Osijeka*

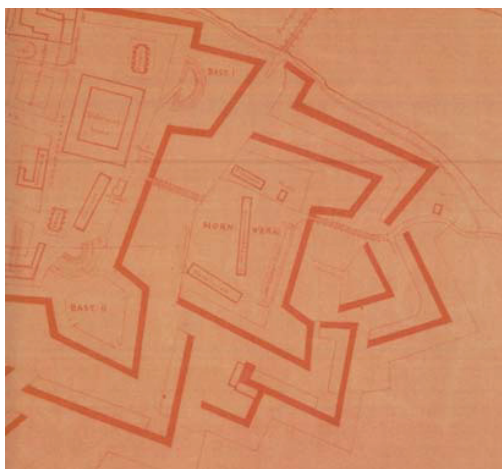
The construction of the barracks<sup>2</sup> dates back to the first decades of the 18th century. During the historical and archaeological research, the original projects from the construction period were not found, but the depicted position of the barracks in the former Hornwerk can be continuously monitored on the old plans and drawings of the Osijek Fortress.

**Figure 3.** Report-project plan of Tvrđa 1715., detail



Source: *Planovi i vedute Osijeka*

**Figure 4.** Hornwerk on the copy of the 1750 project, detail



Source: *State archives in Osijek*

The second phase of construction is connected to 1810, when the need for adaptation of the existing barracks for the same purpose implied the retention of the original dimensions and change of the interior space in accordance with the new needs for accommodating a larger number of the soldiers. The adaptation proposal for the large Hornwerk barrack refers to the

<sup>2</sup> The chronology of construction development is the result of conservation and restoration research based on the probing of wall surfaces in the interior of the buildings and on the facades and the analysis and interpretation of the historical facts and records.

reconstruction of the interior walls, the communication openings and the removal of the access stairs on the west facade. The small Hornwerk barrack originally was built in the smaller eastern side as the ground storey building and in the larger western part as a townhouse. So, the alterations relate to the upgrading of the attic to the remaining ground floor and the porch from the south side of the façade (Pauk Sili, 2014, 160). The 1880s sketches show minimal changes in the interior of the large barrack, while the small barrack was built at the end of the 19th century as a half-raised ground-floor building, confirming the assumption that the planned upgrading of another floor over the entire building was not carried out. The greatest construction work on the large barrack was carried out according to the 1904 adaptation plan when the ground north-west wing was added in the form of the letter “L”. The housing units in the south-western part were intended for economic function, so the former dormitories were redone into four uniform horse-stables within the former dimensions. In accordance with the new purpose, the roof was raised, and the vertical ventilation openings were lifted above the stables, which by the abolition of the primary function of the barracks and stalls, were closed in the 1930s. The greatest devastation was noted on the small barrack building, which was found as a small-sized house, abandoned and exposed to direct deterioration. During World War II, the eastern and western parts of the ground building were destroyed, so the four wing shed roof was raised on the remaining parts of the building, but it collapsed in 2011.

*Figure 5 The large Hornwerk barrack, the west street facade*



*Source: Croatian conservation institute, Osijek conservation department*

*Figure 6 The large Hornwerk barrack, the eastern courtyard facade*



*Source: Croatian conservation institute, Osijek conservation department*



**Figure 7** The stall interior with the preserved details



Source: Croatian conservation institute, Osijek conservation department

**Figure 8** The small Hornwerk barrack with roof before it collapsed



Source: Urbanističko-konzervatorska studija prostora bastione trase vanjskih utvrdenja

**Figure 9** Found condition of the small Hornwerk barrack



Source: Croatian conservation institute, Osijek conservation department

Based on the research results, it was concluded that the barracks were constructively in a bad state. The layout of the interior spatial units and communication openings were not significantly changed in relation to the construction period from the beginning of the 20th century, which is considered to be the best preserved construction phase. Apart from the complete reconstruction of the facades and interior spaces, the emphasis is on preserving the historical and ambient values of the stalls, which suggests the retention and presentation of the wooden ceiling constructions (with the reconstruction of ventilation openings), horizontal beams and wooden pillars, window openings and brick paving.

The proposal for the small barrack presentation is based on an ideal reconstruction of the building in original dimensions, while retaining the original organization of the interior space and free treatment in the reconstructed part depending on the future purpose and needs of the users.

### **3.2. Former military bakery and warehouse**

The former military bakery and flour warehouse<sup>3</sup> were built between 1740 and 1750 as part of the Army Supply Barracks within the preserved VIII bastion in the northern part of Osijek Fortress (Tvrda). The ground floor of the building has the unique characteristics due to the difference in the height of the terrain from the south and north sides. So, it appears that the ground floor from the south side served as the basement and the north side as the ground floor. The production and storage functions influenced the design and arrangement of the interior spaces. The ground floor, where production was done, was split apart by smaller window openings according to production and storage conditions (Pauk Sili, 2011,14). On the eastern side of the building, the interior staircase continually links the floors, and the openings were opened through the vaults and wooden ceilings for a wooden ramp through which the raw materials were lowered down to the ground floor. Two stoves, out of three others, were preserved on the ground floor.

According to the results of the research, it was established that the building was constructed at the same time and that there were no major construction works on it. The fundamental changes occurred in the 19th century when modernization of technology outlaws a load-lifting system from the 18th century (by pulley). This system was kept on the south facade until the second half of 20th century. At the same time, on the north facade, the wooden cargo lift was later replaced by the metal construction.

Due to the fact that it is a very valuable and well-constructed object, the reparation of static and cracks was proposed as well as removal of recent bulkheads and materials, walled up openings in the ground floor, refurbishing of the joinery, presentation of the bakery stoves and the system of wooden ramps as well as refurbishing of the facades according to the results of the research.

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<sup>3</sup> According to position, the object fills the central part of the preserved VIII Bastion. The northern front forms a closed inner courtyard, and the main south facade is directed toward Vatroslav Lisinski Square.

*Figure 10 The north facade of the former military bakery and warehouses*



*Source: Croatian conservation institute, Osijek conservation department*

*Figure 11 Interior of the second floor of former military bakery and warehouse*



*Source: Croatian conservation institute, Osijek conservation department*

According to position, the object fills the central part of the preserved VIII Bastion. The northern front forms a closed inner courtyard, and the main south facade is directed toward Vatroslav Lisinski Square.

#### **4. Conclusion**

This paper deals with the possibility of revitalization of specific cases of the immovable cultural goods located in Osijek Fortress, i.e. the former military buildings, in order to preserve their cultural, historical and environmental values. Our research has shown that their restoration, together with the introduction of appropriate educational, informative and tourist content could make a significant contribution for the city of Osijek and its tourism. The City of Osijek and the Tourist Board have recognized the value, the potential and the importance of reconstruction project by participating in it and have once more proven that without multidisciplinary approach to cultural heritage none of this would be possible.

## REFERENCES

- Gaćina S., Ivanković G.M. (1996): *Planovi i vedute Osijeka*, Muzej Slavonije Osijek
- Jukić T., Pegan S. (2005): *Prostorni i urbanistički razvoj Osijeka*, Kritika i prijedlozi, Sveučilište u Zagrebu, Arhitektonski fakultet
- Krajnik D., Obad Šćitaroci M. (2008): *Preobrazba bastionskih utvrđenja grada Osijeka*, Sveučilište u Zagrebu, Arhitektonski fakultet
- Mažuran I. (1994): *Srednjovjekovni i turski Osijek*, Osijek
- Mažuran I., Adamček J., Sršan S., Vrbošić J., Marijanović S., Šuljak A., Brunčić D. i suradnici (1996): *Od turskog do suvremenog Osijeka*, Hrvatska akademija znanosti i umjetnosti, Zavod za znanstveni rad, Osijek
- Mažuran I. (2000): *Grad i tvrđava Osijek*, Osijek
- Sršan S. (1996): *Povijest Osijeka*, Osijek
- Uzelac Z. (2009): *Tvrđa Osijek, Urbanističko – konzervatorska studija prostora bastione trase vanjskih utvrđenja*. Prijedlog programskih i urbanističko konzervatorskih smjernica za urbanistički plan uređenja Tvrđe, knjiga 2., Studio X, Zagreb
- Pauk Sili I. (2011): *Osijek, Zgrada nekadašnje vojne pekare i skladišta*, Konzervatorsko – restauratorski elaborat istražnih radova žbukanih i bojanih slojeva unutrašnjosti i pročelja s prijedlogom prezentacije i troškovnikom restauratorskih radova, 1. dio, Hrvatski restauratorski zavod, Restauratorski odjel Osijek, Osijek, pp. 14
- Pauk Sili I. (2014): *Osijek, Hornwerk, vojna upravna zgrada i konjušnica*, Elaborat konzervatorsko – restauratorskih istraživanja unutrašnjosti i pročelja, 1. dio, Hrvatski restauratorski zavod, Restauratorski odjel Osijek, Osijek, pp. 160



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## DEGRADATION OF ARCHITECTURAL HERITAGE AND ECONOMIC DEGRADATION THROUGH LOSS OF GENUINE PURPOSE OF BUILDINGS

### DEGRADACIJA GRADITELJSKOG NASLIJEĐA I GOSPODARSKA DEGRADACIJA KROZ GUBITAK IZVORNE NAMJENE GRAĐEVINA

#### ABSTRACT

*For development of the main square in Osijek, big impact had two buildings: the hotel 'Central' and the First Croatian Savings Bank.*

*Since 1889, when the owner forerunners of today's Osijek brewery Kajetan Šeper, in Osijek built hotel 'Central' on main square, with a café on the ground floor, it has become a regular meeting place of intellectuals, aristocrats, merchants, bankers and traders.*

*Today, completely forgotten interior of the café have been reported in rare sources.*

*In the beginning of the development of hotel industry in the city center, near to the hotel 'Central', in 1864 was built the hotel 'Grand' in the Županijska Street, later called 'Psunj' and in 1904 was opening of hotel 'Rayal' in the Kapucinska Street.*

*On the main square from 1909 to 1910 was built in the first Croatian Savings Bank, housing commercial three-story building, designed by architect Dionis Sunko. Recently lost the original purpose in his ground floor - bank. Today we witness the degradation of architectural heritage with changing the original use of buildings that marked the cultural and economic life of the center of Osijek. All of these, historically and architecturally valuable buildings, recently lose its original purpose which degrades the cultural and economic life of the city.*

*Also, a change in use, in addition to poor economic performance pulls and loss of identity and degraded urban fabric; nor hotel 'Central' can survive amputated for his café, which is also its link with the space and life of the main square nor First Croatian Savings Bank without its groundfloor hall for work with clients, can offer to town the quality of its original idea. Because of the importance of a café of hotel 'Central' in the life of the city of Osijek in the past, it is necessary to examine the possibility of returning the space to the original purpose, with appropriate presentation of original interior elements.*

*For the revival of the city, especially urban centers, but also for the life of historical architecture that makes up the city's identity, it is necessary to redefine the purpose of the space inside the historic structure.*

**Key words:** *architectural heritage, the degradation, the original purpose of the building, the identity of the city.*

#### SAŽETAK

*Na razvoj glavnog gradskog trga u Osijeku, veliki utjecaj su imale dvije građevine: hotel 'Central' i Prva hrvatska štedionica.*

*Od 1889. kada je na Glavnom trgu u Osijeku izgrađen hotel 'Central', vlasnika preteče današnje Osječke pivovare Kajetana Šepera, s kavanom u prizemlju, ona je postala redovno okupljalište osječkih intelektualaca, aristokracije, trgovaca, bankara i obrtnika.*

*Podaci o danas u potpunosti zaboravljenom interijeru kavane zabilježeni su u rijetkim izvorima.*

*Vežano za početke hotelijerstva na prostoru grada, osim hotela 'Central', u neposrednoj blizini, 1864. sagrađen je hotel 'Grand' u Županijskoj ulici, kasnije hotel 'Psunj', a 1904. otvara se hotel 'Rayal' u Kapucinskoj ulici.*

*Na glavnom gradskom trgu 1909.-1910. godine izgrađena je Prva hrvatska štedionica, stambeno-poslovna trokatnica, prema projektu arhitekta Dionisa Sunka. Do nedavno je u svom prizemnom dijelu također bila usvojoj izvornoj namjeni – banka. Danas svjedočimo degradaciji graditeljske baštine gašenjem izvorne namjene građevina koje su obilježavale kulturni i gospodarski život središta Osijeka. Sve navedene, povijesno i arhitektonski vrijedne građevine, recentno gube izvornu namjenu što degradira kulturni i gospodarski život središta grada.*

*Promjena namjene, osim lošeg gospodarskog učinka povlači i gubitak identiteta mjesta i razgrađuje gradsko tkivo; niti hotel 'Central' može opstati amputiran za svoju kavanu, koja je ujedno njegova poveznica s prostorom i životom glavnog gradskog trga niti Prva hrvatska štedionica bez svoje prizemne dvorane za rad sa strankama može ponuditi gradu kvalitetu izvorne arhitektonske ideje. Obzirom na značenje prostora kavane hotela 'Central' u životu grada Osijeka tijekom prošlosti, potrebno je preispitati mogućnost vraćanja ovog prostora izvornoj ugostiteljskoj namjeni, pri čemu je očuvane izvorne elemente interijera potrebno odgovarajuće prezentirati.*

*Za oživljavanje grada, naročito gradskog središta, ali i za život povijesne arhitekture koja sačinjava identitet grada, nužno je redefinirati namjene prostora unutar povijesne strukture.*

***Ključne riječi:*** graditeljsko naslijeđe, degradacija, izvorna namjena građevine, identitet grada.

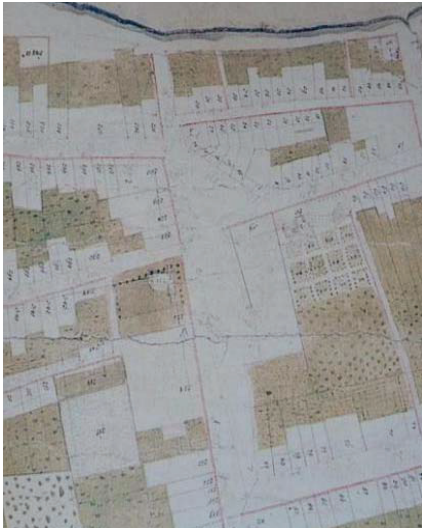
## **1. Introduction**

Condition of historical buildings in city centre of Osijek, even those registered as cultural goods in Republic Croatia, is very poor. Buildings have often lost their original function. Degradation process of historical monuments includes loss of building's primal function, repurposing as well as lack of maintenance funds, what is to be seen by providing an example of central Upper Town Square in Osijek and its surrounding, its historical development with public, social, touristic or business purposed buildings. Loss of activities and income of the owner caused the impossibility of further investment, leading to disappearance of activities in urban area. Focus of the analysis is put on first city hotels in Osijek with their cafes or other valuable buildings that formed the main Upper Town Square.

## **2. Historical development - city and town square**

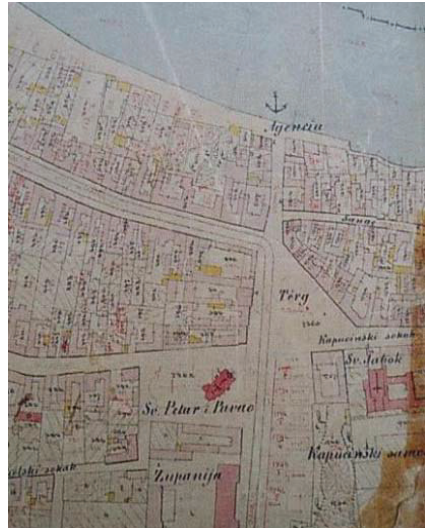
Forming of main city market could be listed on the cadastral map of the Upper Town from the 19th century. The plan from 1814 shows most of the blocks were formed, except for the eastern side of Županijska Street which left south side of the square still unfinished.

**Picture 1** Cadastral plan of Upper Town, 1814  
1863



Source: *Planovi i vedute Osijeka*, Sonja Gačina i Grgur Marko Ivanković, *Osijek 1996.*, p 40.

**Picture 2** Cadastral plan of Upper Town,



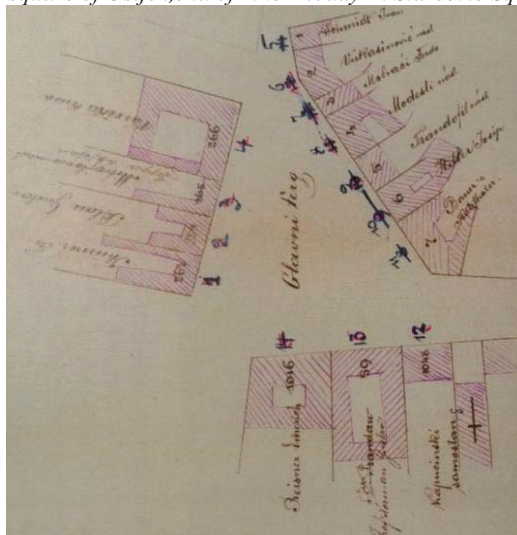
Source: *Planovi i vedute Osijeka*, Sonja Gačina i Grgur Marko Ivanković, *Osijek 1996*, p 45.

The cadastral map from 1863 showed the continuation of the constructing Županijska Street, what led to closing south side of the square and created a recognizable place in Osijek's urban structure. Square formed a triangle, because of entries from three different directions: from Strossmayerova Street (formerly Long Street) in the west, Županijska street in the south and Kapucinska street in the east.

Buildings defining the facade of the square as we know it have been formed in the late 19th and early 20th century, with an exception of NAMA building, generated by reconstructing two houses placed northwest of the First Croatian Savings Bank after World War II.

Northeast side of the square had been defined mainly by one-story and some two-story buildings in 1909 and in 1910 First Croatian savings bank was built as mixed use building, designed by architect Dionis Sunko, together with NAMA.

*Picture 3 Main square of Osijek, end of 19.c – today A. Starčević Square, Osijek*



*Source: Kulturno-povijesni vodič, Stjepan Sršan, Osijek 2008*

Throughout the years, Mainsquare changed its names, from Austro-Hungarian Empire to contemporary time. By researching old photos and postcards, according to the names of the square, even if we do not know the exact year when the picture was taken, we can approximately determine it by Square name:

- 1898. MainSquare
- from 1898. to 1919. KhuenHedervarySquare
- from 1919. to 1941. King Peter I Square
- from 1941. to 1946. Ante Pavelic
- from 1946. to 1992. Square of freedom
- from 1992. Ante Starcevic Square.<sup>1</sup>

In 1926a decision was made to repositionan open market from the Main square, and Main square would be remained a place of occasional events, meeting and summer terrace for hotels 'Central' cafe.

<sup>1</sup><http://sib.rtl.hr/sibplus/skidamo-prasinu/14048-skidamo-prasinu-osjecki-sredisnji-trg-kroz-povijest.html>, accessed 22 March 2017



*Picture 4 Hotel Central on a postcard from the end of a 1930s and the beginning of a 1940s*



*Source: Museum of Slavonia*

*Picture 5 Before NAMA, Axman upgrades older one-story building, beginning of 20<sup>th</sup> century*



*Source: [www.facebook.com/Prijatelji.Grada.Osijeka/photos](https://www.facebook.com/Prijatelji.Grada.Osijeka/photos), accessed 22 March 2017*

*Picture 6 Main Square between 1919 and 1941*



*Source: [www.sib.hr](http://www.sib.hr), accessed 22 March 2017*

*Picture 7 Main Square after 2<sup>nd</sup> World War*



*Source: <https://hr-hr.facebook.com/Prijatelji.Grada.Osijeka>, accessed 22 March 2017*



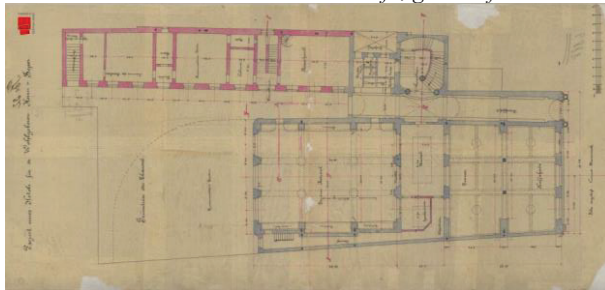
## 2. Differences generated by construction, the construction of buildings important for the public and social life, hotels and their cafés

### - HOTEL CENTRAL

At the site of today's hotel 'Central' historic photos had recorded storey 'Hotel Kreuz' or 'Inn to the golden cross', according to the inscription on the front. Neighbouring buildings had already been built, with modification facade, especially in the ground floor area.

In 1889 hotel project with 25 rooms had been verified and according to some sources, same year built.<sup>2</sup> The owner was Mr Seper (Cajetan or Kajetan Seper), landlord and owner of the precursors of today's Osijek brewery.

*Picture 8 Hotel Central with cafe, ground floor*



Source: State archives in Osijek

Café Central, located in hotel's ground floor placed on the main square, had become a regular meeting place for Osijek's intellectuals, aristocrats, merchants, bankers, craftsmen and ladies; also a favourite place for daily reading newspapers and chatting about events of city life. Data on today completely forgotten interior of the cafe had been reported in some sources: Osijek memories from 20th century Golden Živaković-Kerže, part 1, 2004, Osijek, which quoted stories from the history of Central European Osijek, Ervin Heine, Osijek 1996, p. 94-104.

*Picture 9 Original design of the café at hotel Central, Oslik, Osijek*      *Picture 10 Hotel 'Central', postcard 1900*



Source: Museum of Slavonia

<sup>2</sup>The project is preserved in the State Archives in Osijek, and S. Sršan in his cultural and historical guide for Osijek writing that hotel 'Central' is built 1889. with big cafe and terrace.' Osijek kulturno-povijesni vodič, Osijek, 2008. p. 28.

<sup>6</sup>Osječka sjećanja i svaštice 20.stoljeća Zlate Živaković-Kerže, 1. part, Osijek 2004., p. 32



It is interesting to note that owner of one of the traveling cinemas in the Central Europe, Dragutin Lifka, placed projection apparatus in hotel 'Central'<sup>3</sup>. Original condition of hotel 'Central' could be analysed on the basis of archival documents and historic photos. Periodically, Hotel Central had been renovated several times, and changed the design and finish of street facade, windows had been replaced, as well as front door of hotel; also, inscription 'Hotel Central' at the level of the second floor had been removed.

*Picture 11 Hotel 'Central' before facade reconstruction*



Source: [www.skyscrapercity.com](http://www.skyscrapercity.com) accessed 23 March 2017

Regarding to beginnings of the hotel industry of the city, in addition to hotels 'Central' hotel 'Rayal' had been opened in Kapucinska Street in 1904, by owner Mijo Rayal (later tenants brothers Garay from Vrsac), the same year in the Lower Town hotel 'Mursa' on the main square, with a coffee shop owned by innkeeper Kepeller. Even earlier, in 1864 hotel 'Grand' had been built in Županijska Street 7, later called 'Psunj'.<sup>4</sup>

- Croatian National Theatre, Hotel Grand, cafe 'Casina' or 'Casino' (Kasino in some literature)<sup>5</sup>

According to available information, research reveal that Croatian National Theatre in Osijek had been located in the building designed specially for traveling theatre company in 1866.<sup>6</sup> The original appearance of the Grand Hotel, north from the Theater, except from photos of the winter garden is not known. Only, through various written sources we can discover the importance of the hotel and cafe Grand, as the first cafe in Osijek.

<sup>3</sup>Božo Plevnik, Stari Osijek, Osijek 1987., p. 131

<sup>4</sup>Božo Plevnik, Stari Osijek, Osijek 1987., p. 148

<sup>5</sup>According Plevnik Grand was built by Osijek architect Ivan Domes, and Wilhelm Carl Hofbauer who also build Hotel Schneller, later Turistp 71 i 73;

<sup>6</sup>This theater, known as Offiziers-Theater, Generalathaus-Theater or Esseker-Theater, ...wherefrom December 1907 till today placed Croatian national Theater in Osijek. Ivan Trojan, Osijek theatrical life during the First World War, hrcak.srce.hr/file/204939

As Živaković-Kerže wrote, 'Osijek Stock Company built in 1866 in Županijska Street building for theatre and casino. Project for building was made by Karlo Klausner, inspired by ideas of famous Osijek painter Adolf Waldinger, including a large restaurant and cafe with lovely garden. On the first floor there had been offices for company Casino, also reading room and dancing hall.' At the same time, according to the book of Vilma Vukelic 'U stiješnjem granicama', the city had had only one coffee house that belonged to the hotel 'Grand' and was located across the building of the County.

Other sources reveal some details of rich cultural and economic life in Osijek: in Županijska Street '1864 hotel Grand was built, afterwards Psunj<sup>7</sup> and Vinaj mentioned that 'Royal Biograph' located at the hotel Royal,<sup>8</sup> 'Theatre Cinema' in the building of the National Theatre and 'Summer Promenade Cinema' at the Grand.<sup>9</sup>

Zeljko Predojević, basing on the work of Vilma Vukelic, explains 'U stiješnjem granicama' who had written:

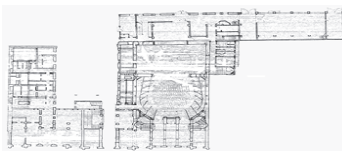
"At that time Osijek cafes were, and some still are Casino, hotel Royal and hotel Central. Casino had been built in 1866 'as part of the theatre building intended for receptions and parties in which the bourgeoisie begun to participate.' Another period of time in Osijek's cafes would begin a decade later, with constructing hotels Central and Royal at the turn from 19th to 20th century, when Osijek became an industrial centre.<sup>10</sup> In Grand Hotel had been listening to the first radio shows in 1924 with music exclusively from Budapest and Vienna.

'Cafe Casino in Županijska Street was place to visit ... because of its nearness to Croatian National Theatre, by foreign actors and other artists who had been traveling with their families.'<sup>11</sup>

'In order to increase the attractiveness of cafes Casino, its manager Adolf Schuller requested to set up tables on the sidewalk in front of the cafe, which had been allowed, but only one row of tables and only in the evening, conditioning that tables do not get in a way to passing pedestrians in front of the cafe.'<sup>12</sup>

Separate wing of the theatre building, apart in the ground floor area and gateleads to conclusion that a cafe and casino were actually placed in the north wing.

**Picture 12** Ground floor, Theatre, Conservation Department in Osijek



**Picture 13** Theatre, 1927



Source: [www.kolekcionar.eu](http://www.kolekcionar.eu) accessed 22 March 2017

<sup>7</sup>Plevnik, p. 148.

<sup>8</sup>Vinaj, 2008, p. 4

<sup>9</sup>Vinaj, 2008, p. 23

<sup>10</sup>Željko Predojević Ove i one osječke kavane, za ove i one Osječane u drugoj polovici 19.stoljeća, according Vilma Vukelić „U stiješnjem granicama“

<sup>11</sup>Ivan Horvat, Noćni život i zabava u Osijeku na prijelazu 20. stoljeća, hrcak.srce.hr/63797,2011.

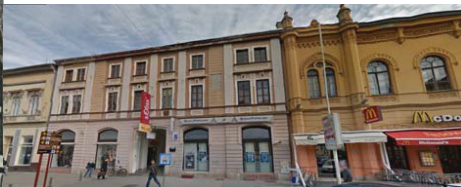
<sup>12</sup>Ivan Horvat, Noćni život i zabava u Osijeku na prijelazu 20. stoljeća, hrcak.srce.hr/63797,2011.

**Picture 14** Hotel Grand, winter garden today



Source: <http://sib.rtl.hr> accessed 22 March 2017

**Picture 15** Županijska Street, next to the Theatre, ex hotel Grand,



Source: A. Suljić

## - HOTEL ROYAL

Regarding to beginnings of the hotel industry in the city, besides hotel 'Central' and hotel 'Grand' in the Županijska Street, later called hotel 'Psunj',<sup>13</sup> there had been built hotel's Royal' (or Royal) in Kapucinska Street in 1864, opened in 1904.<sup>14</sup> Representative two-storey hotel had been designed by Ivan Eduard Domes in 1904 and 1905. The facade of the late historicism was designed in the neobaroque style.

'Representativeness of the building has been reflected in the design of interior space, which had had a late historicist cafe on the ground floor with a summer garden and secession cinema. Architectural value of building lies in proportions, the rhythm of masses and surfaces, functional design decorativeness that creates the harmonious atmosphere of details and architectural elements. Such pronounced representative function of the building showed high level of social life in Osijek at the beginning of the 20th century.'<sup>15</sup> Interiors that we see in old photos had been modified and also neglected.

**Picture 16** Cafe Royal, view on stage



**Picture 17** Cafe Royal



Source: [www.skyscrapercity.com](http://www.skyscrapercity.com) accessed 22 March 2017 accessed 22 March 2017

<sup>13</sup> Citizens remembered that the present location of the Grand café in the Županijska Street was formerly hotel Grand owned by family Gereg (who also ran hotel Royal before World War II). Family Gereg during II. World War left the city of Osijek. After that, the Grand Hotel has been renamed to hotel Psunj

<http://sib.rtl.hr/predstavljamogospodarstvo/15135-grand-caffe-povijesno-mjesto-za-najbolju-kavu-u-centru-osijeka.html>, accessed 22 March 2017

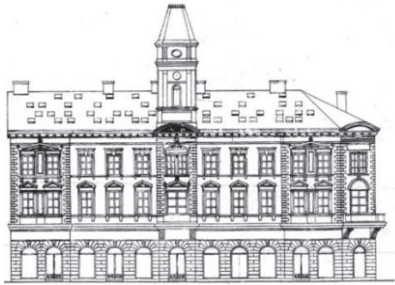
<sup>14</sup> 'Hotel 'Royal' - is based on the former Joseph Prandau building, who had rented it 1783. to Virovitica County. The current building with ornate facade raised the Countess Maria Prandau - Norman, and her son Gustav sold the building to a later branch of the Austro-Hungarian Bank. Osijek tailor Mijo Royal rearranged it in the hotel 'Royal'-Royal.' Božo Plevnik, Stari Osijek, Osijek 1987., p 67

<sup>15</sup> Register of Cultural Heritage of Republic of Croatia

### 3. Other significant buildings - City house with clock, First Croatian Savings Bank, NAMA

Other examples, such as City house with a tower clock, without clock and without City Hall that was supposed to be in the building, First Croatian Savings Bank that was not placed there, department store NAMA that it no longer that...

**Picture 18** A. Starčević Square 7,  
City house with clock



Source: <https://hr-hr.facebook.com/Prijatelj.Grada.Osijek>, accessed 22 March 2017

**Picture 19** NAMA, 1975



First Croatian Savings Bank, mixed use three storey building, built in the 1909 and 1910 on the site of the old single-storey houses, projected by architect Dionis Sunko also was in original purpose – a bank. Historically and architecturally valuable buildings have recently lost their original purpose which degraded cultural, public and economic life of the city. Commercial activity of very intensive trading on the surface of the square, moved into the building of popular magazine NAMA, allowing significant reconstruction on the north side of the square. Today's NAMA lost its inner structure as undivided trading space and with numerous alterations and inconsistent interventions of different users lost attraction, as well as customers.

**Picture 20** First Croatian Savings Bank



**Picture 21** Forgotten central hall of Savings Bank



Source: <https://hr-hr.facebook.com/Prijatelj.Grada.Osijek>, accessed 25 March 2017

### 4. Protection of Cultural heritage and city planning

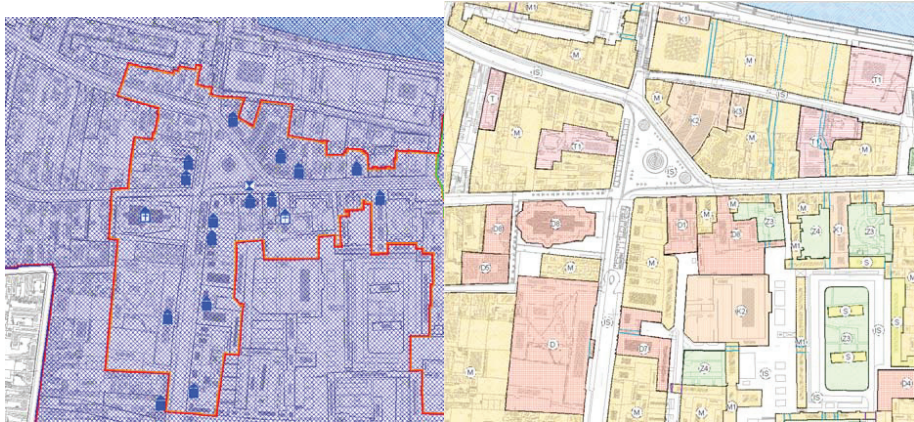
In Osijek city centre, the urban plan (UPU) had been proscribed for the centre of Osijek. According to the UPU, Hotel Central and Hotel Royal are located in the zone for tourist purpose and also in an area predominantly completed part of the city, planned for rehabilitation.

According to the cartographic part of the UPU Areas of specific conditions of use, there had been a large number of individually protected cultural monuments on Ante Starčević Square and in Županijska Street. The concentration of valuable historic architecture, unfortunately had not been



followed by the concentration of high-quality refurbished and used architecture.<sup>16</sup> In addition, the City of Osijek does not encourage for co-financing the reconstruction of the facade. In case of individually unprotected building co-funding could reach approximately 20% of the necessary funds from the city budget. (100,000.00 KN in the protection zone B, max 500,000.00KN)

**Picture 22** UPU for center of Osijek, cartographic part **Picture 23** UPU for center of Osijek, cartographic part, Land use, Specific conditions of use, city center is part of Historical



Source: [www.osijek.hr](http://www.osijek.hr), accessed 20 March 2017,

## 5. The recent loss of the original use of historical architecture

Prolonging recovery of Osijek after the war is still visible by the numerous facades in poor condition. While investing into reconstruction of squares, renewing the square without integrated restoration of the facades and ground floor commercial spaces with the surface of the square cannot result with quality function of the city and the urban public space. The main city square does not have adequate facilities relating to the square and the ground floor does not communicate with upper floors. Hotel Central has a minimal reception area, a room for breakfast, while the excellent crafted café had irretrievably been lost with reconstruction in 2011 by putting commercial content in its space. Also, there is no longer a terrace café on the surface of the square in front of the building.

Central hall of the First Croatian Savings Bank has become a bookstore, Royal is not receiving guests, and we lost secession cinema and café interior. NAMA department store has become a maze of small shops not responding to the main square and his representative character. Today we are witnessing the degradation of the architectural heritage by destroying the original use of the buildings that marked the cultural and economic life of Osijek in the past: ground floor of Croatian National Theatre, Savings Bank collapsed, Hotel Grand is recorded only in the archives, a restaurant Mc Donald's has been placed in the Theatre building for more than 15 years... The ownership relations of the ground floor and the basement are not settled: parts of building are not owned by Theatre what prevents a complete renovation of Theatre.<sup>17</sup> In wider environment, hotel

<sup>16</sup> From the analyzed buildings, in the Register of Cultural Heritage of a Republic of Croatia, as immovable cultural heritage, registered are only Theater and hotel Royal.

<sup>17</sup> In that way the entire theater building would be back to its original purpose - the promotion of cultural content, but to make that happen is first necessary to resolve the issue of McDonald's and space in the basement of the building, a former Ugo Ugo bar/Oxygen, which was recently taken over by Osijek Airport and turned it into a restaurant/bar', [http://www.osijek031.com/osijek.php?topic\\_id=58414](http://www.osijek031.com/osijek.php?topic_id=58414), accessed 24 March 2017

Turistplaced at the railway station, though with renewed facade and excellent position exists only as a training ground for gambling. The question is how did Osijek in the early 20th century, with 28,000 inhabitants, have a need for 4 hotels with cafes and the restaurants, while today with 83,000 inhabitants according to data from 2011 has only one big hotel and few very small?

*Picture 24 Ex hotel Schneller (or Hotel Turist), at the railway station, today without original function*



*Source: www.google.hr/maps, accessed 29 March 2017*

Today we are witnessing the degradation of the architectural heritage by destroying original purpose of the buildings that marked the cultural and economic life of the centre of Osijek. All listed, historically and architecturally valuable buildings, recently lose their original purpose which degrades the cultural and economic life in the centre of the city.

Also, changing use, in addition to poor economic performance marks loss of identity and disintegrates urban life; nor hotel 'Central' could survive amputated of its café, which was corresponding with the space and life of the main square, nor could First Croatian Savings Bank work with clients without its ground floor hall. Regarding the importance of a café of hotel 'Central' for city of Osijek in the past, it is necessary to examine the possibility of returning the space to the original purpose, with appropriate presentation of original interior elements.

For revival of the city, especially urban centres, but also for the life of historical architecture that makes up the city's identity, it is necessary to redefine the purpose of the space inside the historic structure.

## REFERENCES

Božo Plevnik, Stari Osijek, Osijek 1987.

Stjepan Sršan, Kulturno-povijesni vodič, Osijek 2008.

Zlata Živaković – Kerže, Osječka sjećanja i svaštice (20. Stoljeće, 1.dio), Osijek 2004.

Zlata Živaković – Kerže, Osječka sjećanja i svaštice (20. Stoljeće, 2.dio), Osijek, 2004.

Zlata Živaković-Kerže, Zlata, Svaštice iz staroga Osijeka, Hrvatski institut za povijest - Podružnica za povijest Slavonije, Srijema i Baranje, Slavonski Brod; Društvo za hrvatsku povijesnicu, Osijek, 1997.

Zlata Živaković-Kerže, Zlata, S tradicionalnih na nove puteve - trgovina, obrt, industrija i bankarske ustanove grada Osijeka na prijelazu stoljeća od godine 1868. do 1918. Osijek, 1999.

Sonja Gaćina i Grgur Marko Ivanković, Planovi i vedute Osijeka, Osijek, srpanj 1996.

Stjepan Sršan, (urednik), 2007a. Građivo za povijest Osijeka i Slavonije, knjiga XXI., Zapisnici grada Osijeka 1887. - 1895., Državni arhiv u Osijeku, Osijek,

Stjepan Sršan, (urednik), 2007b. Građivo za povijest Osijeka i Slavonije, knjiga XXII., Zapisnici grada Osijeka 1896. - 1901., Državni arhiv u Osijeku, Osijek,

Stjepan Sršan, Osijek kulturno-povijesni vodič, Osijek, 2008.

Marina Vinaj, Plakat za plakat – iz zbirke Muzeja Slavonije Osijek, Muzej Slavonije Osijek, Osijek, 2008.

Ivan Horvat, Noćni život i zabava u Osijeku na prijelazu 20. stoljeća, hrcak.srce.hr/63797,2011.

Željko Predojević Filozofski fakultet u Pečuhu, Ove i one osječke kavane, za ove i one Osječane u drugoj polovici 19. stoljeća, prema djelu Vilme Vukelić „U stiješnjenim granicama“

Ivan Trojan, Osječki kazališni život u vrijeme prvoga svjetskog rata, hrcak.srce.hr/file/204939  
Dragan Damjanović u 'Historicistička palača dr. Milana Maksimovića u Osijeku',  
www.academia.edu

Internet:

[www.sib.rtl.hr](http://www.sib.rtl.hr)

[www.delcampe.net](http://www.delcampe.net)

[www.skyscrapercity.com](http://www.skyscrapercity.com)

[www.osijek.hr](http://www.osijek.hr)

[www.min-kulture.hr](http://www.min-kulture.hr)

<https://hr-hr.facebook.com/Prijatelji.Grada.Osijeka>

[http://www.osijek031.com/osijek.php?topic\\_id=58414](http://www.osijek031.com/osijek.php?topic_id=58414)

[www.kolekcionar.eu](http://www.kolekcionar.eu)

PHOTOS

The sources listed on a photos description

DRAWINGS

State Archives in Osijek, the Fund, Box 29

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## **CULTURAL HERITAGE IN LIBRARIES AS A RESOURCE FOR THE DEVELOPMENT OF TOURISM: THE CASE OF EASTERN CROATIA**

### **KULTURNA BAŠTINA U KNJIŽNICAMA KAO RESURS ZA RAZVOJ TURIZMA: PRIMJER ISTOČNE HRVATSKE**

#### **ABSTRACT**

*Libraries store works of cultural heritage that promote awareness of the cultural identity of a community. By their activity, which is manifested through their cultural, educational and information functions, libraries contribute to the economic development of society. Since eastern Croatia faces difficulties in launching diverse economic development, activation of all available resources could help the revival of the economy. This paper analyzes the possible usage of library heritage to create new cultural and tourism attractions in order to develop and enrich the tourist offer. Tourism is one of the economic industries that can contribute to the positive economic results for the local residents and community. It is especially important for eastern Croatia to use all available natural, traditional and cultural resources for tourism development, because less than 2% of the total tourist traffic in Croatia takes place in the continental part of the Croatia, 2% in Zagreb, while about 96% takes place in seven coastal counties. Concept of sustainability and selective forms of tourism such as the cultural one is recently increasingly emphasized. Researches show that tourists show an interest both for natural resources and for local cultural and traditional attractions in Croatia. The evaluated and properly presented library resources can significantly contribute to the development of tourism in eastern Croatia. Research from 2013 shows that libraries participate in tourism in several ways: as theoretical infrastructure, as a cultural center for the local community, and through their educational function. In addition, library facilities (library building, specific contents of the library, presentation of local heritage, various cultural events, concerts, films, exhibitions of photographs and pictures) could be interesting as tourist attractions in several aspects. Cultural identity with the heritage as its essential component makes a tourist product more attractive. This paper brings concrete examples of libraries in eastern Croatia as well, with their resources that have the potential to create new tourist cultural attractions*

**Key words:** *heritage in libraries, cultural heritage, cultural identity, tourist attraction, eastern Croatia*

## SAŽETAK

*U knjižnicama se pohranjuju djela kulturne baštine i promiče svijest o kulturnom identitetu određene zajednice. Svojom djelatnošću, koja se manifestira kroz njihove kulturne, obrazovne i informacijske funkcije, knjižnice sudjeluju i u gospodarskom razvoju društva. Budući da se istočna Hrvatska suočava s teškoćama u pokretanju raznolikog gospodarskog razvoja aktiviranje svih raspoloživih resursa može pomoći oživljavanju gospodarstva. U radu se analizira korištenje knjižnične baštine za stvaranje novih kulturnih i turističkih atrakcija u cilju razvoja i obogaćivanja turističke ponude. Turizam je jedna od gospodarskih aktivnosti koja može donijeti pozitivne ekonomske učinke za lokalno stanovništvo i zajednicu. Za istočnu Hrvatsku je posebno važno koristiti sve raspoložive prirodne, tradicijske i kulturne resurse u razvoju turizma jer se u njoj i ostatku kontinentalne Hrvatske odvija manje od 2% ukupnog turističkog prometa u zemlji, oko 2% u Zagrebu dok se oko 96% odvija u sedam primorskih županija. Sve više raste značaj koncepta održivosti i selektivnih oblika turizma poput kulturnog turizma. Istraživanja pokazuju da turisti u Hrvatskoj osim za prirodne resurse pokazuju i interes za lokalnim kulturnim i tradicijskim atrakcijama. Turistički valorizirana i marketinški prezentirana knjižnična baština može značajno pridonijeti razvoju turizma u istočnoj Hrvatskoj. Istraživanje iz 2013. pokazalo je da knjižnice sudjeluju u turizmu na više načina: u funkciji teorijske infrastrukture, kao kulturna središta lokalne zajednice i kroz svoju obrazovnu funkciju. Osim toga, knjižnični sadržaji (zgrade knjižnica, specifični sadržaji iz knjižničkog fonda, prezentacija lokalne baštine, razna kulturna događanja, koncerti, filmovi, izložbe fotografija i slika) mogu kao atrakcije biti zanimljivi turistima i to s više aspekata. Kulturni identitet s baštinom kao njegovom bitnom sastavnicom čini turistički proizvod atraktivnijim. U ovom se radu donose i konkretni primjeri knjižnica u istočnoj Hrvatskoj s njihovim resursima koji imaju potencijal za stvaranje turističkih kulturnih atrakcija.*

**Ključne riječi:** *baština u knjižnicama, kulturna baština kulturni identitet, turistička atrakcija, istočna Hrvatska*

### 1. Introduction

Slavonia and Baranja are known not only for their agriculture but also for their rich and diverse cultural heritage. In these areas the current tourist offer is primarily based on the rural and gastronomic tourism. However, the rich cultural heritage of this area provides opportunities for stronger development of cultural tourism as well. As public institutions, libraries are centers of cultural and public life of their communities, which is particularly highlighted in the case of small communities. They store works of cultural heritage and promote awareness of the cultural identity of a particular community. Through their activity, which is manifested through their cultural, educational and informational function, libraries participate in the economic development of society too. Since eastern Croatia faces difficulties in launching diverse economic development, the activation of all available resources can help in reviving the economy. This paper analyzes the potential of library heritage to create new cultural and tourist attractions in the development and enrichment of the tourist offer. Tourism is one of the economic activities that can bring positive economic effects for the local population and community. For eastern Croatia it is especially important to use all available natural, traditional and cultural resources in tourism development. That is because less than 2% of the total tourist traffic in Croatia takes place in the continental part of the Croatia, 2% in Zagreb, while about 96% takes place in seven coastal counties (Turistička zajednica Splitsko-dalmatinske županije, 2016). The concept of sustainability and selective forms of tourism such as cultural tourism are

increasingly gaining importance. Tourists in Croatia, apart for natural resources, show interest for the local cultural and traditional attractions as well. Evaluated and appropriately presented library heritage can contribute significantly to the development of tourism in eastern Croatia. Research from 2013 (Tokić, 2015) shows that libraries participate in tourism in several ways: in the function of the theoretical infrastructure, as a cultural center of the local community, and through its educational function. In addition, library facilities (building, specific collections, presentation of local heritage, various cultural events, concerts, films, exhibitions of photographs and pictures, etc.) can be interesting to tourists from several aspects. Cultural identity with its heritage as an essential component (Jelinčić, 2000), makes a tourist product more attractive. This paper brings specific examples of libraries in eastern Croatia with their resources which have the potential to create tourist cultural attractions.

## **2. Methodological framework**

This work is based on the research question whether libraries in Slavonia contain relevant cultural heritage with the potential to become a cultural tourism attraction? If they have, which ones? Therefore, this paper explores cultural and tourist potential of library resources in the eastern part of Croatian which is administratively divided into five counties, Vukovar-Srijem, Osijek-Baranja, Brod-Posavina, Požega-Slavonia and Virovitica-Podravina County. The study focuses on the libraries which are by their function related to the cultural heritage and identity of their communities, and thus have resources which allows the inclusion to the local tourist offer. Therefore, the study does not include school libraries and other special libraries that are aimed at satisfying the needs of a specialized circle of users and that have no significant heritage role. Regarding libraries of religious institutions, there is no systematic research on related to their willingness to be involved in public tourism activities. Still, since they have significant cultural and heritage role, only resources which are identified in the Register of Cultural Goods of Republic of Croatia will be listed in the paper to complement the overall picture of library cultural resources in the observed area. On the other hand, greater attention will be paid to the potential of public libraries with their public functions. In a study from 2013 (Tokić, 2015) public libraries have supported the inclusion of library resources in the tourist offer. Therefore authors of this work conducted desk research on a sample of 46 libraries of which 32 are public libraries, 7 monastery, 3 museum, 2 memorial and 2 faculty libraries. Emphasis of the research is placed on library resources related to the cultural heritage of the libraries themselves which they represent on their own (memorial value of buildings and institutions) or store in their collections (valuable and interesting collection of books, contents and traditions associated with local cultural identity). It is also placed on their cultural activity (literary and artistic meetings, promotions, exhibitions, concerts, performances).

## **3. Results of the research**

Although generally not publicly recognized, libraries are involved in tourism industry in many ways. They provide support in training professionals who are involved at various levels in the tourism industry, and information support for scientific and professional research in the field, which helps in the development of this industry. They also provide a variety of information about the destination of the tourists themselves or other required information (Tokic, 2015). In addition, the library itself can be a tourist attraction starting from large libraries such as the Library of Birmingham and the British Library (Kitching, 2016) to the monastery libraries (Zagreb County Tourist Board, 2017) to the memorial libraries of writers and other famous public figures (Bošnjaković and Lučevnjak, 2016). The emphasis is placed on the potential of library resources in libraries of eastern Croatia (Slavonia and Baranja) regarding the possibility

of their involvement in the local tourist offer as independent tourist attractions or in the sense of narratives for enrichment of local tourist offer. Criteria for inclusion of library resources in the tourist offer are based on the research regarding the involvement of libraries in tourism (Tokic, 2015) and covered: i) the existence of specific library collection (books, journals, manuscripts, maps, posters, postcards and other ephemeral materials, audiovisual media, the library inventory, etc.), ii) library buildings, iii) activities (organization of events and exhibitions, information, cultural and other services for tourists) and iv) other facilities (digitized content, websites and social networks). Based on these criteria 46 libraries from Slavonia and Baranja were examined in relation to the tourism potential of their resources. The research examined Register of Cultural Goods of Republic of Croatia and publicly available data on libraries published in their annual reports and web sites. Table 1 brings the number of libraries in eastern Croatia that have tourism potential by the county.

**Table 1** Number of libraries in eastern Croatia that have tourism potential

| Number of libraries that have tourism potential by county |           |           |          |          |          |  |
|---|-----------|-----------|----------|----------|----------|--|
| County  | public    | monastery | memorial | museum   | faculty  | listed in Register of Cultural Goods       |
| Brod-Posavina   | 1         | 1         | 1        |          |          | 2: 1 monastery, 1 memorial                 |
| Osijek-Baranja  | 6         | 2         |          | 1        | 1        | 5: 1 faculty, 1 public museum, 2 monastery |
| Požega-Slavonija  | 3         | 1         |          |          | 1        | 3: 1 faculty, 1 public, 1 monastery        |
| Virovitica-Podravina                                      | 1         | 2         |          |          |          | 2: 2 monastery                             |
| Vukovar-Srijem  | 6         | 1         | 1        | 1        |          | 3: 1 memorial, 1 museum, 1 monastery       |
| <b>Total</b>  | <b>17</b> | <b>7</b>  | <b>2</b> | <b>2</b> | <b>2</b> | <b>15</b>                                  |

Source: Authors' research.

In the Table 2 are listed 30 libraries in the five counties of eastern Croatia which have significant cultural resources that have the potential to become tourist attractions. 15 of them are listed in the Register, while another 15 are not. Thereby a positive answer to the research question was obtained and confirmed that libraries in Slavonia and Baranja with their resources have the potentials to enrich the local tourist offer.

**Table 2** Libraries with cultural resources

| listed in the Register  | Brod-Posavina County | not listed in the Register  |
|---|----------------------|---|
| <b>Cernik: The Library of the Franciscan monastery</b><br>Franciscan monastery and library of the 18th century with the collection which contains about 7,500 volumes, two incunabula, several rare books from the 16th century, and a number of Croatian rare books published before 1850. The library also has Croatian editions of the Bible - the Scriptures of the Old and New Testament with the translation of Matija Peter Katančić from 1831 as well as Croatian lectionary kajkavian and shtokavian speech. The Library contains musical collection with manuscripts of cantuals and missals. |                      | <b>Slavonski Brod: Public Library</b><br>This library contains a heritage collection named Brodensia, it organizes promotions, and celebrations of anniversaries, participates in cultural events and organizes concerts. |
| <b>Slavonski Brod: The Brlić House and Memorial library of Ivana Brlić Mažuranić</b><br>The renovation of the house Brlić is in progress, in which the personal library of Ivana Brlić Mažuranić  |                      |   |

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| is planning to open its doors to visitors. In addition, the museum of the Brlić family will be open as well, a small concert hall and space for literary events too.   |  |                                   |
| <b>listed in the Register</b>  | <b>Osijek-Baranja County</b>   | <b>not listed in the Register</b> |
| <p><b><i>Dakovo: Diocesan Library and the Library of the Theological School</i></b><br/>The Library contains valuable incunabula and books, manuscripts and newspapers from the 15th to the 20th century. Diocesan Library and the Library of the Theological school in Đakovo is linked to the bishop's library dating from the 15th century. Diocesan library was established after the liberation of Slavonia from the Turks in the early 18th century. The Library contains mainly books from literary legacy of bishops and canons. Theological College Library was built in the early 19th century as part of the Diocesan library.</p>  | <p><b><i>Beli Manastir: The Public Library Beli Manastir</i></b><br/>Central Library of the Hungarians in Croatia operates within the Public Library as well, which fosters the Hungarian cultural heritage and tradition of the Hungarian written and spoken language. The two libraries work together on various projects and programs, as well as with various companies and other libraries in Croatia and Hungary. Public Library organizes public promotions, literary evenings, theater performances, meetings, lectures and other cultural programs.</p> |                                   |
| <p><b><i>Našice: The Library of the Franciscan monastery of St. Anthony of Padua</i></b><br/>The Library of the Franciscan monastery of St. Anthony is dating back to around 1784. The library contains religious, secular and scientific books dating from the period of the 15th century until today. Particularly important is the collection of incunabula consisting of 10 incunabula contained in 13 physical units originated from 1470 to 1499.</p>  | <p><b><i>Belišće: The Public Library and Reading Room Belišće</i></b><br/>The Library organizes group visits to the library, literary meetings, exhibitions, professional and popular lectures, workshops and other cultural and promotional programs. The Library participates at public sports and cultural events, festivals, anniversaries and other events in Belisce.</p>  |                                   |
| <p><b><i>Osijek: Public and University Library</i></b><br/>Public Library in Osijek was founded in 1949. In 1975 it combines its activities with the University of Osijek and becomes the City and University Library Osijek (GISKO). The Library collections have cultural, historical and educational features. It contains a collection named Mursiana, literary heritage of Rudolph Francis Magjer, Austrian library in German and other significant collections. The library organizes a series of public events (literary meetings, festivals, lectures, exhibitions and other cultural and promotional programs). The library is located in a representative city villa in Art Nouveau style built in the early 20th century. It was a wedding present from a prominent family Gillming, to their daughter Mathilde for her wedding with Vjekoslav Hengl, later Mayor of Osijek. The library keeps the literary legacy of the family Hengl.</p> | <p><b><i>Čepin: Library Čepin</i></b><br/>The Library is the only professional cultural institution in Čepin promoting general cultural value of art. The Library contains a collection of materials in foreign languages and a heritage collection. At 2011 Library won the Award for achievements in the development of literacy, education, science, economic, social and cultural development. The Library organizes promotions, literary meetings, book exhibitions, thematic exhibitions, artistic and literary workshops and theater performances.</p>    |                                   |
| <p><b><i>Osijek: The Museum of Slavonia Library</i></b><br/>The Library of the Museum of Slavonia was established in 1877. Its initial collection consisted of books donated to the specialized literature wholesaler Franjo Sedlaković in Osijek. It also includes heritage collections Essekiana, Slavoniana and Baraniensia, as well as many other rare old books.</p>  | <p><b><i>Našice: Croatian Public Library and Reading Room</i></b><br/>Includes a heritage collection, a collection of rare books, memorial collection of the Central Library of Slovaks. Library organizes workshops on traditional culture, customs, crafts, arts, and public events such as the International Mother Tongue Day, exhibitions, lectures and other cultural events.</p>  |                                   |
| <p><b><i>Osijek: Part of the collection (11 books) of the Franciscan Monastery of the Holy Cross</i></b><br/>The Library of the Franciscan monastery was founded at the turn of the 18th century. The Library collection consists of about 20,000 books, most prominent of which are books of local authors. It also contains volumes of valuable foreign books from the 16th century and Croatian books from the 17th century, as well as linguistic books, and books of</p>  | <p><b><i>Valpovo: Public Library and Reading Room Valpovo</i></b><br/>Includes heritage collection Iovalliana and a collection of old and rare books. The library organizes promotions, exhibitions of photographs and paintings, books, articles, lectures, workshops and more. Library courtyard is famous for its old chestnut tree which dominates the views of Valpovo.</p>   |                                   |

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| printing houses of Zagreb from the 18th and 19th century. 11 books are protected as cultural property. Franciscan printing house is important as the first in Slavonia, which was active until the 1774.   |                                    |  |
| <b>listed in the Register</b>  | <b>Požega-Slavonia County</b>      | <b>not listed in the Register</b>  |
| <b>Požega: The Library of the Franciscan monastery</b><br>The Franciscans came in Požega in 1285 and built a church and monastery of St. Demetrius. The first data on the beginnings of the monastery library are from 1774. The library contains a number of rare books from the 16th century to the 1850s, of which two incunabula are especially prominent.   |                                    | <b>Lipik: Public Library and Reading Room Lipik</b><br>It is located in the building of the Multicultural Center Lipik built in 1886. It organizes workshops and various cultural programs.  |
| <b>Požega: Public Library Požega in the building of the "First savings bank of Požega"</b><br>The library is located in the building of the "First savings bank of Požega" from 1907, which is a representative house with elements of Art Nouveau. The Library contains a collection of rare books Possegiana which is digitized and the legacy of July Kempf. It is distinguished by its publishing activities.  |                                    | <b>Pakrac: Public Library Pakrac</b><br>The Library is historically linked to the first reading room, which was established in Pakrac in 1872. It includes a heritage collection containing newspapers, almanacs, postcards, photographs, architectural drawings, and archival materials. It conducted a project of <i>Digital history of Pakrac</i> which carried out the digitization of local heritage collection.  |
| <b>Požega: Gymnasium Teachers Library</b><br>The Teachers library is the most important part of the high school library of the Jesuit Gymnasium founded in 1699. The Library contains mostly philosophical and theological literature in Latin, Greek and German. In 1773 the Library was taken by Paulines, and in 1843 by Franciscans. Collection of Teachers library is diverse and contains books on various languages from the 16th to 20th century.  |                                    |  |
| <b>listed in the Register</b>  | <b>Virovitica-Podravina County</b> | <b>not listed in the Register</b>  |
| <b>Virovitica: The Library of the Franciscan monastery</b><br>The library contains about 2,000 volumes. Collection of foreign books of the 16th century and incunabula <i>Biblia integra summat</i> from 1495 are registered as cultural goods of Republic of Croatia. The collection includes numerous manuals, books for preachers, medical books, Euclid's work in the field of geometry, as well as books on philosophy, Christian spirituality, mathematics, history, medical science and practice, and education. Almost all the books are in Latin. |                                    | <b>Virovitica: Public Library and Reading Room</b><br>The library contains a heritage collection and, currently, the heritage collection of books and articles of Franjo Martin Fuis is being formed. The Library has a scientific department, and it organizes cultural events and programs, hosts professionals and celebrities, collaborates with radio station Virovitica, and newspapers Virovitički list and Glas Slavonije. It develops cooperation with the Ministry of Culture, other institutions, schools, embassies and communities of minorities as well as cross-border cooperation with the Croatians in Hungary. |
| <b>Virovitica: The Library of the Franciscan monastery of St. Roco</b><br>The Library collection consists of books printed in the 15th-19th century, as well as a substantial number of items printed in the 20th century which are substantially diversified in the field of science, art, religion, philosophy, history, law, literature, and so on. The core of the library collection are books printed in the 17th and 18th century. The collection of old Croatian literature is especially prominent.   |                                    |  |
| <b>listed in the Register</b>  | <b>Vukovar-Srijem County</b>       | <b>not listed in the Register</b>  |
| <b>Tovarnik: Memorial Library and Documentation Centre - Memorial House of A. G. Matoš</b><br>The birth house of A. G. Matoš is situated in the center of the village. The building was built as an elementary school and teacher lodging, in the first half of the 19th century, and rebuilt in the early 20th century. A new building was built behind it in 2008  |                                    | <b>Babina Greda: Public Library Babina Greda</b><br>The library includes a heritage collection, it organizes literary meetings, art workshops, promotion, readers' club, lectures, public meetings and other public events. It is located in a renovated building of the old elementary school in the center of the village.   |



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| <p>for the needs of libraries and reading rooms. Today it is a cultural center with 9 components: Permanent exhibition, Public Library, Memorial Library, Documentation Center, Multipurpose room, souvenir shop, Literary Club, Hall of workshops, administrative space with the depot.</p>  |   |
| <p><b>Vukovar: Library of Vukovar Municipal Museum</b><br/>The collection includes 515 books from various fields of science, arts and business which are printed in the period from the 16th to the 20th century. Most of them are books from the 18th and 19th century. The book structure is of different origins and in different languages. The archive materials consist of Vukovar archives (files, documents, reports), school museum Vukovar and the city museum (books).</p>   | <p><b>Drenovci: Library Drenovci</b><br/>The library includes a heritage collection which is now in the process of digitization. It organizes literary events of which the most significant are poetry evenings with award ceremonies, art workshops, promotion, readers' club, lectures, forums and other public events. It is distinguished by its publishing activities that promote local cultural heritage.</p>                                    |
| <p><b>Vukovar: The Library of the Franciscan monastery</b><br/>The library contains books on theology, theater, music, philosophy, linguistics, grammar, history, literature and ethics. A collection of old and rare books consists of 343 books from the 17th to the 19th century, in Croatian, Latin, German, Italian and Hungarian language, written in Gothic and Latin. Books of foreign authors from the 17th century are printed mostly in Italy and Germany. Books from the 18th century are works of Croatian and foreign authors, published in Hungary, Croatia, Italy and Austria. Books from the 19th century are mainly books of local authors.</p> | <p><b>Ilok: Public Library and Reading Room Ilok</b><br/>Library continues the tradition of the Croatian Civic Library in Ilok, which was founded in 1865. It organizes workshops, lectures, public meetings and other public events.</p>   |
|   | <p><b>Vinkovci: Public Library and Reading Room</b><br/>The Library consists of a heritage collection and Memorial Library of I. V. Radauš. The library organizes workshops, promotions, events, and publicly celebrated various cultural and scientific anniversaries and participates in the city's public events. Particular emphasis is placed on its publishing activities promoting research and presentation of the local cultural heritage.</p> |
|   | <p><b>Vukovar: Public Library Vukovar</b><br/>The Library contains a heritage collection, the Collection of the Homeland War, the study department and the American Corner. The Library organizes workshops, promotions, events and a readers' club. It also cooperates with the tourism board as well.</p>   |
|   | <p><b>Županja: Public Library Županja</b><br/>The Library organizes exhibitions, workshops, promotions, anniversaries, literary readings and lectures. It is engaged in public events, gatherings and manifestation Šokačko sijelo, Book Night etc.</p>   |

Source: Authors' research of Register of Cultural Goods of Republic of Croatia; Portal of Public Libraries.

#### 4. Discussion and implications

Examples of successful development of different segments of tourism in Slavonia for the specific interests of tourists, such as rural tourism, cycling tourism etc., show that in Croatia, tourism industry is recognized as a driving force which facilitates involvement of local people in economic activities of any region. Results of this study showed that libraries in eastern Croatia have resources with potential involvement in cultural tourism offer. In fact, it is a form of

tourism in which visitors show interest for facilities and amenities of cultural character (Vukonić and Čavlek, 2001). Offer of library resources as cultural attractions play a role in tourism since the Croatian cultural heritage increases the overall quality of the tourism offer for tourists who come to the destination for other motives (Vrtiprah, 2006). Local cultural heritage is becoming more important even though the travel and tourism sector in general express the characteristics of internationalization (Govers and Go, 2004). Therefore, tourism needs local culture, or at least the image of it (Reiser, 2003). Thus, cultural identity of a place represents the attractiveness of the tourism product, adding to the tourist's unique experience of a particular destination (Govers and Go, 2004). Since tourism is by nature a destructive activity (Cunliffe, 2004) [not intentionally], cultural identity is at risk and needs to be protected and preserved. Libraries as places of preservation of the written heritage appear as bearers of cultural identity and as a place of its formation as well. Resource (place, object or event) is not itself an attraction. It becomes an attraction only when there is a wider travel system which designs and elevates it to the status of tourist attraction. Almost all (material and immaterial objects) could become, through advertising, a tourist attraction. A system that creates and supports the attraction must have three main components (MacCannell, 1976, p. 41): an object or event located in the site, a tourist or a consumer, and a marker (signifier) as an informative element (Leiper, 1995, p. 143), or the image that says to the tourist that the object or event of interest. Later, terms of narrative, stories and fables, were included to this model (Rojek, 1997; Edelheim, 2015). Rojek (1997) adds that facts and fiction alike affect the way attractions will be perceived. Description of attraction is not only a factual analysis, but is a part of a broader combination of texts which together form the attraction as an abstract concept in the reader's mind. This is important because of the redefinition of attraction as narrative. Libraries can make a major contribution to the construction of such new narratives that enrich the cultural identity of Slavonia and Baranja destination and help the development of tourism. Their collections contain rare books, journals and other material. Among them, local heritage collections are particularly relevant. They contain specific local material, as well as a variety of activities with a plethora of information about the area. At a time of widespread global standardized culture and tourist offer and the increasing demand for something special, such heritage collections with their local specifics are a good basis for marketing and popularization of cultural tourism for certain destinations (Petrić, 2016). Library also contains collections of manuscripts, books and other legacy of writers or famous persons (Bošnjaković and Lučevnjak, 2016) related to a certain place which can be used for a new cultural and tourist narrative. Publishing activities of large public libraries in Slavonia and Baranja such as Public library in Vinkovci helps in the study, preservation and presentation of the local cultural heritage (Bilić, 2007) which provides the possibility of updating the known existing and creating entirely new narratives that can help destinations in east Croatia attract tourists. Furthermore, the characteristic library collections can serve as the basis for creation of local souvenirs. Library buildings with their historical and heritage value can also become a tourist attraction. In addition, attractive cultural events organized in libraries, such as concerts, literary events and exhibitions have the potential of enriching the local tourist offer. To properly use the potentials, it is necessary to connect a large number of stakeholders such as representatives of libraries, tourist offices, tourist entrepreneurs, marketing professionals, local authorities and other businesses in order to design and facilitate the realization of tourist products based on the contents from libraries. To achieve this goal, it is necessary to implement a study that would map, in detail, library resources with the potential of enriching the local tourist offer.

## 5. Conclusion

This paper analyzes library resources suitable for the creation of new cultural and tourist attractions in order to develop and enrich the tourist offer of the local communities in eastern

Croatia. Tourism is one of the economic activities that can bring positive economic effects for the local population and community. For eastern Croatia it is especially important to use all available natural, traditional and cultural resources in the development of tourism. Studies have shown that libraries participate in tourism in several ways: in function of the theoretical infrastructure, in the function of cultural center of the local community, and in the function of education, and as cultural attractions. Increasing importance of the concept of sustainability and selective forms of tourism such as cultural tourism is favourable for tourism in Slavonia and Baranja. Therefore, evaluated and presented library cultural heritage can contribute significantly to the development of tourism in eastern Croatia. Cultural identity, with its heritage as an essential component, makes a tourist product more attractive. Library facilities and services (library buildings, specific features of the library, presentation of local heritage, various cultural events, concerts, films, exhibitions, services, publishing) can be interesting to tourists from different aspects. Thus, it is crucial to establish a successful cooperation of librarians who know the specific resources of libraries in eastern Croatia, that are described in the text, with representatives of local authorities, tourist boards, marketing professionals and tourism entrepreneurs.

## REFERENCES

Bilić, A. (2007): *Stereotip raspojasane Slavonije*, Gradska knjižnica i čitaonica Vinkovci.

Bošnjaković, R. and Lučevnjak, S. (2016): *Spomenički knjižni fondovi – skrivena baštinska građa kao potencijal kulturnog turizma (Knjižnica Pejačević u Našicama)*, in 1. stručni skup s međunarodnim sudjelovanjem: Knjižnice i kontinentalni turizam, Zbornik radova, Gradska knjižnica Beli Manastir, Središnja knjižnica Mađara u RH, Beli Manastir, November 11th, 2016, pp. 52-76.

Cunliffe, S. K. (2004): *Tourism and culture at risk*, Tourism, Vol. 52, No. 3, pp. 285-291.

Edelheim, J. R. (2015): *Tourist Attractions: from Object to Narrative*, Channel View Publications, Bristol.

Jelinčić, D. A. (2000): *Iz antropološke perspektive: turizam i kultura*. Turizam, Vol. 48, No. 1, pp. 59-62.

Govers, R. and Go, F. M. (2004): *Cultural identities constructed, imagined and experienced: a 3-gap tourism destination image model*, Tourism, Vol. 52, No. 2, pp. 165-182.

Kitching, C. (2016): *The UK's most popular tourist attractions revealed*, in Daily Mail, URL: [http://www.dailymail.co.uk/travel/travel\\_news/article-3479238/British-Museum-remains-UK-s-popular-tourist-attraction.html#ixzz4ZjK7P2ja](http://www.dailymail.co.uk/travel/travel_news/article-3479238/British-Museum-remains-UK-s-popular-tourist-attraction.html#ixzz4ZjK7P2ja), (accessed 25 February 2017).

Leiper, N. (1995): *Tourist management*, RMIT Press, Melbourne.

MacCannell, D. (1976): *The Tourist: a new Theory of the Leisure Class*, Schocken Books, New York.

Petrić, D. (2016): *Zavičajni odjel – promotor kulturnog turizma*, in 1. stručni skup s međunarodnim sudjelovanjem: Knjižnice i kontinentalni turizam, Zbornik radova, Gradska knjižnica Beli Manastir, Središnja knjižnica Mađara u RH, Beli Manastir, November 11th, 2016, pp. 121-130.

Portal of Public Libraries. URL: <http://www.knjiznica.hr/home.php>.

Register of Cultural Goods of Republic of Croatia. URL: <http://www.min-kulture.hr/default.aspx?id=31>.

Reiser, D. (2003): *Globalisation: an old phenomenon that needs to be rediscovered for tourism*, Tourism and hospitality research, Vol. 4, No. 4, pp. 306-320.

Rojek, C. (1997): Indexing, dragging and social construction, in C. Rojek and J. Urry (eds) *Touring cultures: transformations of travel and theory*, Routledge, London, pp. 52-77.

Tokić, K. (2015): *The role of library in the Croatian tourism*, PhD Thesis, Faculty of Humanities and Social Science, University of Zagreb.

Turistička zajednica Splitsko-dalmatinske županije. (2016): *Analiza turističke sezone 2016*. URL: [http://www.dalmatia.hr/images/priopcenja/Analiza\\_sezone\\_2016.\\_godine.pdf](http://www.dalmatia.hr/images/priopcenja/Analiza_sezone_2016._godine.pdf) (accessed 25 February 2017).

Zagreb County Tourist Board (2017): *Knjižnica Franjevačkog samostana Kloštar Ivanić*, in Samostani i samostanske crkve. URL: <http://www.tzzz.hr/kroz-zupaniju/kulturna-bastina/najvrjednije-sakralne-cjeline/samostani-i-samostanske-crkve/> (accessed 25th February 2017).



**Novi trendovi  
u razvoju  
gospodarstva**

**New trends in  
economic  
development**

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**DATA ANALYSIS OF THE EVISITOR SYSTEM FOR CHECKING-IN  
AND CHECKING-OUT OF TOURISTS FOR THE PURPOSE OF THE  
IMPROVEMENT OF CULTURAL TOURISM IN THE OSIJEK –  
BARANJA COUNTY**

**ANALIZA PODATAKA SUSTAVA ZA PRIJAVU I ODJAVU TURISTA  
(EVISITOR) U SVRHU UNAPREĐENJA KULTURNOG TURIZMA  
OSJEČKO - BARANJSKE ŽUPANIJE**

**ABSTRACT**

*Since January 2016., the Croatian National Tourist Board used information system for the registration and checkout tourists eVisitor. The information system is used in the process of collecting and processing data on the accommodation providers and their accommodation facilities in the Republic of Croatia, in our case the Osijek-Baranja County. The information system for the registration and checkout tourists entries all the relevant information about accommodation providers and their accommodation facilities available in the decision issued by State administration offices in counties or the Ministry of Tourism. For this reason, the information system for the registration and checkout tourists can be used as a unique and easily searchable database of all providers of accommodation and unique base of all accommodation establishments in the territory of the Republic of Croatia.*

*Processing and analysis of data from the eVisitor system we use in the analysis of the situation in the Osijek-Baranja County.*

*According to statistics presented by the system eVisitor in the period from 01 January 2016. until 31 December 2016., can be traced citizens of foreign countries who have visited the destination, and how many overnight stays and out in the days of the year are visitors were in the area. These data should be compared by data on organized and financed events and justify their existence.*

*The primary objective of this paper is to establish guidelines and define steps for the development of continental and cultural tourism and the key actions that will lead to an increased number of overnight stays in seasons of 2017. to 2020., increased number of tourist arrivals generating demand through the development and promotion of new products and services.*

*The number of arrivals and nights can not be soundly causally linked to held events. The assumption is that the vast majority of local events, facing its own citizens.*



*Through this paper seeks to bedefine a vision of space as a whole and detect market segments in tourism.*

**Key words:** *analysis, Osijek-Baranja County, cultural tourism, market segments.*

## **SAŽETAK**

*Od siječnja 2016. godine turističke zajednice u Republici Hrvatskoj koriste informacijski sustav za prijavu i odjavu turista eVisitor. Informacijski sustav se koristi u procesu prikupljanja i obradi podataka o pružateljima usluga smještaja i njihovim smještajnim objektima na području Republike Hrvatske, tj. Osječko-baranjske županije u našem slučaju. U informacijski sustav za prijavu i odjavu turista se unose svi relevantni podaci o pružateljima usluga smještaja i njihovim smještajnim objektima dostupni iz rješenja koja izdaju Uredi državne uprave u županijama odnosno Ministarstvo turizma. Iz navedenog razloga informacijski sustav za prijavu i odjavu turista može biti upotrijebljen kao jedinstvena i lako pretraživa baza svih pružatelja usluga smještaja odnosno jedinstvena baza svih smještajnih objekata koji posluju na teritoriju RH. Obradu i analizu podataka iz eVisitor sustava koristimo u analizi situacije u Osječko-baranjskoj županiji.*

*Statistički podaci prikazani u sustavu eVisitor u razdoblju od 01. siječnja do 31. prosinca 2016. godine definiraju ostvaren turistički promet (dolasci i noćenja) te duljina boravka turista u destinacijama Osječko-baranjske županije. Tome valja sučeliti i podatke o organiziranim i financiranim manifestacijama i opravdati njihovo održavanje koje je često puta lokalnog sadržaja i veličine.*

*Primarni cilj ovoga rada je postaviti smjernice i definirati korake za razvoj kontinentalnog i kulturnog turizma odnosno ključnih aktivnosti koje će dovesti do povećanog broja noćenja u sezonama od 2017. – 2020., povećanog broja dolazaka turista generiranjem potražnje kroz razvoj i promoviranje novih proizvoda i usluga.*

*Broj dolazaka i noćenja nije moguće čvrsto uzročno povezati s održanim manifestacijama. Pretpostavka je da je velika većina manifestacija lokalnog karaktera, okrenuta vlastitim građanima.*

*Kroz ovaj se rad nastoji definirati vizija prostora kao cjelina te detektirati tržišne segmente u turizmu.*

**Ključne riječi:** *analiza, Osječko-baranjska županija, kulturni turizam, tržišni segmenti.*

## **1. Introduction**

The development of new series of products and cultural tourism services in the Republic of Croatia (RC hereafter) has been a focal point for many years. A lot of research and strategic documentary and action plans speak in its favor. The RC Cultural Tourism Developmental Strategy was adopted in 2004, followed by the foundation of the Office for the Cultural Tourism and Cultural Tourism Council. They implemented a series of activities related to the education, improvement and promotion of products and services for the purpose of the development of the entire cultural tourism offer.

The RC Cultural Tourism Developmental Strategy defined the series of cultural and tourism products and services in terms of the following fields: city tourism, heritage tourism, experience tourism, creative tourism and religious tourism.<sup>1</sup>

The data analysis of the eVisitor system should give a key contribution to reaching the global recognition on the tourist market and to the gradual expansion and enrichment of the continental tourism product portfolio in order to increase the number of arrivals of guests and their spending power. The primary analysis is focused on the new generation products (manifestations and events) in Osijek – Baranja County.

Manifestations belong to the event tourism and have recently been playing an important role in the development of tourist offer since we have witnessed an increasing number of professionally organized manifestations and festivals which have become hallmark events.

Manifestations are defined in terms of size and form of events. Size can vary from local one-day events, to main manifestations (Wimbledon, London), hallmark events (Octoberfest, Munich) and mega-events (the Olympic Games). Thematically, they are divided into festivals, sports manifestations and MICE – business events.

Generally speaking, manifestations contribute to the social and economic effects and strengthen the sense of belonging and cultural identity i.e. collectiveness, but also to the promotion of regional tourist destinations on the international and global tourist destination maps.

The primary purpose of this paper is setting the guidelines and defining the steps for the development of continental and cultural tourism and the key activities which will lead to the increased number of overnight stays in the 2017 – 2020 seasons and the increased number of guest arrivals by generating the demand through the development and promotion of new products and services.

## **2. Data analysis of the eVisitor system for checking-in and checking-out of tourists in the Osijek – Baranja County**

Since 2016 the tourist boards of the Republic of Croatia have used an information system for checking-in and checking-out of tourists called eVisitor. The information system has been used in the process of collecting and editing the data related to providers of the accommodation service and their accommodation facilities in RC. All the relevant data regarding the accommodation service providers and their accommodation facilities are entered, which are available through the decisions issued by the county State Administration Offices or the Ministry of Tourism. The system is used as a unique and easily searchable base of all the accommodation service providers and the unique base of all the accommodation facilities which are active on the territory of the RC. The eVisitor data elaboration and analysis are used for the analysis of the situation in the Osijek – Baranja County.

Statistical data shown in the eVisitor system for the period from 1 January to 31 December 2016 define the gained tourist turnover (arrivals and overnight stays) and the length of stay of the tourists in the Osijek – Baranja County. This data should be compared to the data on the organized and financed manifestations and justify their existence, which are often local in terms of size and contents.

The paper analyses tourist turnover in terms of days, arrival organization, type of facility, event (manifestation) calendar in towns (Beli Manastir, Belišće, Donji Miholjac, Đakovo, Osijek, Valpovo) and districts of the Osijek – Baranja County based on the eVisitor data.

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<sup>1</sup> <http://arhiva.rera.hr/Portals/0/docs/eu-turizam/Strategija-Razvoja-Kulturnog-Turizma.pdf>, retrieved (01-03-2017.)

### a. Situation analysis

The eVisitor system data analysis should make a key contribution to the vision and general aims of the tourist development of the Osijek – Baranja County in order to make it globally recognizable on the tourist market as well as a contribution to gradual extension and enrichment of the continental tourism product portfolio. Consequently, this will increase the number of guest arrivals and the spending power of tourists.

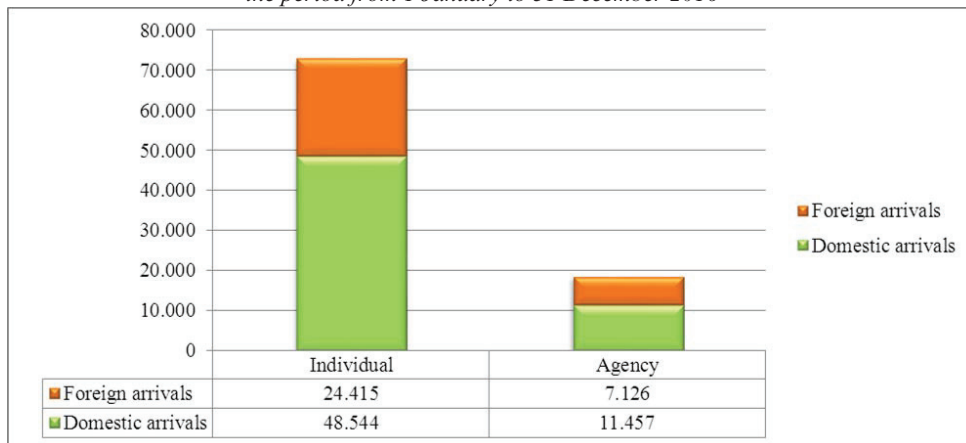
An overview of arrivals and overnight stays in the Osijek – Baranja County

In the period from 1 January to 31 December 2016 according to data of the Tourist turnover in terms of arrivals organization the eVisitor system shows that there were 60,001 domestic visitors and 31,541 foreign visitors, which adds up to a total of 91,542 visitors of the Osijek – Baranja County. These visitors made a total number of 194,864 overnight stays, 122,687 of which were domestic and 72,177 foreign visitors. An average stay for both of the groups in the destination was from 2 to 3 nights.

### b. Tourist turnover in terms of arrivals organization

Picture 1. shows that both domestic and foreign guests rarely use tourist agency services. As many as 72,959 or 79.7 % of all the arrivals was personally arranged while 20.3 % or 18,583 guests used the agency services.

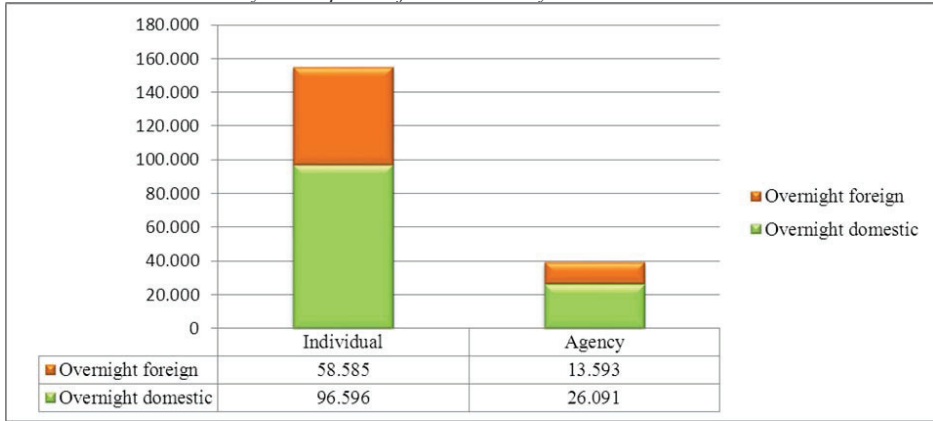
**Picture 1** Tourist turnover in terms of arrivals organization in the Osijek – Baranja County in the period from 1 January to 31 December 2016



Source: Authors

The results of the extent to which domestic and foreign guests use the service of overnight stay organization that were obtained by tourist agencies are similar. Almost 80% (79.6%) of the visitors spent night in their own arrangement while 20% of them used travel agency services. (see Picture 2.).

**Picture 2** Tourist turnover in terms of the organization of overnight stay in the Osijek – Baranja County in the period from 1 January to 31 December 2016



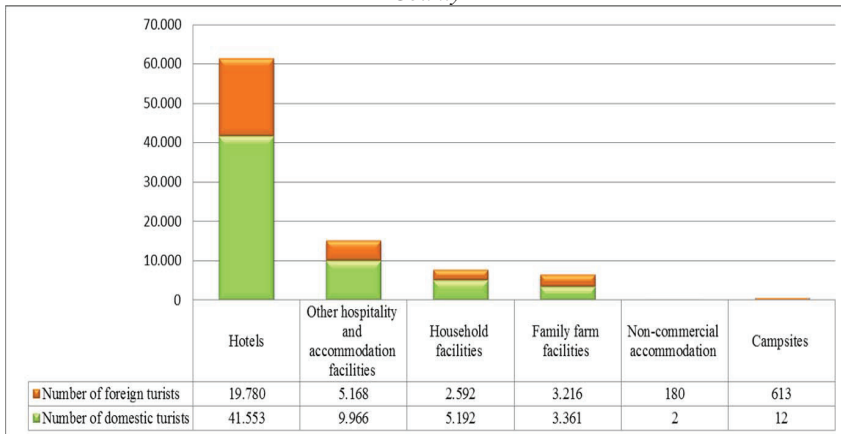
Source: Authors

**c. Tourist turnover in terms of facility subcategory**

In terms of accommodation facility subcategory domestic and foreign guests in most cases book accommodation capacities in hotels and other hospitality facilities which provide accommodation, followed by household facilities and facilities which are a part of family farms.

A total number of 61.333 of visitors of the Osijek - Baranja spent night in hotel accommodation, 15.134 of them chose accommodation in other hospitality facilities which provide accommodation, 7.784 decided to be accommodated in households, 6.577 chose accommodation in the rural part of the County on family farms, 182 visitors used non-commercial accommodation and 625 of them spent night in campsites. (see Picture 3.)

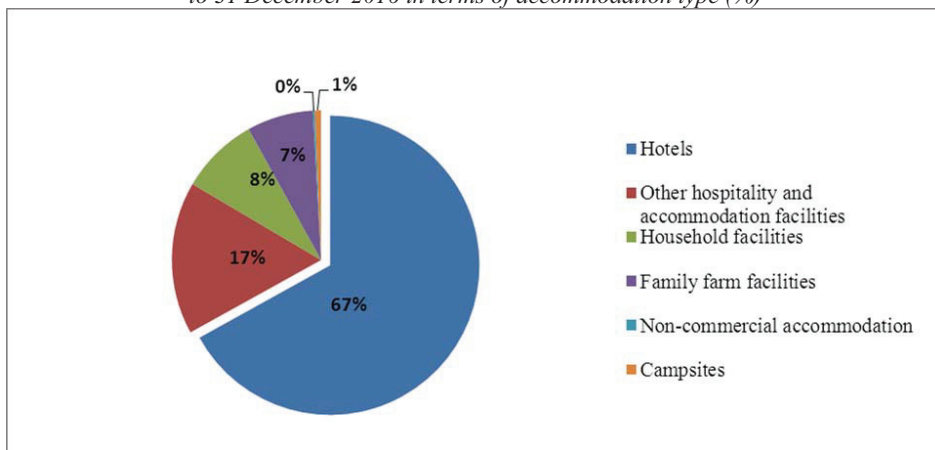
**Picture 3** An overview of the number of arrivals of foreign and domestic visitors in terms of accommodation type in the period from 1 January to 31 December 2016 in the Osijek – Baranja County



Source: Authors

A total number of 67% of visitors of the Osijek – Baranja County spent night in hotel accommodation, 17% of them chose accommodation in other hospitality facilities which provide accommodation, 8% decided to be accommodated in households, 7% chose accommodation in the rural part of the County on family farms, 1% spent night in campsites while neither of the visitors used non-commercial accommodation or was not registered in the eVisitor system (see Picture 4).

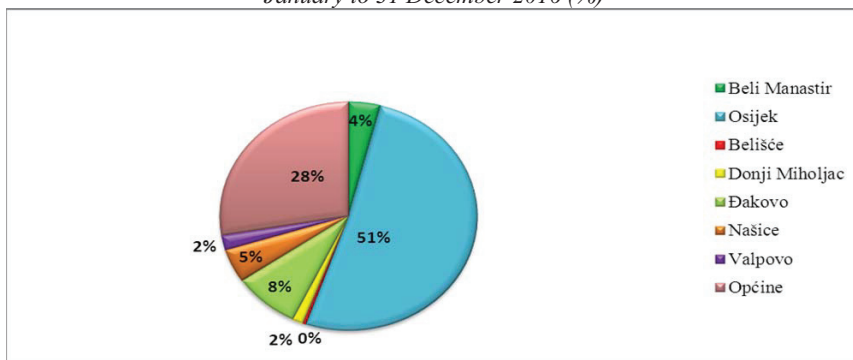
**Picture 4** An overview of the arrivals of visitors to the Osijek – Baranja County from 1 January to 31 December 2016 in terms of accommodation type (%)



Source: Authors

According to the data shown in Picture 5, the majority of the arrivals of domestic tourists was registered in the city of Osijek (51%), districts<sup>2</sup> (28%), Đakovo (8%), Našice (5%), Beli Manastir (4%), Valpovo (2%), Donji Miholjac (2%).

**Picture 5** Proportion of the arrivals of domestic tourists in the Osijek – Baranja County from 1 January to 31 December 2016 (%)

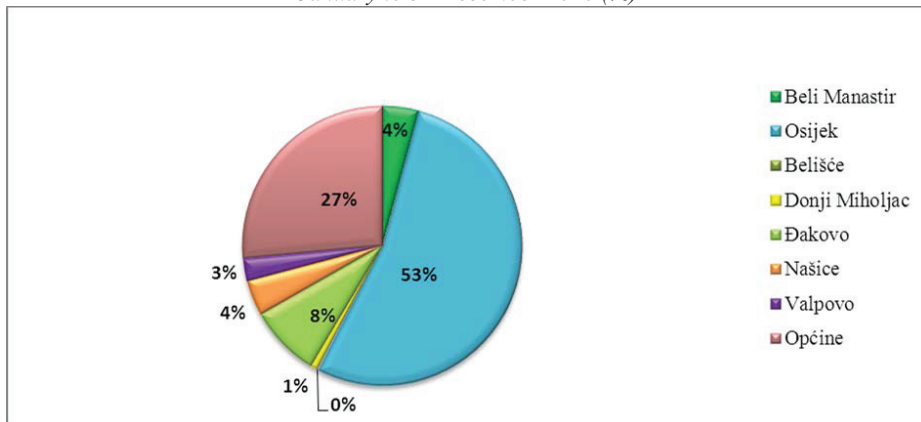


Source: Authors

<sup>2</sup> The analysed districts in the Osijek – Baranja County: Bilje, Bizovac, Čeminac, Darda, Draž, Erdut, Jagodnjak, Kneževi Vinogradi, Petlovac, Popovac.

According to the data presented in Picture 6, the majority of the arrivals of foreign tourists was registered in Osijek (53%), districts (27%), Đakovo (8%), Beli Manastir (4%), Našice (4%), Valpovo (3%), Donji Miholjac (1%).

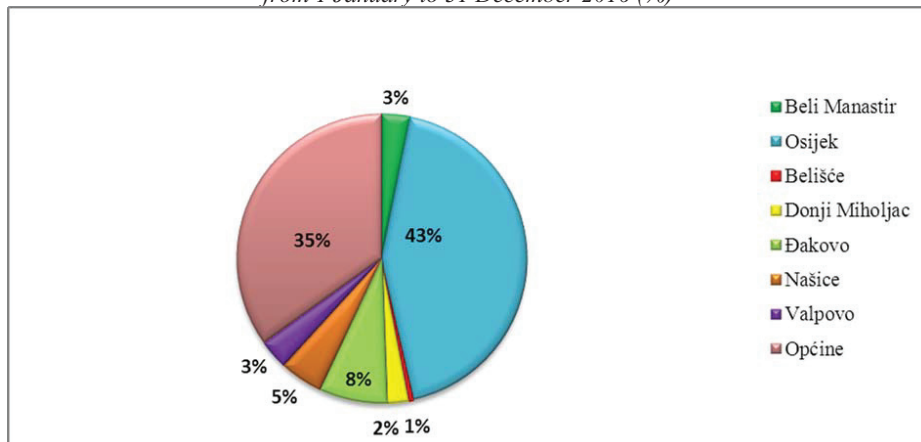
**Picture 6** Proportion of the arrivals of foreign tourists in the Osijek – Baranja County from 1 January to 31 December 2016 (%)



Source: Authors

According to the data presented in Picture 7, the highest proportion of overnight stays of domestic tourists was registered in the city of Osijek (43%), districts (35%), Đakovo (8%), Našice (5%), Valpovo (3%), Beli Manastir (3%), Donji Miholjac (2%), Belišće (1%).

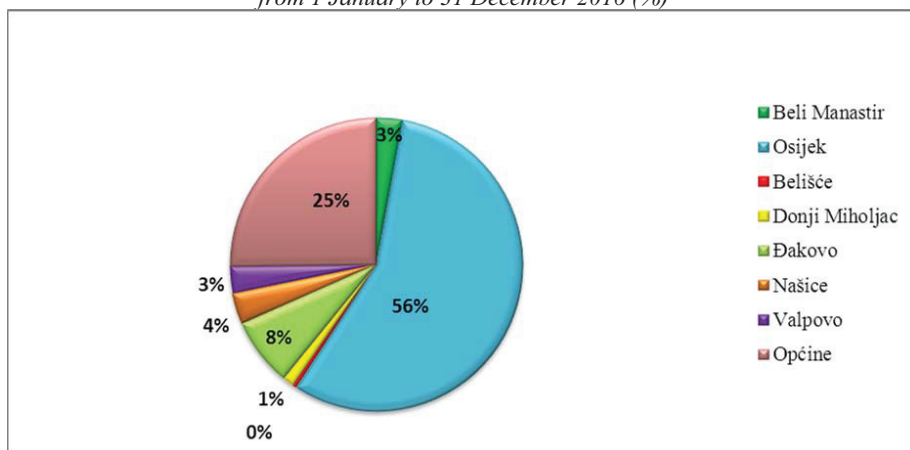
**Picture 7** Proportion of the overnights stays of domestic tourists in the Osijek – Baranja County from 1 January to 31 December 2016 (%)



Source: Authors

According to the data presented in Picture 8, the highest proportion of foreign tourists was registered in the city of Osijek (56%), districts (25%), Đakovo (8%), Našice (4%), Valpovo (3%), Beli Manastir (3%), Donji Miholjac (1%).

**Picture 8** Proportion of the overnight stays of foreign tourists in the Osijek – Baranja County from 1 January to 31 December 2016 (%)

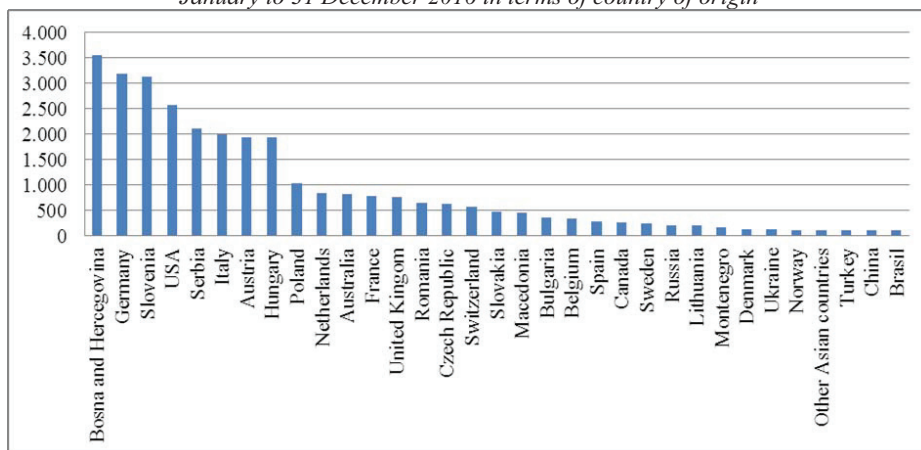


Source: Authors

#### d. Arrivals overview in terms of country of origin

The Osijek – Baranja County was visited by the guests from 75 countries altogether. The majority of arrivals was from Croatia (60,001), followed by Bosnia and Herzegovina (3,555), Germany (3,193), the USA (2,582), Serbia (2,106), Italy (2,005), Austria (1,948), Hungary (1,940), Poland (1,038) and others. Dispersion of guests in terms of country of origin is evident. (see Picture 9.). According to the data presented in Picture 9. in terms of country of origin the largest number of tourists who visited the Osijek – Baranja County were from Bosnia and Herzegovina (3,555), Germany (3,193), Slovenia (3,140), the USA (2,582), Serbia (2,106), Italy (2,005), Austria (1,948), Hungary (1,940), Poland (1,038) etc.

**Picture 9** An overview of the number of tourists who visited the Osijek – Baranja County from 1 January to 31 December 2016 in terms of country of origin

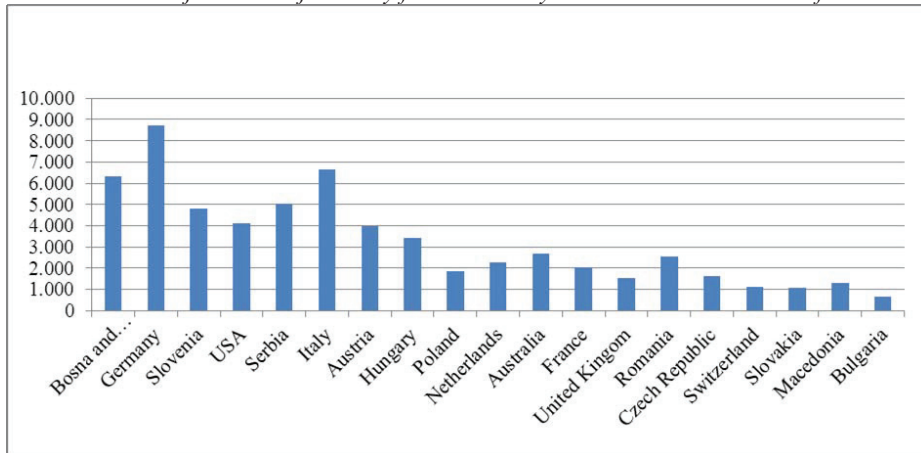


Source: Authors



According to the data presented in Picture 10., in terms of nationality, it is evident that the largest number of overnight stays of foreign visitors is from Germany (8,709), Italy (6,667), Bosnia and Herzegovina (6,320), Serbia (5,027), Slovenia (4,807), the USA (4,098), Austria (3,996), Hungary (3,439) etc.

**Picture 10** An overview of the number of a total number of overnight stays of foreign tourists who visited the Osijek – Baranja County from 1 January to 31 December in terms of nationality

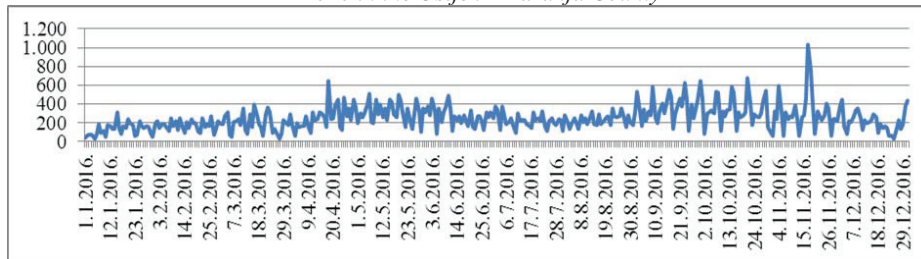


Source: Authors

#### e. Tourist turnover day by day

Although, generally, speaking, the seasonality of continental tourism is present, it is not that evident as in the coastal region. Moreover, the high tourist season has been shifted towards the pre-season and post-season. The average number of guests a day was 250 and the highest number, registered on 17 November, was 1,035. According to the data available a considerable arrivals oscillation is evident so that throughout the year there is a large number of days with less than 200 arrivals (20% of the average).

**Picture 11** An overview of the total tourist turnover day by day from 1 January to 31 December 2016 in the Osijek – Baranja County



Source: Authors

#### **f. An overview of the cultural and social manifestations organized in 2016**

According to the data given by the employees of tourist board offices of the Osijek – Baranja County we made an analysis of all the manifestations based on the data of:

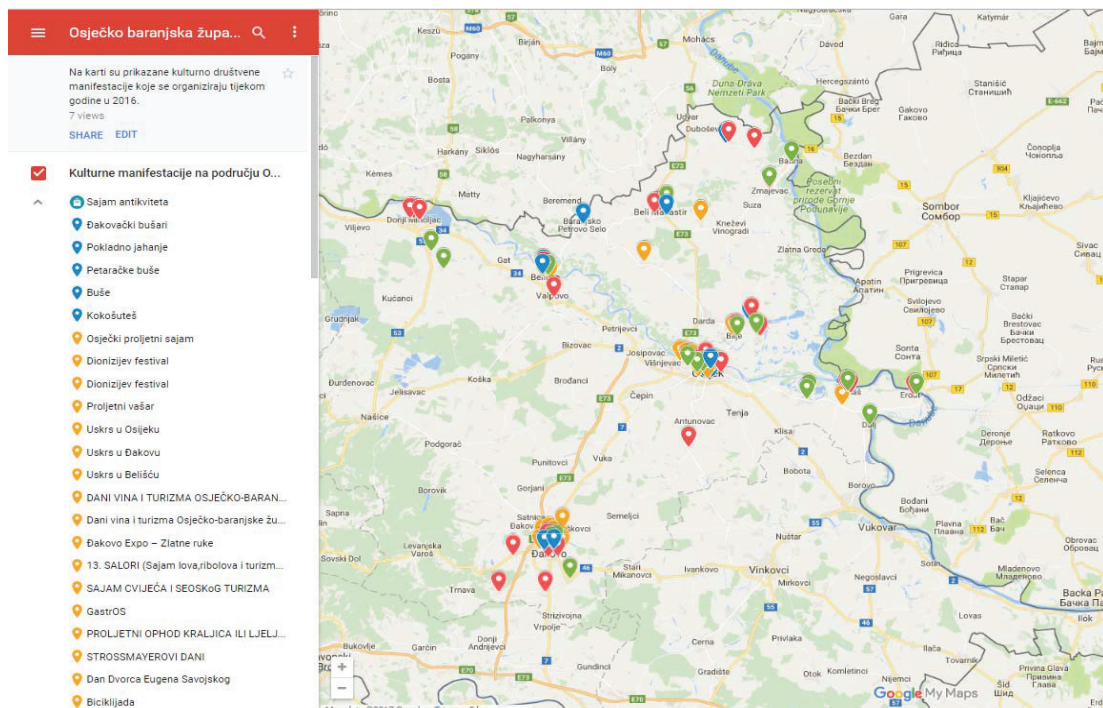
- the Tourist Board of the Osijek – Baranja County
- the Tourist Board of Baranja
- the Tourist Board of the town of Đakovo and
- the Tourist Board of the Erdut District

The number of arrivals and overnight stays cannot be directly and causally connected with the organized manifestations. Presumably, a large majority of the manifestations is local in character and meant for its own citizens.

The Picture 12. shows cultural and social manifestations which are organized from 1 January to 31 December 2016 in the Osijek – Baranja County:

- The Antiques Fair
- The Bušari of Đakovo
- Horse riding during carnival
- Petaračke buše
- Buše
- Kokošuteš
- The Osijek Spring Fair
- Dionysius Festival
- The Spring Fair
- Easter in Osijek
- Easter in Đakovo
- Easter in Belišće
- Wine and Tourism Days
- Đakovo Expo – Golden Hands
- 13<sup>th</sup> SALORI (Hunting, fishing and .... fair)
- Flower and rural tourism fair
- GastrOS
- Spring Queen March ...
- Strossmayer's Days
- Eugen of Savoy's Castle Days
- Bike Riding

*Picture 12 Marked events on the territory of the Osijek – Baranja County according to the data of its Tourist Boards from 1 January to 31 December 2016*



*Source: Authors*

Picture 12. shows the marked events on the territory of the Osijek Baranja County, which were organized and staged in 2016. Among a total number of 77 events registered 12% was organized during the winter months, 25% during autumn months, 34% during summer months and 25% during spring. The cities of Osijek and Đakovo are two main areas with the largest number of staged events. The events in Baranja are marked by dots depending on the location of the organization.

### 3. Conclusion

According to the eVisitor data analysis for the Osijek – Baranja County in the period from 1 January to 31 December 2016 a conclusion can be reached that the key market is the interior one, i.e. Croatia with about 65% of arrivals and overnight stays. When it comes to tourism the Osijek – Baranja County belongs to less developed counties, which is in contrast with its abundant natural and cultural heritage.

The arrivals of foreign guests are widely dispersed. The largest number of arrivals is from Bosnia and Herzegovina (3,555), Germany (3,193), the USA (2,582), Serbia (2,106), Italy (2,005), Austria (1,948), Hungary (1,940), Poland (1,038) etc.

Furthermore, 79.7% of all the arrivals i.e. 72,959 guests visited the County in their personal arrangement while 20.3% or 18,583 guests used travel agency services. The fact is that tourist products of the County are not recognized with the tourist agencies.

The seasonality is present although not as much as in the coastal destinations. Also, it has been shifted towards the preseason and postseason. The daily arrivals oscillation is evident throughout the year so that the same week has both very large and low number of visits.

The number of arrivals and overnights stays in the Osijek – Baranja County cannot be directly and causally connected with the organized manifestations. Presumably, a large majority of the manifestations is local in character and is meant for its own citizens.

Hotels are the preferred types of accommodation. A total of 67% of visitors to the Osijek – Baranja County spent night in the hotel accommodation, while 17% of them chose accommodation in the other hospitality facilities which offer accommodation and other.

The cities of Osijek and Đakovo are locations with the highest number of organized events while the events in Baranja are marked in dots depending on the place of organization.

## REFERENCES

- Bartoluci, M. (2013): *Upravljanje razvojem turizma i poduzetništva*, Školska knjiga d.d., Zagreb
- Blažević, B., Perišić, M. (2009): *Turistička regionalizacija u globalnim procesima*, Fakultet za menadžment u turizmu i ugostiteljstvu Opatija, Opatija
- Čavlek, N. et. al. (2011): *Turizam: ekonomske osnove i organizacijska kultura*, Školska knjiga, Zagreb
- Koncul, N. (2009): *Ekonomika i turizam*, Sveučilište u Dubrovniku, Zagreb
- Kotler F., Bowen J.T., Makens J.C. (2010): *Marketing u ugostiteljstvu, hotelijerstvu i turizmu*, Mate, Zagreb
- Middleton, V.T.C., Clarke J. (2002): *Marketing in Travel and Tourism*, Butterworth Heinemann, Oxford
- Pavičić J., Alfirević N., Aleksić Lj. (2006): *Marketing i menadžment u kulturi i umjetnosti*, Masmedia, Zagreb
- Ružić D., Biloš A., Turkalj D. (2009): *E-marketing*, Ekonomski fakultet u Osijeku, Osijek
- Tkalac Verčić, A., Sinčić Ćorić D., Pološki Vokić, N. (2010): *Priručnik za metodologiju istraživačkog rada: Kako osmisliti, provesti i opisati znanstveno i stručno istraživanje*, M.E.P., d.o.o, Zagreb
- <http://arhiva.rera.hr/Portals/0/docs/eu-turizam/Strategija-Razvoja-KulturnogTurizma.pdf>, (01-03-2017.)
- <http://www.tzosbarzup.hr/> (02-03-2017.)
- <http://www.tzbaranje.hr/hr/dogadanja/slavonija-i-baranja-open,353.html> (02-03-2017.)
- <http://www.tzosijek.hr/> (03-03-2017.)
- <http://www.tzdjakovo.eu/index.php/hr/> (03-03-2017.)
- <http://www.htz.hr/hr-HR> (05-03-2017.)
- <http://www.mint.hr/> (05-03-2017.)

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## FOREIGN TOURIST DEMAND IN EASTERN CROATIA INOZEMNA TURISTIČKA POTRAŽNJA U ISTOČNOJ HRVATSKOJ

### ABSTRACT

*Foreign tourist demand is in constant and stable growth during recent decades and has proven to be a relevant factor for economic growth and development of many countries. Revenues reached by different countries owing to the inflow of foreign tourists have positive effects on employment growth, income of residents and infrastructure development. Understanding the motivational factors of foreign tourists should serve as a basis for developing strategies to attract foreign tourists that would be successful. Knowledge about factors that are statistically significant for the selection of eastern Croatia as a destination for foreign tourists could greatly contribute to the understanding of their motivation. This paper explored the factors that determine foreign tourist demand from major emitting countries for tourists who visit eastern Croatia. In the paper tourist demand is approximated by the number of overnight stays of foreign tourists in five Slavonian counties. Independent variables in the model were incomes of tourists, travel costs, accommodation capacity, exchange rate, weather conditions and the level of prices in the destination. Econometric models of foreign tourist demand were estimated for the five most common emitting countries for the period from 1995 to 2014, and the results were accordingly interpreted. The analysis showed that tourist demand from Austria and Germany depends on the accommodation capacity, those from Bosnia and Herzegovina and Italy depends on their own income, and those from Slovenia depends both on their own income and accommodation capacity. The research results provide those employed in the tourism sector with additional insights into the behavior of foreign tourists, and also how and which variables should be influenced in order to attract more tourists from the countries included in the analysis. The costs of travel and weather conditions did not prove to be significant determinants of tourist demand.*

**Key words:** *foreign tourist demand, tourist behavior, econometric model, the OLS method, tourism.*

## SAŽETAK

*Inozemna turistička potražnja posljednjih nekoliko desetljeća je u stalnom i stabilnom porastu te se pokazala kao relevantan faktor za ekonomski rast i razvoj mnogih država. Prihodi koje države ostvaruju zahvaljujući priljevu inozemnih turista imaju pozitivne učinke na porast zaposlenosti, prihode stanovnika te razvoj infrastrukture. Razumijevanje motivacijskih faktora inozemnih turista trebalo bi služiti kao temelj za razvijanje strategija za privlačenje inozemnih turista koje bi polučile uspjeh. Saznanja o tome koji faktori su statistički značajni za odabir istočne Hrvatske kao destinacije za inozemne turiste mogle bi uvelike pridonijeti razumijevanju motivacije inozemnih turista na dolazak. U ovom radu su istraženi faktori inozemne turističke potražnje glavnih emitivnih zemalja iz kojih dolaze turisti koji posjećuju istočnu Hrvatsku. Turistička potražnja je u radu aproksimirana brojem noćenja inozemnih turista u pet slavonskih županija. Kao nezavisne varijable u modelu uzeti su prihodi turista, troškovi putovanja, smještajni kapaciteti, tečaj, vremenske prilike i razina cijena u destinaciji. Procijenjeni su ekonometrijski modeli inozemne turističke potražnje za pet najzastupljenijih emitivnih zemalja za razdoblje od 1995. do 2014. godine te su rezultati na taj način i interpretirani. Analiza je pokazala da turistička potražnja iz Austrije i Njemačke ovisi o smještajnim kapacitetima, iz Bosne i Hercegovine i Italije o vlastitim prihodima, a iz Slovenije o vlastitim prihodima i smještajnim kapacitetima. Rezultati provedenog istraživanja omogućuju turističkim djelatnicima dodatni uvid u ponašanje inozemnih putnika te kako i na koje varijable trebaju utjecati kako bi privukli što više turista iz država obuhvaćenih analizom. Troškovi putovanja i vremenske prilike se niti u jednom modelu nisu pokazale značajnim odrednicama turističke potražnje.*

**Ključne riječi:** *inozemna turistička potražnja, ponašanje turista, ekonometrijski model, OLS metoda, turizam.*

### 1. Introduction

Tourism is comprised of many economic and social activities and is directly related to the economic development of every modern society. It proved to be one of the most important economic branches of developing countries, including the Republic of Croatia. The development of tourism has been greatly influenced by the inflow of financial assets of foreign tourists into the Croatian economy, which allowed for foreign tourist demand to make a significant impact on changes in its social, cultural and economic structure. According to aforementioned facts, foreign tourist demand is one of the factors that should be studied in the context of the development of tourism. Revenues received by a country and individual regions owing to the inflow of foreign tourists have positive effects on employment growth, income of residents and infrastructural development. Although the Republic of Croatia is becoming an increasingly attractive international tourist destination, this mainly refers to the coastal part of the country and Zagreb.

Eastern Croatia unfortunately has not had much success in attracting foreign tourists. Success of a destination in attracting foreign tourists should be based on an analysis of motivational factors of foreign tourists, which should enable the systematic and deliberate strategy to attract foreign tourists. Information and knowledge about the factors that influence the foreign tourist demand and determining statistically significant factors for foreign tourists' making eastern Croatia their destination of choice could greatly contribute to understanding the motivation of foreign tourists to arrive. The main purpose of this paper is to identify those factors that most influence the arrivals of foreign tourists to eastern Croatia. Results of the study provide tourist professionals additional insight into the behavior of foreign tourists, as well as how and which variables should be influenced so as to attract more tourists from the countries included in the analysis.



## **2. Tourist demand**

Tourism is an industry that is rapidly changing and which has recently become the largest industry globally (Lise and Tol, 2002, 431). The fact that tourism is an economic activity of major importance for many countries has been universally accepted, and the same goes for the Republic of Croatia. Tourism contributes to the economy of certain countries due to its positive impact on international trade, but also employment, industrial and agricultural production, income level, culture and the fiscal sector (Dritsakis and Athanasiadis, 2000, 1). All of the aforementioned is the result of the fact that tourism involves a number of different economic and social activities involving members of all classes and inhabitants of different countries (Dritsakis and Athanasiadis, 2000, 1).

Choosing a tourist destination, especially an international one, is a complex process that is the result of many factors, such as economic, demographic, technological, psychological, political etc. (Dritsakis and Athanasiadis, 2000, 2). According to Dritsakis and Athanasiadis (2000, 2), the most important variable that has a positive effect on international tourist demand of a destination is the emissive country's GNP. GNP growth increases disposable income of tourists and thus their ability and will for consumption of various goods and services. Empirical studies have shown that with the increase of the per capita income of a country, the country's inhabitants would more likely be able to afford to travel abroad (Gray, 1966). Several authors have demonstrated that relative prices are an important variable that influences foreign tourist demand (Loeb, 1980). It has been proven that along with the decline in destination's prices, the number of international tourist arrivals would increase. The exchange rate also showed to be a relevant variable by different authors (Uysal and Crompton, 1984). Price of the domestic currency will affect the tourists in such a way that the decrease in domestic currency price will cause an increase of the foreign tourist demand. Tourist arrivals also depend on transportation costs. Several authors included this variable in their own research (Askari, 1971; Guthrie, 1961; Fuji and Mak, 1980) finding that the increase in transport costs results in a decline in the number of arrivals. Although it is believed that many tourists take weather conditions into consideration when choosing a destination, most authors take climate for granted, considering only variables such as prices, costs and various sociological and psychological factors (Crouch, 1995; Lim, 1997; Witt and Witt, 1995). Only a few authors include climate and climate change as factors when analyzing foreign tourism demand (Barry and O'Hagan, 1972; Syriopoulos and Sinclair, 1993; Lise and Tol, 2002). Aforementioned authors found that the climate and weather conditions are an important variable of foreign tourist demand and that they will influence the choice of dates of travel and the behavior and activities of tourists in the selected destination. Based on the analysis of the relevant literature, the aforementioned variables will be included in the analysis. Aside from these factors, psychological factors, such as time availability and the need to escape from the daily routine are also important factors. Psychological factors can to a certain extent explain the changes in tourist demand and are becoming one of the most important aspects to explain tourism demand (Ryan, 1991).

### **2.1. Tourism in eastern Croatia**

Tourism is a key part of the strategy of economic development of many developing countries (Uysal and Crompton, 1984), and also the Republic of Croatia. Since the second half of the 20<sup>th</sup> century tourism has an important role in the development of the Croatian economy, mainly owing to arrivals of foreign tourists. Most foreign tourists travel to Croatia from developed countries, mostly from Germany, Slovenia, Austria, Czech Republic, Italy, Poland, Slovakia, Netherlands, United Kingdom and Hungary (Central Bureau of Statistics, ([http://www.dzs.hr/Hrv\\_Eng/publication/2015/04-03-02\\_01\\_2015.htm](http://www.dzs.hr/Hrv_Eng/publication/2015/04-03-02_01_2015.htm))).

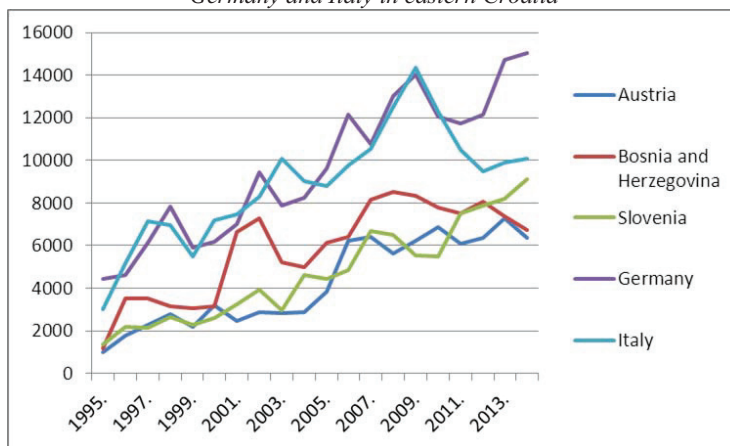


Although tourism proved to be one of the most important industries in the Republic of Croatia, this is not reflected in the attention given to it by tourism professionals, politicians and researchers. O'Hagan and Harrison (1984, 921) argue that the main reason behind this is the lack of adequate data as well as the specifics of the tourist demand. Therefore there is a need for explanation and analysis of the factors and variables that determine foreign tourist demand for eastern Croatia in order to ensure adequate data for the development of more favorable strategy to attract foreign tourists.

Although tourism in Croatia is mainly reliant on foreign tourists, this is mainly the case for the maritime, coastal area of the country. The average share of nights spent by foreign tourists in the total number of overnight stays in Croatia for the observed period amounted to 88.3%. However, in eastern Croatia, the share of foreign tourists was still much smaller. Thus, in the period the average share of nights spent by foreign tourists in the total number of total overnight stays equal to 24.6%. This is exactly where there is room for progress and where special attention should be allocated for attracting foreign tourists.

In 2014, eastern Croatia (the data for five counties: Virovitica-Podravina, Pozega-Slavonia, Brod-Posavina, Osijek-Baranja and Vukovar-Srijem are included) was visited by a total of 164 809 tourists, of which 57 281 were foreign. On average, foreign tourists in eastern Croatia stay for 2 nights, while the average for the whole of the Republic of Croatia is 5.3. A more detailed analysis of the structure of foreign tourists points to the fact that eastern Croatia is mostly visited by tourists from Germany (14.9%), Italy (13.7%), Bosnia and Herzegovina (9%), Slovenia (7.3%) and Austria (6.6%) as shown in Figure 1. These countries are also taken into consideration and regression models have been estimated for them using the OLS method.

**Figure 1** Number of overnight stays of tourists from Austria, Bosnia and Herzegovina, Slovenia, Germany and Italy in eastern Croatia



Source: authors' calculation

### 3. Data description

This chapter describes the variables used in the empirical part of the study and the data sources are given. All data used in this study are on an annual basis and relate to the period from 1995 to 2014. The selection of data sources is based on their availability. Tourist demand is approximated by the number of overnight stays of the foreign tourists in eastern Croatia (sum of overnight stays of the foreign tourists in Virovitica-Podravina county, Pozega-Slavonia county, Brod-Posavina county, Osijek-Baranja county and Vukovar-Srijem county). There is a large number of

independent variables used in the models of foreign tourist demand. The most commonly used variables are income, relative prices, exchange rates, transport costs (Sinclair and Stabler, 1997; Song and Witt, 2000) and time trend, expenses for marketing and special events are sometimes also included (O'Hagan and Harrison, 1984; Song and Li, 2008).

The variables or determinants of tourist demand can be classified in three categories: the characteristics of the countries from which tourists come (income of countries from which tourists come, population size, etc.), the relation between the country from which tourists come and destination such as relative prices, exchange rate, geographic and cultural similarity, and the characteristics of destination (degree of destination development, infrastructure, health, education level, length of coastline area etc.), (Eilat and Einav, 2004; Phakdisoth and Kim, 2007).

In this study, consistent with theory and data availability, income of tourists (approximated with real GDP of the country of residence of tourists expressed in US dollars, in constant prices (2005 = 100)), prices in the destination (approximated with exchange rate between the Croatia and the country of residence of tourists and with ratio of consumer price indices of the two countries), the cost of travel from a country of residence to the destination (approximated with the price of crude oil in OECD countries), weather conditions (approximated with the number of clear days in Hydrometeorological station Osijek) are selected. List of variables used in this study together with their assigned codes and data sources is given in Table 1.

**Table 1** List of variables, labels and the data sources used in the study

| Variables   | Label   | Source  |
|---|---------|---|
| number of overnight stays of foreign tourists             | $y_t$   | Institute for Tourism of the Republic of Croatia; Central Bureau of Statistics of the Republic of Croatia   |
| gross domestic product                                    | $gdp_t$ | World Bank - World Development Indicators   |
| exchange rate   | $ex_t$  | Croatian National Bank; The Bank of Slovenia; Central Bank of Bosnia and Herzegovina; author's calculation. |
| consumer price index                                      | $cpi_t$ | World Bank - World Development Indicators   |
| transportation costs                                      | $tc_t$  | OECD  |
| the average number of clear days                          | $cd_t$  | Meteorological and Hydrological Service of the Republic of Croatia  |
| the number of rooms available for rent in eastern Croatia | $r_t$   | Central Bureau of Statistics of the Republic of Croatia   |

Source: author's calculation

#### 4. Econometric model

After all variables that will be included in the model are defined and described, an econometric model is defined as

$$y_t = \beta_0 gdp_t^{\beta_1} ex_t^{\beta_2} tc_t^{\beta_3} cd_t^{\beta_4} r_t^{\beta_5} cpi_t^{\beta_6} \varepsilon_{it} \quad (1)$$

Due to the decrease of variance, before including in the model, all the variables are logarithmized. Also, two binary variables are included in the model: *D1995* (which includes the impact of war operation Oluja that occurred in summer 1995, and takes the value 1 for the year 1995, and the value 0 in all other years) and *D1999* (which includes shock in the number of overnight stays in 1999 that can be considered as a result of NATO intervention in Serbia and Montenegro and the Kosovo crisis, and takes the value 1 for 1999 and the value 0 in all other years). The model is:

$$ly_t = \beta_0 + \beta_1 l\_gdp_t + \beta_2 lex_t + \beta_3 ltc_t + \beta_4 lcd_t + \beta_5 lr_t + \beta_6 lcp_i + \beta_7 D1995_t + \beta_8 D1999_t + \varepsilon_{it} \quad (2)$$

This model will be estimated using OLS method for each country (Italy, Bosnia and Herzegovina, Slovenia, Austria and Germany).

## 5. Results of research

After the model was defined, models for major emitting countries are estimated and the results are shown in Table 2.

**Table 2** Models of foreign tourist demand for eastern Croatia

| Variables                                       | Austria                           | Bosnia and Herzegovina             | Italy  | Germany                            | Slovenia                           |
|---|-----------------------------------|------------------------------------|--|------------------------------------|------------------------------------|
| <i>cons</i>                                     | -<br>97.96114<br>(0.198)          | <b>-15.43739</b><br><b>(0.000)</b> | -<br>33.76487<br>(0.162)                           | -38.22411<br>(0.252)               | <b>-39.98856</b><br><b>(0.020)</b> |
| <i>lgdp<sub>t</sub></i>                         | 3.561179<br>(0.217)               | <b>1.201927</b><br><b>(0.000)</b>  | <b>1.619519</b><br><b>(0.066)</b>                  | 1.437434<br>(0.247)                | <b>1.731157</b><br><b>(0.034)</b>  |
| <i>lcp<sub>t</sub></i>                          | -<br>1.734519<br>(0.458)          | -                                  | <b>4.088166</b><br><b>(0.000)</b>                  | -                                  | -                                  |
| <i>lex<sub>t</sub></i>                          | -                                 | -2.697026<br>(0.202)               | -<br><b>0.353734</b><br><b>5</b><br><b>(0.072)</b> | -                                  | -                                  |
| <i>lcd<sub>t</sub></i>                          | -                                 | -                                  | -  | -                                  | -                                  |
| <i>ltc<sub>t</sub></i>                          | -<br>0.252535<br>6<br>(0.456)     | -                                  | -  | -                                  | -                                  |
| <i>lr<sub>t</sub></i>                           | <b>1.708317</b><br><b>(0.001)</b> | -                                  | -  | <b>0.8161966</b><br><b>(0.031)</b> | <b>0.8451939</b><br><b>(0.073)</b> |
| <i>D1995</i>                                    | -                                 | -                                  | -<br><b>0.830067</b><br><b>9</b><br><b>(0.001)</b> | -                                  | -                                  |
| <i>D1999</i>                                    | -<br>0.234881<br>4<br>(0.117)     | -<br>0.3063921<br>(0.162)          | -<br>0.216161<br>3<br>(0.147)                      | -<br>0.2422443<br>(0.136)          | -<br>0.2233139<br>(0.312)          |
| <i>R<sup>2</sup></i>                            | 0.9456                            | 0.8816                             | 0.9149   | 0.8290                             | 0.8539                             |
| <i>Adj. R<sup>2</sup></i>                       | 0.9209                            | 0.8594                             | 0.8849   | 0.7896                             | 0.8202                             |
| <i>F</i>  | 38.26                             | 39.71                              | 30.12  | 21.01                              | 25.33                              |
| <i>(p-value)</i>                                | (0.0000)                          | (0.0000)                           | (0.0000)   | (0.0000)                           | (0.0000)                           |
| <i>D-alt.</i>                                   | 0.7521                            | 0.9641                             | 0.7034   | 0.8245                             | 0.4770                             |
| <i>(p-value)</i>                                |                                   |                                    |  |                                    |                                    |
| <i>Breusch-Godfrey</i>                          | 0.6819                            | 0.9586                             | 0.6386   | 0.7923                             | 0.4070                             |
| <i>(p-value)</i>                                |                                   |                                    |  |                                    |                                    |
| <i>ADF residual test</i>                        | -4.238                            | -4.149                             | -3.715   | -3.353                             | -2.63                              |
| <i>(p-value)</i>                                | (0.0006)                          | (0.0008)                           | (0.0039)   | (0.0127)                           | (0.099)                            |
| <i>Breusch-Pagan test of heteroskedasticity</i> | 0.4836                            | 0.2562                             | 0.8970   | 0.9966                             | 0.3839                             |
| <i>(p-value)</i>                                |                                   |                                    |  |                                    |                                    |

Source: authors' calculations.

Note: p-value in parentheses, significant results (10%) are marked bold.

After estimation, each model was tested for its adequacy. Durbin's alternative test of first order autocorrelation of the residuals was conducted. The null hypothesis of the test is no autocorrelation, and the alternative hypothesis is the existence of the first order autocorrelation of residuals. Also, Breusch-Godfrey test of the higher order autocorrelation of residuals was conducted. The null hypothesis of the test is no autocorrelation, and the alternative is the existence of the higher order autocorrelation of residuals. Using ADF test the stationarity of obtained residuals was tested. The null hypothesis of the test is the existence of a unit root i.e. unstationarity of residuals, and the alternative hypothesis is the absence of a unit root i.e. stationarity of residuals. F-test of significance of regressors in the model was also conducted. The null hypothesis is an insignificance of all regressors in the model, and the alternative hypothesis is the existence of at least one significant regressor in the model. Homoscedasticity of residuals was tested using Breusch-Pagan/Cook-Weisberg's test. The null hypothesis of the Breusch-Pagan/Cook-Weisberg's test is the equality of variances errors i.e. homoskedasticity of residuals, and the alternative hypothesis is heteroskedasticity of residuals. The results of the tests are shown in Table 2. Analyzing given results it can be concluded that for all estimated models no assumption about the adequacy of the models was affected.

## **6. Recommendations for future research**

In future studies it would certainly be recommended to include other variables, such as investments in marketing, such as expenses connected to visiting fairs and the like. It would also be recommendable to take the length of time series into account, which should perhaps be extended or the analysis should be carried out on quarterly data and compared with the results obtained in this study.

## **7. Conclusion**

The analysis showed that tourist demand from Austria depends on the accommodation capacities. The analysis showed the same results for German tourists. In fact, visitors from Austria and Germany might prefer visiting the unexplored and unpopular destinations so additional capacity could entice these tourists to visit. Increase in their own incomes will have a positive impact on tourist demand in eastern Croatia with tourists from Bosnia and Herzegovina and Italy. These tourists apparently consider travelling to the analyzed destination as a luxury that they can afford only in situations in which they have higher levels of income on their disposal. It is possible that these tourists decide to allocate their income to travel to other destinations in the conditions of decreased levels of income. With tourists from Italy, the binary variable that includes the impact of the Oluja has shown to be statistically significant. Also, the exchange rate and relative prices are significant, although the signs are not in line with economic expectations. This can be explained by Italian tourists overlooking economic factors but regarding the political implications of visiting a destination due to their concern about their and their family's safety over financial aspects of a tourist trip. Finally, tourists from Slovenia will base their decision of travelling to eastern Croatia on their own income and accommodation facilities. Therefore, it may be concluded that Slovenian tourists plan their overnights stays in eastern Croatia both based on their financial capabilities and destinations capabilities of accommodating them. Results of the study allow tour operators additional insight into the behavior of foreign travelers, and how and which variables should be influenced in order to attract more tourists from the countries included in the analysis. Transportation costs and weather conditions have not been proved to be significant determinants of tourist demand in either model. This may be the consequence of the purpose of the trip, which may not be solely for pleasure, but in most cases related to business, conferences or symposiums, cultural events (such as Vinkovačke jeseni), and family events (such as weddings and the like) purposes.

There are several implications of this research. First of all, it is revealed that foreign tourist demand from analyzed emissive countries (Germany, Austria, Bosnia and Herzegovina, Italy, Slovenia) depend on certain factors (exchange rate, income of tourists, accommodation facilities, relative prices). These information may direct politician and tourist decision makers to influence those factors in order to attract tourist from certain countries. Of course, the factors that could not be influenced should be taken into account when planning for tourist activities. For instance, intensification in marketing activities to attract tourists from Italy or Bosnia and Herzegovina should be in times of an income rise in those countries. Also, more accommodation facilities should be built to attract Italian and Slovenian tourists.

## REFERENCES

Askari, H. (1971.): *Demand for Package Tours*, Journal of Transport Economics and Policy, Vol. 5, No. 1, pp. 40-51.

Barry, K., O'Hagan, J. (1972): *An Econometric Study of British Tourist Expenditure in Ireland*, Economic Society Review, No. 3, pp. 143-161.

Crouch, G.I. (1995.): *A Meta-Analysis of Tourism Demand*, Annals of Tourism Research, Vol. 22, pp. 103-118.

Dritsakis, N., Athanasiadis, S. (2000.): *An Econometric Model of Tourist Demand: The Case of Greece*, Journal of Hospitality & Leisure Marketing, Vol. 7, No. 2, pp. 39-49.

Eilat, Y., Einav, L. (2004): *Determinants of international tourism: a three dimensional panel data analysis*, Applied Economics, Vol. 36-12, pp.1315-1327.

Fuji T.E., Mak, J. (1980.): *Forecasting Travel Demand When the Explanatory Variables are Highly Correlated*, Journal of Travel Research, Vol. 18, No. 4, pp. 31-34.

Gray, P.H. (1966.): *The Demand for International Travel by the United States and Canada*, International Economic Review, Vol. 7, No. 1, pp. 83-92.

Guthrie, H.W. (1961.): *Demand for Tourists' Goods and Services in a World Market*, Papers and Proceedings of the Regional Science Association, No. 7, pp. 159-175.

Lim, C. (1997): *Review of International Tourism Demand Models*, Annals of Tourism Research, Vol. 24, pp. 835-849.

Lise, W., Tol, R.S.J. (2002.): *Impact of Climate on Tourist Demand*, Climatic Change, Vol. 55, pp. 429-449.

Loeb, D.P. (1980.): *International Travel to the United States: An Economic Evaluation*, Annals of Tourism Research, Vol. 9, No. 1, pp. 7-20.

O'Hagan, J.W., Harrison, M.J. (1984.): *Market shares of US tourist expenditure in Europe: An economic analysis*. Applied Economics, Vol.16, pp. 919-931.

Phakdisoth, L., Kim, D. (2007.): *The Determinants of Inbound Tourism in Laos*. ASEAN Economic Bulletin, Vol. 24, No. 2, pp. 225-237.

Ryan, C. (1991): *Recreational Tourism: A Social Science Perspective*, International Thomson Business Press, London

Sinclair, M.T., Stabler, M. (1997): *The Economics of Tourism*, Routledge, London/New York

Song, H., Li, G. (2008): *Tourism demand modeling and forecasting - A review of recent research*, Tourism Management, Vol. 29, No. 2, pp. 203-220.

Song, H., Witt, S.F. (2000): *Tourism Demand Modelling and Forecasting: Modern Econometric Approaches*, Pergamon, Oxford

Syriopoulos, T.C., Sinclair, M.T. (1993): *An Econometric Study of Tourism Demand: The AIDS Model of U.S. and European Tourism in Mediterranean Countries*, Applied Economics, Vol. 25, pp. 1541-1552.

Uysal, M., Crompton, J.L. (1984): *Determinants of Demand for International Tourist Flows to Turkey*, Tourism Management, Vol. 5, No.4, pp. 288-297.

Witt, S.F., Witt, C.A. (1995): *Forecasting Tourism Demand: A Review of Empirical Research*, International Journal of Forecasting, No. 11, pp. 447-475.

[http://www.dzs.hr/Hrv\\_Eng/publication/2015/04-03-02\\_01\\_2015.htm](http://www.dzs.hr/Hrv_Eng/publication/2015/04-03-02_01_2015.htm)

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**DEVELOPMENT OF ECONOMY IN CROATIA - HERITAGE VS. NEW TRENDS**

**RAZVIJENOST GOSPODARSTVA U REPUBLICI HRVATSKOJ - NASLJEĐE VS. NOVI TRENDOMI**

**ABSTRACT**

*On the present economic situation in the Republic of Croatia, historical economic trends have great influence. The goal of each company, as well as the economy, should be the creation of competitive advantage, and gaining of unique market position. The Croatian economy is not highly positioned, but for the development of future perspectives, it is important to understand historical and economic heritage. This paper will provide an overview of heritage, and an overview of development and economic situation over the last hundred years. At the beginning of the industrial revolution began also development of the economy in Croatia, which had previously been oriented as agricultural and rural country. Historical trends and events have a major impact on the orientation and direction of today's development. Respectively, new trends are a sort of continuation of the historical heritage, but for competitiveness, country needs to turn to new industries, knowledge and markets. Apart from the economic heritage, nowadays economy is under the influence of the great depression as well as many other social and political factors. The aim is to develop the economy and get closer to European standards. The aim of this paper is to present the main economic indicators in the Republic of Croatia since the beginning of 20th century to the present. One of the most important initiator with the largest share of the economy is manufacturing industry. Croatia is not the uniform developed, so this paper is based on an analysis of one of the least developed regions - the Eastern Croatia. It analyses the basic economic indicators of development in three counties: Brod Posavina, Osijek-Baranja and the Pozega*



Slavonia. The survey is conducted on a sample of 34 enterprises, of which 14 is from Brod Posavina, 15 from the Osijek Baranja and 5 from Požega Slavonia County. The analysed enterprises are in the manufacturing industry - the sector C according to NKD (National Classification of Activities).

**Key words:** Development, Eastern Croatia, Competitiveness, Indicator, Trend

## SAŽETAK

Na današnje gospodarsko stanje u Republici Hrvatskoj veliki utjecaj imaju povijesna ekonomska kretanja. Cilj svakog poduzeća, kao i gospodarstva trebao bi biti stvaranje konkurentske prednosti, odnosno zadobivanje jedinstvene tržišne pozicije. Hrvatsko gospodarstvo trenutno nije visoko pozicionirano, no za razvoj budućih perspektiva važno je i povijesno ekonomsko nasljeđe. Ovim radom želi se dati pregled nasljeđa, odnosno pregled razvoja i ekonomskog stanja kroz zadnjih sto godina. Početkom industrijske revolucije, započinje i razvoj gospodarstva u Hrvatskoj koja je do tada bila orijentirana kao poljoprivredna i ruralna zemlja. Povijesna kretanja i događaji imaju velik utjecaj na orijentaciju i smjer današnjeg razvoja. Odnosno, novi trendovi su svojevrsno nastavak povijesnog nasljeđa, no da bi zemlja bila konkurentna potrebno se okretati novim industrijama, znanjima i tržištima. Osim ekonomskog nasljeđa, na današnje gospodarstvo je uvelike utjecala velika ekonomska kriza kao i brojni drugi socijalni i politički čimbenici. Cilj je danas razvijati gospodarstvo i približiti se europskom standardu.

Cilj ovog rada je prikazati temeljne gospodarske pokazatelje u republici Hrvatskoj od početka 20.og stoljeća do danas. Jedan od najvažnijih pokretača i s najvećim udjelom u gospodarstvu je prerađivačka industrija. Hrvatska nije jednomjerno razvijena, te se onaj rad temelji na analizi jedne od najslabije razvijenih regija – Istočne Hrvatske. Analiziraju se temeljni ekonomski pokazatelji razvijenosti u tri županije: Brodsko posavskoj, Osječko baranjskoj i Požeško slavonskoj županiji. Istraživanje se provodi na uzorku od 34 poduzeća, od kojih je 14 iz Brodsko posavske, 15 iz Osječko Baranjske i 5 iz Požeško slavonske županije. Analizirana poduzeća se nalaze u prerađivačkoj industriji - sektoru C prema NKD (Nacionalna klasifikacija djelatnosti).

**Ključne riječi:** Razvoj, Istočna Hrvatska, Konkurentnost, Pokazatelj, Trend

## 1. Introduction

The development of the economy is based on achieving of competitive advantage of enterprises, and thus the entire economy. It is often difficult to determine who is the target and what is the purpose of achieving competitiveness of the country. There is no unique definition of competitiveness, and every author defined it in a different way. It is very difficult to determine the competitiveness of the country when the objectives for its determination are not defined. For measuring of competitiveness can be used various traditional elements of economic analysis. Competitiveness ensures the development, which can be related with ability of survival, development capability and superiority. In this paper, competitiveness is primarily analysed in terms of economic development and superiority.

## 2. Historical background of economy

Numerous elements, except the territory, determine the historical background of an economy. "National legal framework characterize economy in 20th century, as well as two world wars and civil (local) war, there were opposed early-capitalist regimes (fascist and communist) and one neo-liberal, carried out it had be implemented three unfinished industrial revolutions and one successfully implemented deindustrialization (1992.-2000.)."(Vranjican, 2005., p. 334)

According to table 1, in the Austro-Hungarian Empire, Croatia was economically one of the least developed region. Monarchy was industrially more backward than the other countries of Western Europe. Geographically, Croatian territory was divided between Austria and Hungary. "This affected on the economic development of the Croatia, where more than 50% of the local taxes were paid to the Hungarian treasury. The industrial revolution of the Croatian economy was included as a peripheral part of the Austro-Hungarian Empire, a few decades after other countries of empire. Thus, the first steam engine have been used in the textile industry of England in 1785., in Austria in 1809., and in Croatia in 1835. "(Vranjican, 2005., p. 335) First indicator GDP is shown in table 1.

*Table 1 GDP in selected European countries during the 20th century*

| Country       | Gross domestic product per capita at constant prices US\$ 1990. |       |       |       |        |        |
|---------------|---|-------|-------|-------|--------|--------|
|               | 1900.   | 1913. | 1940. | 1950. | 1980.  | 2000.  |
| Austria       | 2.901   | 3.488 | 3.985 | 3.731 | 13.881 | 21.230 |
| Slovenia      | 1.538   | 2.048 | 2.341 | 2.648 | 11.047 | 13.872 |
| Germany       | 2.840   | -     | -     | 3.801 | -      | 18.360 |
| Hungary       | 1.802   | 2.205 | 2.626 | 2.480 | 6.307  | 9.495  |
| Croatia       | 1.026   | 1.371 | 1.737 | 1.838 | 7.246  | 6.347  |
| Italy         | 1.746   | 2.507 | 3.429 | 3.425 | 13.092 | 18.898 |
| Great Britain | 4.593   | 5.032 | 6.546 | 6.847 | 12.777 | 18.695 |
| USA           | 4.096   | 5.307 | 7.018 | 9.573 | 18.270 | 27.573 |
| Japan         | 1.135   | 1.334 | 2.765 | 1.873 | 13.113 | 21.755 |

*Source: (www.hazu.hr)*

"At the end of the 19th century, weak Croatian and Slavonian industry was consisted of 11 to 50 employees in: one shipyard, three lime producers, about thirty brickyard, four glass factories, eighteen mills, six factories of furniture, and ten steam and motor mills, three water mill, brewery, one factory of matches and one gas plant. There were 45 larger enterprises with five to six thousand employees. Dominated were plants for wood processing, cement, bricks and glass industry."(Zoricic, 1885., p. 60)

*Table 2 The general structure of industry in Croatia and Slavonia in 1910*

| Type of production         | Number of ventures |      | Employees |      |
|----------------------------|--------------------|------|-----------|------|
|                            | Number             | (%)  | Number    | (%)  |
| Machines                   | 14                 | 5,2  | 1.273     | 5,4  |
| Cement, bricks, glass      | 26                 | 9,6  | 3.399     | 14,4 |
| Woods                      | 101                | 37,3 | 8.611     | 36,5 |
| Leather, textile, clothing | 16                 | 5,9  | 2.192     | 9,3  |
| Food, tobacco              | 35                 | 12,9 | 3.070     | 13,0 |
| Paper, chemical goods      | 15                 | 5,5  | 2.362     | 10,0 |
| Construction               | 32                 | 11,8 | 1.461     | 6,2  |
| Printing                   | 16                 | 5,9  | 783       | 3,3  |

| Type of production | Number of ventures |       | Employees |       |
|--------------------|--------------------|-------|-----------|-------|
|                    | Number             | (%)   | Number    | (%)   |
| Tourism            | 16                 | 5,9   | 453       | 1,9   |
| Totally            | 271                | 100,0 | 23,604    | 100,0 |

*Source: (Karaman, 1991., p. 218)*

Holders of all major investments and ventures at this time were foreign investors, while domestic enterprises owned more modest and technologically weaker plants. The break of of the Austro-Hungarian monarchy was between 1918 and 1941. In Croatia was not fully implemented the Industrial Revolution, and the construction of transport infrastructure was unfinished. Characteristics of this period are stagnant economy based on agriculture, scarce capital, underdeveloped industrial infrastructure, corruption and social tensions. "Croatia has been in a less favourable position than when it was part the Empire, because of large market of 59 million inhabitants, while Yugoslavia had only 12. In addition, the purchasing power was lower than in Austria-Hungary and former incentives were lost. By joining into a new community, Croatia was one of the most developed areas of the new state."(Vranjican, 2005., p. 338) Primary activities were employed 80% of the population, 9% of secondary and tertiary 11%. Until the Great Depression, which in 1929 affected the whole world, in the Kingdom SHS were complete freedom of capital allocation to domestic and foreign - system was competitive and liberal. Since 1929, state administration in the economy have become stronger, but old Yugoslavia was a backward agricultural country. After the Great War in Europe prices of agricultural products were the high.. The Kingdom of Serbs, Croats and Slovenes (SHS) exported agricultural products despite the absence of its own (exported wheat, corn, flour, meat, eggs and cattle, and imported industrial products and old industrial installations).

In the period 1945-1989 were occurring changes that left a big mark on today's economic situation. From 1945. Croatia was one of the republics that formed Yugoslavia. The former Yugoslavia had economy based on self-management model. The self-management model was specific and different from the market, but of the plan system. „In order to master the entire social reproduction, combined worker, through his delegates decided on collective consumption by self-governing communities of interest. The entire system of associated labour should operate on basis of understanding and agreement."(Santini, 2007., p. 78)

### **3. Economic heritage of competitiveness**

"In the period of 1945-1990. Croatia had increase in its potential for almost four and a half times the amount according to gross national product and per capita 3.8 times. Average annual growth rates from 1956 to 1989 amounted to gross national product of 4.6% and 4.2% per capita."(Santini, 2007., p. 80) Croatia was an integral part of Yugoslavia. Rates of growth in the gross national product of Yugoslavia grew more slowly, while per capita faster due to slower growth of the population in Croatia. "Such high growth rates were resulted by the fact that Yugoslavia and Croatia changed their place on the international development scale - from the group low developed countries to the group of medium-developed industrial countries." In 1985. Croatia was with 6,200 US \$ per capita (Yugoslavia \$ 4,816), occupied a high place in the group." (Santini, 2007., p. 81) Such development and growth are the result of development policy, which primary objective was industrialization. Growth of rates of industrial production were achieved, and the industry soon became the dominant activity in the total production. In the period 1954th-1989 growth rate of

industry was 6.2% per year, which is in the period meant an increase of 7,8 times. Average of Yugoslavia was even greater: an annual growth rate was 7,1 % and the growth was 10 times greater. Rate of employment has grown more slowly than domestic product, except for the period after 1979.

**Tablica 3 Stopa rasta društvenog proizvoda ukupnog gospodarstva**

|            | 1960.-67. | 1968.-73. | 1974.-79. | 1980.-87. | 1960.-87. |
|------------|-----------|-----------|-----------|-----------|-----------|
| Yugoslavia | 6.0       | 6.5       | 6.3       | 1.0       | 4.6       |
| Croatia    | 6.0       | 5.9       | 6.3       | 0.6       | 4.4       |
| EEC        | 4.6       | 4.8       | 2.5       | 1.7       | 3.3       |
| OECD       | 5.0       | 4.5       | 2.7       | 2.5       | 3.7       |
| Japan      | 10.2      | 8.7       | 6.6       | 3.8       | 6.5       |

Source: (Sirotković, 1996., p. 14)

According to table 3, in the first two presented periods there is no significant deviation in growth rate in Croatia/Yugoslavia in relation to other countries. After 1973, there is a reduced rate of growth of GDP in Croatia, which is not correlated with the growing investments in the same period. This is a result of changes in ratio of labour productivity and technological progress (Table 4).

**Table 4 Labour productivity growth - gross national product / employment**

|            | 1960.-67. | 1968.-73. | 1974.-79. | 1980.-87. | 1960.-87. |
|------------|-----------|-----------|-----------|-----------|-----------|
| Croatia    | 3.4       | 4.0       | 1.9       | -1.5      | 1.7       |
| Yugoslavia | 3.5       | 2.7       | 1.8       | -1.6      | 1.5       |
| EEC        | 4.5       | 4.3       | 2.4       | 1.7       | 3.1       |
| OECD       | 4.0       | 3.3       | 1.6       | 1.6       | 2.6       |
| Japan      | 8.5       | 7.6       | 2.9       | 2.9       | 5.4       |

Source: (Sirotković, 1996., p. 15)

From 1960 to 1973 year, there are significant discrepancies in the growth rate of labour productivity in Croatia / Yugoslavia in relation to other countries observed, however at that time Croatia achieved a relatively high growing rate. “After 1973 there was a sharp fall the mostly in Croatia and Yugoslavia. The period after 1979 has negative signs for Croatia and Yugoslavia, that is, a negative trend compared to the past period, while all other countries are going through a moderate growth.”(Sirotković, 1996., p. 16)

**Table 5 Technological progress - growth rates**

|            | Do 1973. | 1973.-79. | 1979.-87. |
|------------|----------|-----------|-----------|
| Croatia    | 2.7      | 1.1       | -1.7      |
| Yugoslavia | 2.4      | 1.5       | -1.6      |
| EEC        | 3.3      | 1.5       | 0.9       |
| OECD       | 2.8      | 0.8       | 0.7       |
| Japan      | 6.3      | 1.8       | 1.9       |

Source: (Sirotković, 1996., p. 15)

According to table 5, Croatia and Yugoslavia have minor differences in technological progress and labour productivity in relation to other countries. A characteristic feature of the system are expensive investment and cheap labour. This results in low efficiency of investment, low

productivity, and poor employment policy. The principal activities of the economy in Croatia/Yugoslavia were manufacturing industry and the service sector.

**Table 6** *The growth rates of domestic product (DP) and labour productivity (LP) in the manufacturing industry*

|            | 1960.-67. |      | 1968.-73. |     | 1974.-79. |     | 1980.-87. |     | 1960.-87. |     |
|------------|-----------|------|-----------|-----|-----------|-----|-----------|-----|-----------|-----|
|            | DP        | LP   | DP        | LP  | DP        | LP  | DP        | LP  | DP        | LP  |
| Croatia    | 7.7       | 5.1  | 6.5       | 4.1 | 7.3       | 3.9 | 1.8       | 0.5 | 5.6       | 3.0 |
| Yugoslavia | 7.9       | 4.7  | 8.1       | 3.7 | 7.9       | 3.5 | 2.8       | 0.4 | 6.4       | 2.7 |
| EEC        | 5.6       | 5.1  | 6.1       | 5.5 | 2.0       | 3.0 | 0.7       | 2.7 | 3.4       | 4.0 |
| OECD       | 6.3       | 4.6  | 5.6       | 4.8 | 2.2       | 2.6 | 2.6       | 3.5 | 4.1       | 3.9 |
| Japan      | 15.6      | 11.1 | 11.7      | 9.5 | 3.6       | 5.0 | 6.7       | 5.8 | 9.5       | 7.8 |

*Source: (Sirotković, 1996., p. 16)*

Table 6 shows the growth rate of labour productivity in the manufacturing industry. In Croatia, Domestic product (DP) in the period 1960-1973 year grew by a higher rate than in other countries, and labour productivity (LP) was almost the same as in other countries, except Japan. In the period from 1973 to 1979, labour productivity in Croatia (Yugoslavia) is almost three times higher than in other countries of the EEC and OECD, and twice higher than in Japan. Labour productivity in this period is higher rate than other countries, but after 1979, domestic product and labour productivity has significantly decreased compared to the previous period, and labour productivity is well below the growth rates of other countries.

#### 4. Economic development indicators from the 1990s

In the period after 1990, after the breakup of the former Yugoslavia, Croatia missed a long-sought opportunity to design development in accordance with own interests. Croatia began the transition process to implement a market-enterprise system. This results in “an unprecedented process of de-industrialization and the destruction of productive potential. The ownership transformation and privatization have resulted in looting of social capital in unimaginable proportions. About 700,000 workplaces were lost and total debt exceeded the sum of 30 billion dollars. Development of the economy was reversion for few decades. “(Vranjican, 2005, p. 342) According Vranjican (2005) reasons for such a bad situation are non-implementation of scopes of International Monetary Fund and World Bank, poor implementation of privatization, encouraging of enterprise, discouraging of production, uncontrolled entry of foreign capital in the banking sector, incompetence and lack of concern for the protection of strategic interests of the country and so on. Economic indicators are shown in table 7.

**Table 7** *Basic economic indicators of 90-ies*

|   | 1994. | 1995. | 1996. | 1997. | 1998. | 1999. | 2000. |
|---|-------|-------|-------|-------|-------|-------|-------|
| GDP at current prices (in bil. US \$)             | 14,2  | 18,1  | 19,8  | 20,1  | 21,6  | 20,1  | 19,0  |
| The growth rates of GDP (in %)                    | 5,9   | 6,8   | 6,0   | 6,5   | 2,5   | -0,4  | 3,7   |
| The growth rates of industrial production (in %)  | -2,7  | 0,3   | 3,1   | 6,8   | 3,7   | -1,4  | 1,7   |
| The average number of unemployed persons (in 000) | 243   | 241   | 261   | 278   | 288   | 322   | 358   |
| Unemployment rates                                | 14,5  | 14,5  | 16,4  | 17,5  | 17,2  | 20,8  | 21,1  |

*Source: (Ott, 2002., p. 3)*

## **5. Impact of the global economic crisis of 2008.**

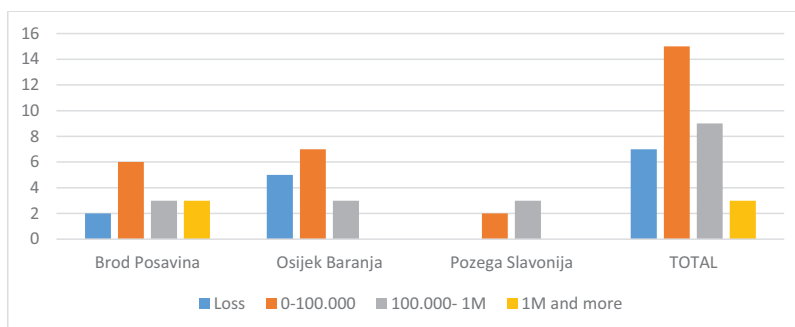
Croatian economy is affected by the global crisis, which is the largest financial and economic crisis since World War II. "The crisis at the global level is the result of achieving of profit of individuals, and not the wealth of society - it leads to social crises and unsustainable economic growth." (Jurčić, 2011., p. 773) The crisis was caused by neo-liberal system that is based on the realization of profits, efficiency and equity, while neglecting social justice as a key element for economic balance and sustainability. "The focus of the current crisis has its roots in America, but every crisis has its own peculiarities and local causes. Insignificant is impact of the global crisis on the Croatian crisis. Croatia even before the global crisis was indebted and began deindustrialisation. Work force is below 55%, unemployment is above 10%, and imports is much higher than exports, and so on. The current crisis is a crisis of political, economic and financial system, which was established after the Second World War in very different political, economic and financial relations." (Jurčić, 2011., p 774)

Nowadays it is unnecessary to appear big a crisis, because the crisis are result of lack of resources, energy, natural disasters and inequality in society. "However, none of these conventional factors did not cause the crisis. It's reached the level of production efficiency, high levels of technological progress that does not limit the production resources, energy is enough and now it is possible to produce energy in different ways, offer growing daily and there is little product which are scarce, but there has been no natural disaster. This crisis is created by a man-irrational and selfish behaviour. The crisis is the result of great greed and inequality in society." (Jurčić, 2011., p. 775) The crisis is the result of the previous leaping growth in food and energy prices. "From 1970 to 2008 the world have registered 124 banking crises, 208 exchange crisis, 63 of the debt crisis, 42 double and 10 triple crisis." (World Bank, Global Economic Prospects, 2010., p. 119)

## **6. Research**

Croatia has had through history several cycles of growth and decline of economic activity. According to the National Competitiveness Council, counties in Eastern Croatia have the lowest level of competitiveness. That is the area most affected by the global economic crisis. This paper will present and analyse basic indicators of development of enterprises in Brod Posavina, Osijek-Baranja and the Pozega Slavonia County. There is analysed 34 enterprises in 2015, 14 in Brod Posavina (BPC), 15 in Osijek Baranja (OBC) and 5 from Pozega Slavonia County (PSC). The analysed companies are small and medium from the Manufacturing Industry Sector C in accordance with the NACE 2007 (National Classification of Activities). The development of the manufacturing industry is the basis for development of the economy in general, and for this very reason are analysed enterprises from the sector. According to many indicators of enterprises in eastern Croatia is lagging behind the national average. The average net wage in Croatia is 2015 was 5711 HRK (NN 22/2016), in BPC 5019 HRK (www.bpz.hr), in OBP was 4,089 (www.hgk.hr). According to the survey, the 14 enterprises had an average net salary lower than the 3000 HRK, in 18 enterprises it was between 3000 and 5000, while two enterprises had the average net salary more than 5000 HRK. Another important indicator of business performance is net profit generated in 2015. Net profit of enterprises is given in graph 2.

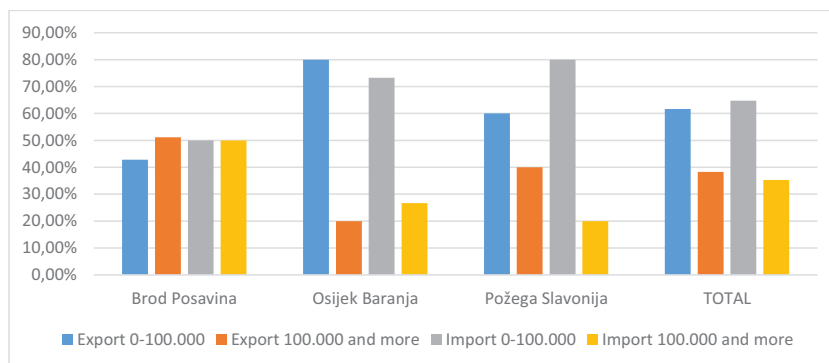
**Graph 1** The level of net profit in the analysed enterprises in Eastern Croatia



Source: made by authors

According to graph 1, the majority of enterprises have a net profit in the range between 0 and 100 thousand HRK, 15 of them. Next analysed element is money. Most enterprises (19) have stock of money in range of 0-100.000 HRK. In Brod Posavina 6 enterprises have revenues in the specified interval, while 4 companies have money worth more than million (1M). In Osijek Baranja 10 enterprises have money in first specified interval, and 2 have the value of money more than one million HRK. One of the most important indicators of the competitiveness of enterprises is the ratio of exports and imports. Level of exports and imports of enterprises is analysed in Graph 2.

**Graph 2** The level of imports and exports in enterprises in Eastern Croatian



Source: made by authors

The ratio of exports and imports is one of the most important indicators of economic development, for both, individually for the development of enterprises, and the development of the national economy as one of the elements of GDP. According to the data of enterprises in BPC level of exports and imports are equal. In OBC is the largest number of enterprises exporting less value, from 0 to 100,000 HRK but the level of imports is also very high. As larger amounts, a lot more imports than exports. Overall, the enterprises have a higher level of imports of products worth 0-100.00 HRK than exports in the same amount. The last element to be analysed is the liquidity.



Current ratio should be greater than 1, if wants to provide liquidity. Of the 34 analysed enterprises, as many as 12 of them have a liquidity ratio less than 1, while 22 have greater liquidity than 1.

## 7. Conclusion

This paper provided a comprehensive theory review of the role and importance of historical heritage for strengthening competitive advantage in the modern economy, with the aim of improving the industry in Eastern Croatia. In the global world, no activity is protected by macroeconomic factors such as inflation or recession, nor of technological progress and development. The goal of every enterprise is to find the best business strategy that will enable the development and prosperity of enterprises in the global game. There are no rules or definitions for success. The company has to know which way if you want to accomplish your goals, because the company without a strategy is like a ship without a rudder. This paper, can confirm that enterprises in Eastern Slavonia were not developed in proportion to the national standard. Macro-environment and economic policy should be focus on the development of the region, which is currently one of the biggest problems of the Croatian economy. A possible way of development of this area are the launch and support the development of entrepreneurial activity. The existing entrepreneurial infrastructure is outdated; a small number of highly educated, average net wages are below the national standard. Many enterprises have a problem with debt, and many are not liquid. For development of competitiveness of Croatian, it is inevitable that develops and eastern Croatian region.

## REFERENCES

Analiza poslovanja gospodarstva Brodsko posavske županije u 2015  
[http://www.bpz.hr/\\_Data/Files/20sjzs/3.pdf](http://www.bpz.hr/_Data/Files/20sjzs/3.pdf) (accessed 20 March 2016)

Jurčić, Lj. (2011). Hrvatsko gospodarstvo - stanje i pregled, *Ekonomski pregled* 62, 19. Tradicionalno opatijsko savjetovanje hrvatskih ekonomista

Karaman, I. (1991). *Industrijalizacija garađanske Hrvatske (1800-1941)*. Zagreb: Naprijed.

Nacionalno vijeće za konkurentnost, Regionalni indeks konkurentnosti Hrvatske, Nacionalno vijeće za konkurentnost, 2013., <http://www.konkurentnost.hr/> (accessed 12.05.2014.)

NN 22/2016 [http://narodne-novine.nn.hr/clanci/sluzbeni/2016\\_03\\_22\\_613.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2016_03_22_613.html) (assessesd 25.01.2017.)

Ott, K., (2002). *Neslužbeno gospodarstvo u Republici Hrvatskoj 1990-2000.*, *Financijska teorija i praksa*, 26(1)

Santini, G. (2007.) *Iluzija i stvarnost hrvatskog gospodarstva*, Rifin, Zagreb

Sirotković, J. (1996). *Hrvatsko gospodarstvo- privredna kretanja i ekonomska politika*, Hrvatska akademija znanosti i umjetnosti, Golden Marketing, Zagreb, Hrvatska

Stanje gospodarstva u Osječko Baranjskoj županiji u 2015 godini za razdoblje I. – XII. 2015  
<http://www.hgk.hr/documents/stanje-gospodarstva-obz-rujan-20165800836067ffa.pdf>  
(asscessed 25.01.2017.)

Vranjican, S. (2005). Dostignuća i promašaji gospodarskog razvoja Hrvatske u proteklom stoljeću,  
*Rev. soc. polit.*, god. 12, br. 3-4, Zagreb

World Bank (2010), *Global Economic Prospects: Crisis, Finance and Growth*  
<http://siteresources.worldbank.org/INTGEP2010/Resources/GEP2010-Full-Report.pdf>  
[pristupljeno 13.03.2012.]

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**IMPLEMENTATION OF MANAGEMENT INNOVATION LEADING TO  
LOCAL GOVERNMENT EFFECTIVENESS**

**IMPLEMENTACIJOM MENADŽERSKIH INOVACIJA DO  
UČINKOVITOSTI LOKALNE SAMOUPRAVE**

***ABSTRACT***

*The purpose of this research is to emphasise the significance of management innovation development, i.e. its implementation in local government as a prerequisite to facilitate the introduction of other changes and, consequently, development of a higher level of effectiveness. The need to research management innovation in the public sector is gaining in importance due to the ongoing public administration reforms which are often, through the implementation of new methods and management concepts, aimed at increasing public service efficiency and effectiveness. Empirical research was conducted on local government units in Croatia. The research results show the dual relationship between management innovation and effectiveness. In addition to a direct relationship with effectiveness, this paper also confirmed an indirect relationship between implementation of management innovation and effectiveness, through influencing a higher level of implementation of other innovations. This implies that continuous innovation of management creates the basis for a faster, easier and more efficient implementation of other innovation, i.e. efforts are invested in increasing the effectiveness of local government in general. Further, results suggest that institutional isomorphic pressures are evident in Croatian local government units, leading them to adopt similar structures, strategies and processes.*

**Key words:** *Management innovation, Non-technological innovation, Local government, Effectiveness*

## SAŽETAK

*Svrha ovog istraživanja je naglasiti važnost razvoja menadžerskih inovacija, tj. njihove implementacije u lokalnoj samoupravi, kao pretpostavke za lakše uvođenje ostalih promjena te u konačnici razvoja većeg stupnja učinkovitosti lokalne samouprave. Potreba za istraživanjem menadžerskih inovacija u okviru javnog sektora nadalje je naglašena aktualnim reformama javne uprave, čiji je cilj povećati efikasnost i učinkovitost javnih usluga, često putem implementacije novih menadžerskih metoda i koncepata. Provedeno je empirijsko istraživanje na jedinicama lokalne samouprave u Hrvatskoj. Rezultati istraživanja ukazuju na dvojak odnos menadžerskih inovacija i učinkovitosti. Osim izravne veze sa učinkovitosti, u radu je potvrđena neizravna veza implementacije menadžerskih inovacija i učinkovitosti, i to putem utjecaja na veći stupanj implementacije ostalih inovacija. Navedeno implicira da kontuirane inovacije u menadžmentu stvaraju osnovu za bržu, lakšu i efikasniju implementaciju ostalih tipova inovacija, tj. djeluju na povećanje učinkovitosti lokalne samouprave općenito. Nadalje, rezultati ukazuju da su institucionalni izomorfični pritisci prisutni u jedinicama lokalne samouprave u Republici Hrvatskoj, a što utječe na njihovu implementaciju sličnih struktura, strategija i procesa.*

**Key words:** *Menadžerske inovacije, Netehnološke inovacije, Lokalna samouprava, Učinkovitost*

This paper has been supported by the University of Rijeka, Croatia, under the project *Management development in the function of integration of the Croatian economy in the EU*, no. 13.02.1.3.06.

### 1. Introduction

The majority of empirical research on the relationship between innovation and organizational success is directed towards technological progress, i.e. technological forms of innovations, such as innovations of products/services or innovations of processes, whereas little significance was given to other forms of non-technological innovations and the specific dynamics of the management. However, the scientific literature indicates that research on innovations represents a complex process which cannot relate to the technological dimension only. A few decades ago, the technical and administrative typology of innovations started to become more popular. It divides certain types of innovations with regard to the general distinction between technology and social structure. Non-technological innovations, until recently called administrative innovations, are only indirectly related to organizational primary working activity and mostly influence its management system. Technological innovations refer to changes in the field of technology and reflect technical and technological progress. Non-technological innovations are related to organizational restructuring, human resources and methods of management, and are frequently in a causal relationship with technological innovations. It is much more difficult to replicate non-technological innovations due to their nature, which is mostly abstract and intangible. In the same way, these types of innovations can contribute to long term competitive advantage, especially under circumstances when organizations are faced with increased competition and faster dynamics of technological changes.

The concept of management innovation as distinctive type of non-technological innovations is still in the early days of conceptual formation and confirmation. The new field of research dealing with new practices, structures and processes of management has grown as a result of the intensification of research interest in non-technological innovation forms. Research results from the field of management innovations are mainly related to organizations in the private sector while the public sector is less well represented. Due to the aforesaid, the public sector is very interesting from the aspect of introducing innovations. The requirements for achieving greater

success set before the public sector in the last two decades are becoming increasingly intense, particularly from the perspective of rationalising operating costs, greater quality of public services, professional management personnel, application of new concepts and methods of management, i.e. an overall increase of effectiveness and efficiency. Public administration reforms are marked by a series of innovations in management that are aimed towards the increase of effectiveness and efficiency of the public services. Therefore, an increased pressure regarding improvements is noticeable, i.e. some sort of competition for the public sector because the public, especially citizens, domestic and foreign institutions and other subjects, are very critically interested in the results of its work. This is especially evident for services offered by local government, which is considered as being able to recognize the needs of citizens in its area better than the bodies of the national administration and is therefore capable of providing public services with higher quality and in a more rational way.

The purpose of this paper is to research and determine new scientific directions on the concept of management innovation as distinctive type of non-technological innovations. This represents a relatively new and insufficiently empirically searched area of innovation research. The research goals of this paper are to analyse and determine the impact of implementing management innovation on effectiveness, especially in the public sector context, i.e. in the context of local government. The remainder of the paper is structured as follows: first, the authors give the theoretical background of management innovations' influence and organizational success in the public sector. Following this, based on theoretical and empirical findings, a conceptual model is set and research hypotheses are defined. The empirical part of the paper begins with a description of the methodology used and is followed by analysis and results, discussion and conclusion.

## **2. Theoretical background**

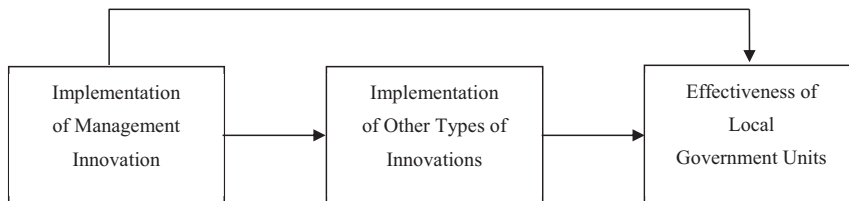
Past results of scientific empirical research about the relationship between management innovation and particular measures of public organizations success are not abundant. A notable research is that conducted by Walker, Damanpour and Devece (2011) who studied the influence of management innovation on organizational success in local government units in Great Britain. The research confirmed an indirect positive influence of management innovations through the system of performance management on observed components of organizational effects; quality and quantity of outputs, efficiency, equality and satisfaction of users, while the observed direct relationship showed a negative effect. Authors state that the mentioned negative effect can be explained by the study being based only on a one-year- period. The research does not further explore factors of successful implementation and characteristics of the process of implementing and creating innovations in order to explain obtained research results. Research based on the use of the organizational pattern of the private sector are predominant compared to those of the public domain, which are relatively rare. This will be further elaborated in the present work.

In examining and designing the conceptual model of management innovation implementation effectiveness in the public sector, the characteristics of the management innovations were first observed along with the acknowledgement of organizational specificities acting in the public sector. Management innovations are marked by the following characteristics: an emphasised social dimension, influence on organizational culture, attitudes and norms of employees, influence on the change of existing relations of authorities within the organization, complexity; requiring systematic application and coordination of a great number of members of the organization, innovations from the organization and management mostly occur at the top of the hierarchical pyramid, while there are less of them at lower levels, they do not require large

investment in infrastructure, equipment and the high costs of research and development, close and interdependent connection with process and production innovations, i.e. technological innovations, and introduction of management innovation leads to easier implementation of other innovation types (Rogers, Shoemaker, 1971, Baranano, 2003, Birkinshaw, Mol 2006, Armbruster et al., 2008, Černe, 2013).

A conceptual model will serve to answer the question of whether the level of management innovation implementation influences the effectiveness of local government units. In that sense, its relation to other innovation types will be analysed as well. Figure 1 presents the conceptual model of management innovation effectiveness in the context of local government units.

**Figure 1** The conceptual model of management innovations effectiveness



Source: Authors of the paper

Another variable Implementation of other types of innovations is introduced in the conceptual model of this paper, in addition to the aforementioned direct relationship between these two constructs. This variable is placed between these two constructs, implying the dual relationship of management innovation and organizational effectiveness, i.e. successfulness. Besides the direct relationship with effectiveness, it is assumed that the implementation of management innovations will also realise an indirect relationship through influencing other innovations.

Such a dual relationship of management innovation and performance results from the characteristics of management innovations. Management innovations manifest themselves as internal processes of human resources management, principles of distributing work tasks and responsibilities, mechanisms of coordination and cooperation between employees, methods of conveying information and knowledge, and organizational relationships established with other subjects beyond the limits of the organization itself. Acting in that way, they create the organizational setting that more easily accepts and manages changes and is more directed towards target goal and strategy, hence it is assumed that such a setting is connected with a higher level of occurrence of other innovation types (services innovations, process innovations and similar) and innovativeness in general, and that management innovations enhance the positive effect of other innovations. Volberda et al. (2013) discuss in their paper multi-directional causalities between management and technological innovations. Existing research indicate that management innovations are predictors of technological innovations (Baranano, 2003, Mol, Birkinshaw, 2012, Černe, 2013). Furthermore, it is known that technological innovations encourage the need for non-technological innovations. In that way the non-technological innovations enable an effective usage of technological innovations (Armbruster et al., 2008). That implies that technological innovations in themselves do not guarantee achievement of organizational success. Research on the level of implementation of other innovation types that can be related to innovations in management, i.e. to innovations in the management and organizational sense at the empirical level in the public sector, is very scarce

while one of the most notable is the research carried out by Damanpour et al. (1989). Pursuant to theoretical and empirical insights, testing of the following hypotheses is proposed:

**H1: Implementation of management innovations has a positive effect on the implementation of other innovations.**

**H2: Implementation of other innovations creates a mediating effect on the relationship between implementation of management innovations and effectiveness of the local government units.**

Management innovations as a non-technological type of innovations are distinctive by causing intangible changes and depending on the context in which they are implemented. These reasons hinder empirical testing between management innovations implementation and organizational success. In general, it can be determined that creating a strong empirical connection between innovations and success is hindered due to methodological shortcomings (e.g. construct measuring) and technological and market circumstances, causing the assessment of innovations' influence to be so unpredictable (Tidd, 2001). These shortcomings are even more prominent when it comes to management innovations since they are difficult to quantify. Indicators such as patents, costs of research and development, and new product launching are usually used for the measurement of technological innovations, which is inadequate for the measurement of management innovations. So far, while the literature covering the field of innovations indicates the importance of management innovations for organizational success, it is necessary to carry out further empirical research to further verify and strengthen these findings. This especially refers to empirical testing in public sector organizations.

Existing research supports the idea that management innovations have a positive influence on the development of dynamic capabilities (Gebauer, 2011), growth of productivity (Mol, Birkinshaw, 2009) and organizational success (Gera, Gu, 2004, Yeh-Yun Lin, Yi-Chingchen, 2007, Gunday et al., 2011, Walker et al., 2011, Camisón, Villar-Lopez, 2012, Černe, 2013). Typical "hard" measures of success used for measuring the results of management innovations are: profitability, productivity, growth and (sustainable) competitive advantage (Volberda et al., 2013). However, management innovations also result in the achievement of some "softer" targets (Birkinshaw et al., 2008). For example, this type of innovation may influence a reduction in employee turnover (Kossek, 1987, Hamel, 2011), increase of customers' satisfaction (Linderman et al., 2004) as well increase satisfaction and motivation of other stakeholders such as employees (Mele, Colurcio, 2006). Past results of scientific empirical research on the relationship between management innovations and particular measures of success of public organizations are very scarce. A notable contribution in this area of research is that carried out by Walker et al. (2011), as mentioned at the beginning of this paper. Measures of organizational success for units of local government were represented by the construct of grades for core services performance constructed by the Audit Commission in Great Britain. Results of research on the direct relationship between management innovations and the performance of local government units require further research and review of additional variables through which a positive influence on performance is achieved. Based on such theoretical and empirical findings, testing of the following hypothesis is proposed:

**H3: Implementation of management innovations has a positive influence on the effectiveness of local government units.**



### **3. Methodology**

#### **3.1. Sample**

Empirical research is carried out through a survey conducted in Croatian local government units during 2014. There are 128 towns and 428 municipalities in the Republic of Croatia, which makes for 556 local government units in total. A criterion has been established for the selection of local government units that can participate in the research, namely, the research involves all towns and municipalities having at least 3000 inhabitants, making a total of 282 local government units. Such a criterion is established in order to enable more overall view of management innovations since it is expected that management innovations will be more present and developed in the larger local government units. A survey questionnaire was sent to all towns via e-mail. The final response rate was 25%, representing 71 local government units in total. The questionnaire was intended for higher management who would have the greatest insight in the research area.

#### **3.2. Measurement of variables**

In order to minimize the possibility of bias, data on variables are gathered not only based on survey questionnaires but also based on available official financial reports, i.e. budgets, and interviews with the management of the observed local government units.

Considering the fact that the area of management innovation research is still in its early days, and bearing in mind that the research is carried out on local government units, the measures used for variables are mostly original, i.e. they are not taken in their entirety from the existing literature. In order to establish latent relationships within measured variables, factor analyses were carried out. Pursuant to the factor structure of variables, Cronbach alpha reliability analysis was carried out. The results of analyses confirmed an internal consistency of the statements used for the description of variables and reliability of the measuring constructs.

#### ***Implementation of management innovations***

Measurement of management innovations is still in its early days compared to measurement of tangible technological innovation types. It is methodologically challenging to measure management innovations and their effects due to the complexity and versatility of management innovations. Since the field of management innovations is only at the beginning of scientific formation, empirical research is scarce and measures used are inconsistent and require further validation. Authors have developed and used several empirical construct measuring methods for the purpose of research of management innovations (Walker, 2006, Mol, Birkinshaw, 2009, Gunday et al., 2011, Walker et al., 2011, Vaccaro et al., 2012, Černe, 2013).

Based on the theoretical background regarding the particularities and past measurements of management innovations variables in empirical research and the context of local government research, statements formulated in the questionnaire represent certain management innovations that would be appropriate for units of local government in Croatia. Statements which were finally accepted for inclusion in the questionnaire were selected after accepting suggestions resulting from consultations with local government management personnel. For all innovation measures, respondents rated certain statements on the Likert scale ranging from 1-5, where the rates represented the level of implementation of the particular innovation in its corresponding local government unit: 1- it is not implemented, 2- it is implemented in a few elements, 3- is

partially implemented, 4- almost complete implementation and 5- it is completely implemented. For all innovations, the period of observation was five years backward, i.e. respondents were asked to rate the level of implementation of particular innovations in the last five years. Table 1 shows statements from the questionnaire as a measure of implementation of management innovations and the mean value of the particular statements is calculated as well as the standard deviation as a measure of dispersion.

**Table 1** *Statements used for implementation of management innovations and descriptive statistics*

| Statements   | Mean | SD   |
|--|------|------|
| Decentralisation and similar changes in organizational structure (e.g. cancellation/addition/merging certain offices, departments, divisions...).  | 2.42 | 1.17 |
| Changes of organization of city/municipal administration (e.g. changes of names of departments, divisions, offices, administrative department managers, increase in number of departments...). | 2.58 | 1.31 |
| Forming new teams when necessary.  | 2.83 | 1.29 |
| Delegating decision making from higher towards lower levels.   | 2.73 | 1.18 |
| New system of measuring and evaluating employees is implemented.   | 2.28 | 1.11 |
| New system of measuring and evaluating management is implemented.  | 2.00 | 1.04 |
| New system of rewarding employees is implemented.  | 2.10 | 1.26 |
| New system of rewarding management is implemented.   | 1.89 | 1.12 |
| Management promotion criteria are established.   | 1.87 | 1.08 |
| Employees promotion criteria are established.  | 2.06 | 1.08 |
| System of rotating employees to other positions due to development and advancement is formally established.  | 1.93 | 1.13 |
| A quality management system according to ISO standards has been implemented.   | 1.72 | 1.12 |
| Project management mode of work is applied (in managing projects recognized methodology and techniques of project management has been used).   | 2.56 | 1.20 |
| Regular exchange of experiences and advices with other local governments units about their best practices in dealing with certain issues.  | 2.94 | 1.19 |
| A new system of training employees has been formally established.  | 2.45 | 1.19 |

*Source: The data processed and systematized by the authors of the paper*

Management innovations that achieved, on average, the highest level of implementation in the observed units of local government are: regular exchange of experiences and advices with other local governments units about their best practices in dealing with certain issues (2.94), forming new teams when necessary (2.83) and delegating decision making from higher towards lower levels (2.73). Management innovations that realised the lowest level of implementation on average are: implementation of quality management system according to ISO standards (1.72), establishment of management promotion criteria (1.87) and implementation of management rewarding system (1.89). Factor analysis resulted in one factor with eigen value of 6.927 and explanation of the variance of 46.18% (KMO=0.839, Bartlett=603.329,  $p < 0.001$ ). Results of the measuring scale reliability analysis (Cronbach alpha=0.91) for the implementation of management innovations indicate that the measuring scale has a sufficient level of reliability.

### **Implementation of other innovations**

For measuring other types of innovations authors in general start from definitions and classifications published in the Oslo Manual (2005), i.e. from the methodology of Community Innovation Surveys (CIS) innovation research. According to the aforesaid classification, particular types of innovations are innovations of products/services, process innovations, marketing innovations and organizational innovations. Measurement of organizational, i.e.

management innovations, will be separately addressed in this paper. In deciding how to evaluate the particular innovation type, certain authors usually use their own statements in order to illustrate specific features of the observed construct (Gunday et al., 2011).

In the public sector, this classification of innovation types can be different with regard to the different roles and functioning of these two sectors. This difference is even more prominent when observing local government whose basic purpose is the providing of services and thus product innovation as the construct is not adequate, i.e. it cannot be applied. Therefore it is good to opt for innovation of services. Marketing innovations here are replaced with communication innovations, which is in accordance with certain attempts of classification of innovation in the public sector, where it was established that this construct suits more the activities of public organizations (Annerstedt, Björkbacka, 2010, Bloch, 2010).

Table 2 shows the statements from the questionnaire as measures of implementation of other innovations, as well as the calculated average value of individual statements and standard deviation as a measure of dispersion.

**Table 2** *Statements used for the implementation of other innovations and descriptive statistics*

| Statements  | Mean | SD   |
|---|------|------|
| By introducing information and communication technology (various e-services) new ways of realisation of services are introduced.  | 3.11 | 1.40 |
| New ways of realisation of services introduced in collaboration with external partners (other local government units, companies, universities, associations and similar). | 2.56 | 1.19 |
| Brand new services for users are introduced (citizens, business entities etc.).   | 1.61 | 0.90 |
| New ways of including citizens in planning of work of local government unit are formally established.   | 2.32 | 0.95 |
| New ways of including citizens in the decision making are formally established.   | 2.25 | 0.97 |
| New practices are introduced, i.e. approach to problem solving which satisfies user requirements in a new way.  | 2.23 | 0.91 |
| Website was created and is regularly maintained.  | 2.14 | 1.02 |
| New ways of communication with citizens are introduced (electronic and other ways).   | 2.44 | 0.94 |
| A new slogan for the town/municipality has been introduced.   | 2.13 | 1.08 |

*Source: The data processed and systematized by the authors of the paper*

The average highest degree of implementation of other innovations is achieved for the following innovations: introducing new ways of realisation of services through information and communication technology (various e-services) (3.11), introducing new ways for realisation of services in collaboration with external partners (other local government units, companies, universities, associations and similar) (2.56) and introducing new ways of communication with citizens (electronic and other ways) (2.44). The lowest average degree has been achieved for the implementation of: completely new services for users (citizens, business entities etc.) (1.61), a new slogan for the town/municipality (2.13) and creation and maintenance of new web pages (2.14). Factor analysis resulted in one factor having an eigen value of 4.620 and explained 51.338% of the variance (KMO 0.845, Bartlett 301.563,  $p < 0.001$ ). The Cronbach alfa measure of reliability was found to be 0.87 indicating that the measuring scale has a good level of reliability.

### **Effectiveness of local government units**

The effectiveness of a local government unit (Effectiveness of LGU) refers to effects which implemented innovations should „generate“, i.e. that which underlies the purpose of its introduction. In this paper this variable is defined using three measures. The first measure refers to the ratio of the value of the budget and value of expenditure for the employees, the second

measure refers to the absorption of EU funds, while the third measure represents the satisfaction of the user of services of the local government unit.

The first measure of effectiveness of the local government unit represents the ratio of the value of realised budget and value of expenditure for the employees. The data are calculated on the basis of values realised in 2013. Due to difficulties in measuring the output in public administration, in this case the local government, and which is characterised by heterogeneity of services and activities which makes the choice of adequate comparative outputs for towns and municipalities more difficult, the monetary value of the realised budget is selected as a measure of output. The budget represents the realised value of revenues, i.e. expenditures as per programmes, activities and projects. Therefore the budget is chosen as a comparative measure of the output of analysed units and which may indicate the variability of output between local government units.

The second measure refers to the absorption of EU funds. Resources from EU programmes and funds are made equally available to all units of local government as a means of financing and realisation of public services, programmes, measures and activities (Andronicceanu, 2014). The absorption of EU funds indicates the ability to plan and manage with the aim of achieving the set targets. With regard to Rutgers and van der Meer (2010), the technical concept of efficiency of the public sector is too narrow and therefore “substantial efficiency” should be taken into account, which represents the fundamental value of public administration. According to these authors “substantial efficiency” refers to the meaning of effectiveness as the “ability to achieve a certain goal”, i.e. the capacity to generate a certain effect. The significance of effectiveness is not linked with outputs (which refers to the technical aspect of the concept) but with strength and ability, i.e. effectiveness is represented by the potential of achieving set objectives. According to the aforementioned, it may be concluded that the absorption of EU funds for the purpose of achieving the set targets and final realisation of public services represents the ability of the local government unit to achieve objectives and activities.

The measure of absorption of EU funds is derived from the available financial data of local government units, and which is shown as a categorical variable, where mark 5 indicates that the local government unit received EU funds in 2013 and 2012, mark 3 indicates that the local government unit received EU funds in 2013 or 2012, and mark 1 implies that the local government did not receive EU funds in 2013 and 2012. The third measure represents the satisfaction of the user with the services of the local government unit, i.e. satisfaction of the entrepreneur with the services offered by local units. The development of entrepreneurship today is an important part of the strategy of local government, and entrepreneurs are therefore important stakeholders whose needs should be adequately addressed (Nicolescu, Nicolescu, 2013, Anton, Onofrei, 2016). On that basis the entrepreneur is selected for the measurement of user satisfaction. In research carried out by Walker et al. (2011) in which the effect of management innovation on organizational success in the local government unit in Great Britain is examined, the satisfaction of users of certain services in the local unit was used as a measure of success.

Based on previous research which focused on investigating the user satisfaction, the overall satisfaction of the entrepreneur with services of the local government was measured through one statement, i.e. question (Danaher, Mattsson, 1994, Yuksel, Rimmington, 1998, Leisen, Vance, 2001): In total how satisfied are you with services which you receive from your local government? Entrepreneurs evaluated their own satisfaction using the Likert scale of 1 - I am not

satisfied at all, to 5 - I am very satisfied. The questionnaire was sent to entrepreneurs by e-mail and was also sent to Chambers of Trades and Crafts which contributed to a higher response rate.

Since the effectiveness of the innovation variable is represented through three measures, one of which is numerical and the other two are categorical, for consistency of data the measure average was calculated, and which was subsequently divided into five categories: 1- poor effectiveness, 2- satisfactory effectiveness, 3- good effectiveness, 4- very good effectiveness, 5- excellent effectiveness.

#### **4. Analysis and results**

Logistic regression will be used for the purpose of testing the hypothesis. The logistic regression is appropriate to use when the variable is expressed as a binary or when a categorical variable is involved, which may be ordinal or nominal, i.e. organized or not organized. Taking into account that the local government unit effectiveness variable is expressed in three measures, of which one is numerical (value of the budget/value of expenditure for employees) while the other two are categorical, and due to the consistency of data the average of all three measures was calculated which was additionally divided into five categories, as indicated above, from which the ordinal, i.e. the organized variable, was obtained. The model of logistic regression is construed such that the independent variable predicts the likelihood that the observation will be in a higher category as compared to a lower category. In all analyses the impact of the size of the local government unit (number of employees in the local government unit) was taken as a control variable, taking into account previous research which also includes this control variable, and in order to take into account potential alternative explanations.

The test results of the postulated hypothesis are as follows:

**H1: Implementation of management innovations has a positive effect on the implementation of other innovations.**

**H2: Implementation of other innovations creates a mediating effect on the relationship between the implementation of management innovations and effectiveness of the local government units.**

**H3: Implementation of management innovations has a positive effect on the effectiveness of the local government units.**

**H1: Implementation of management innovations has a positive effect on the implementation of other innovations.**

From Table 3 it can be seen that the coefficient for the Implementation of management innovations variable has a p-value  $<0.05$ , which means that the variable has a significant effect on the Implementation of other innovations variable. Furthermore, the control variable of the Size of local government unit shows a p-value of 0.4145 which means that it does not have a significant influence on the dependent variable. After determining the statistically significant impact of the Implementation of management innovations on the Implementation of other innovations, Table 4 shows the nature of that impact.

**Table 3** Analysis of maximum likelihood

| Parameter                                |   | DF | Estimate | Standard Error | Wald Chi-Square | Pr > ChiSq |
|--|---|----|----------|----------------|-----------------|------------|
| Intercept                                | 5 | 1  | -5.8684  | 1.2117         | 23.4562         | <.0001     |
| Intercept                                | 4 | 1  | -4.7278  | 0.8975         | 27.7465         | <.0001     |
| Intercept                                | 3 | 1  | -2.1738  | 0.6433         | 11.42           | 0.0007     |
| Intercept                                | 2 | 1  | -0.204   | 0.5892         | 0.1198          | 0.7292     |
| Implementation of management innovations |   | 1  | 0.612    | 0.2507         | 5.9584          | 0.0146     |
| Size of local government                 |   | 1  | 0.00271  | 0.00332        | 0.6658          | 0.4145     |

Source: The data processed and systematized by the authors of the paper

**Table 4** Odds ratio estimates

| Effect                                   | Point Estimate | 95% Wald Confidence Limits |       |
|--|----------------|----------------------------|-------|
| Implementation of management innovations | 1.844          | 1.128                      | 3.015 |
| Size of local government                 | 1.003          | 0.996                      | 1.009 |

Source: The data processed and systematized by the authors of the paper

The model predicts the likelihood that observations will be in a higher category, in this case meaning a higher mark of implementation of other innovations. Each odds ratio estimate may be interpreted as the variable's impact on the likelihood that it will be in a higher category as compared to a lower category. The odds ratio for the Implementation of management innovations variable is 1.844. It can be concluded that with each increase of the Implementation of management innovations variable by one mark, the odds ratio for the Implementation of other innovations variable being in the higher category (as compared to the lower category) increased by 1.844 times. The odd ratio estimate for the Size of local government unit variable is 1.003, however the test results indicate that the impact is not statistically significant for this control variable. It may be concluded that for each higher level of Implementation of management innovations the level of Implementation of other innovations will also be better, i.e. greater.

By proving the hypothesis that the implementation of management innovations has a positive impact on the implementation of other innovations, it can be concluded that it is important to introduce and develop management innovations since these are accelerating, i.e. have an effect on the efficiency of implementation of other types of innovation (i.e. implementation of information-communication technologies, new services, new ways of offering services). It may be assumed that with this impact on implementation of other innovations, also impact of management innovations on effectiveness, will be reinforced, and which will be tested in the continuation of this work.

**H2: Implementation of other innovations creates a mediating effect on the relationship between the implementation of management innovations and effectiveness of the local government units.**

As shown in Table 5, the coefficient of the Implementation of other innovations and Implementation of management innovations variables have p-values <0.001 which indicates that the variables have statistically significant effects on the Effectiveness of LGU. The Size of local government unit control variable has a p-value of 0.2228, and therefore does not achieve a significant effect. Table 6 shows the nature of the effect of the stated variables.

**Table 5** Analysis of maximum likelihood

| Parameter                                |   | DF | Estimate | Standard Error | Wald Chi-Square | Pr > ChiSq |
|--|---|----|----------|----------------|-----------------|------------|
| Intercept                                | 5 | 1  | -11.184  | 1.6475         | 46.0833         | <.0001     |
| Intercept                                | 4 | 1  | -8.6535  | 1.3366         | 41.9158         | <.0001     |
| Intercept                                | 3 | 1  | -5.8147  | 1.0789         | 29.0482         | <.0001     |
| Intercept                                | 2 | 1  | -2.0641  | 0.9373         | 4.8493          | 0.0277     |
| Implementation of management innovations |   | 1  | 1.5259   | 0.3314         | 21.2023         | <.0001     |
| Implementation of other innovations      |   | 1  | 1.6536   | 0.3691         | 20.069          | <.0001     |
| Size of local government                 |   | 1  | -0.00436 | 0.00358        | 1.4865          | 0.2228     |

*Source: The data processed and systematized by the authors of the paper*

**Table 6** Odds ratio estimates

| Effect                                   | Point Estimate | 95% Wald Confidence Limits |        |
|--|----------------|----------------------------|--------|
| Implementation of management innovations | 4.599          | 2.402                      | 8.806  |
| Implementation of other innovations      | 5.226          | 2.535                      | 10.773 |
| Size of local government                 | 0.996          | 0.989                      | 1.003  |

*Source: The data processed and systematized by the authors of the paper*

The odds ratio of management innovations corresponds to 4.599. It may be said that with each increase of the Implementation of management innovations variable by one mark the odds ratio that the Effectiveness of local government units is in a higher category (as compared to a lower category) is increased 4.599 times. The ratio for the Implementation of other innovations variable corresponds to 5.226, and it implies that with each increase of Implementation of other innovations variable by one mark, the odds ratio that the Effectiveness of local government units is in a higher category increases 5.226 times.

Since both variables have a statistically significant impact on the effectiveness of local government units, it can be concluded that the implementation of management innovations indirectly affects the effectiveness of local government units through the partially mediating influence of the implementation of other innovations variable. Full mediation is achieved when the initial predictor effect on the criterion disappears in the presence of mediating variables (Baron, Kenny, 1986, Shrout, Bolger, 2002).

The results gained here in testing the hypothesis (H2) indicate the importance of implementation of management innovations not only for the effectiveness of local government units but also the importance of implementation of this type of innovation due to its influence on more efficient



implementation of other types of innovations, through which it may have an effect on the achievement of greater effectiveness.

**H3: Implementation of management innovations has a positive effect on the effectiveness of the local government units.**

Table 7 shows that the coefficient of the Implementation of management innovations variable is statistically significant ( $p < 0.0001$ ). The control Size of local government units variable does not achieve a statistically significant impact ( $p = 0.5115$ ) on the Effectiveness of local government units variable. Table 8 indicates the nature of implementation of management innovations on effectiveness.

*Table 7 Analysis of maximum likelihood*

| Parameter                                |   | DF | Estimate | Standard Error | Wald Chi-Square | Pr > ChiSq |
|--|---|----|----------|----------------|-----------------|------------|
| Intercept                                | 5 | 1  | -6.7983  | 1.0777         | 39.792          | <.0001     |
| Intercept                                | 4 | 1  | -4.7917  | 0.8228         | 33.9141         | <.0001     |
| Intercept                                | 3 | 1  | -2.588   | 0.6625         | 15.259          | <.0001     |
| Intercept                                | 2 | 1  | 0.4117   | 0.7595         | 0.2938          | 0.5878     |
| Implementation of management innovations |   | 1  | 1.5079   | 0.3035         | 24.6866         | <.0001     |
| Size of local government units           |   | 1  | -0.00217 | 0.00331        | 0.4309          | 0.5115     |

*Source: The data processed and systematized by the authors of the paper*

*Table 8 Odds ratio estimates*

| Effect                                   | Point Estimate | 95% Wald Confidence Limits |       |
|--|----------------|----------------------------|-------|
|  |                |                            |       |
| Implementation of managerial innovations | 4.552          | 2.504                      | 8.273 |
| Size of local government units           | 0.998          | 0.991                      | 1.004 |

*Source: The data processed and systematized by the authors of the paper*

The odds ratio for the Implementation of management innovations variable corresponds to 4.552. It can be deduced that with each increase of Implementation of management innovations variable by one mark, the likelihood that the effectiveness of local government unit will be in a higher category increases 4.552 times. It means that for each better implementation of management innovations (better mark) the effectiveness will also be improved. By proving the hypothesis regarding the positive effect of implementation of managerial innovations on the effectiveness of local government units, it can be concluded that the implementation of new concepts and management methods can have an impact on the greater effectiveness of local government units.

## 5. Discussion and conclusion

The area of management innovation is generally unexplored. This research has broadened the empirical research base regarding the public sector, since research to date has poorly addressed this type of innovation in the public sector. The testing of model of effectiveness of management innovation has confirmed the postulated hypotheses, which emphasises the importance and necessity for more intensified research of those innovations.

The empirical research reported herein confirms the influence that management innovations has in the following aspects of organizational success, specifically on an organization in the public sector, i.e. local government units: the ratio of the value of the budget and expenditure for employees, user satisfaction with offered services (satisfaction of entrepreneurs with services offered by local government units) and absorption of EU funds. Current literature from the area of innovation indicates the importance of management innovations for organizational success, and the positive influence of the implementation of management innovations on the effectiveness of local government units has, in this paper, confirmed and strengthened this claim. This relationship between management innovations and success has been confirmed on the sample of the public sector in the present work where management innovations have been shown important.

Besides direct relationship with effectiveness, this paper also assumes that the implementation of management innovations will achieve an indirect relationship by having an influence on the greater degree of implementation of other innovations (Armbruster et al., 2008, Kirner et al., 2008, Volberda et al., 2013, Grčić Fabić et al., 2016). This dual relationship of management innovations and organizational effectiveness, i.e. successfulness, has been confirmed in this paper and is consistent with existing empirical research, albeit with regard to organizations in the private sector (Starpoli, 1998, Polder, 2010, Gunday et al., 2011, Černe, 2013). The current research confirms this relationship in the case of the public sector. With the implementation of management innovations the presumption for a successful implementation of other types of innovation arises, such as are for example new ways of realization of services by introducing information-communication technologies, the way of realisation of services in the collaboration with external partners, new way of communication with citizens etc.

Results of the research speak in favour of the application of a rational perspective during the implementation, and therefore the adoption of management innovations in the public sector, which follows from the assumption that individuals within an organization are responsible for introducing management innovations with the aim of achieving better performance for the organization. However, when interpreting the results of the research it is necessary to take into account institutional theory which is based on the assumption that adopting innovation and changes is primarily in order to achieve legitimacy and in order to satisfy the expectations of many stakeholders. In Croatia, as in many other countries of Central and Eastern Europe, during the past 20 years intensive reforms of the public sector were, and are still being, implemented and whose aim is to increase efficiency and effectiveness, including the reform of state administration, regional and local government. Therefore it may be concluded that in the local government pressure for changes is expressed, and that such requirements influence the introduction and implementation of management innovations in the observed towns and municipalities. This type of institutional pressure refers to the example of coercive isomorphism. It can be concluded that the average total degree of implementation of management innovations is low (average mark 2.30). Exactly such an achieved result may indicate the impact of institutional pressure since it is expected that adopted innovations should have a higher level of

success in the implementation, even though a positive impact has been shown for the measures of effectiveness. Probably the achievement of higher levels of implementation of management innovations would also improve the impact on effectiveness.

The results of this research are in accordance with the theoretical approach which combines, i.e. takes into consideration, the assumptions of rational and institutional approaches, i.e. fashionable perspectives in explaining organizational changes and their effect on success. Such an approach rests on the assumption that organizational changes are adopted and implemented due to political, but also technical reasons and that public managers would like to satisfy the requirements of formal legitimacy, but also strives to achieve good results (Berrone et al., 2007, Ashworth et al., 2009).

The research results obtained here emphasise the importance of implementation of management innovations in conditions where intensive demands for achieving greater success are directed towards the public sector, i.e. rationalisation of operating expenses, greater quality of public services and professional management personnel. With the effective implementation of management innovations it is possible to achieve greater efficiency in planning processes and implementation of potential projects. Implementation of new methods of management improve the processes of strategic planning, project management and processes for the performance evaluation. Also, with the implementation of management innovations greater user satisfaction for offered services is achieved.

Management innovations are an important complement during the implementation of other types of innovations such as service innovations and process innovations. For example, this might refer to the implementation of tools based on ICT technology. Therefore, public managers should consider management innovation as factor and prerequisite for easier and more successful implementation of changes, which are inevitable in Croatian local government.

Limitations, and therefore directions for future research, mainly refer to the non- implementation of longitudinal research. Estimation of the effect of implementation of management innovations on the measures of success of an organization that implements them requires the conduction of longitudinal research since the creation and implementation of innovation represents a continuous process, making the measurement of results of management innovations more difficult. Furthermore, the model should also preferably be tested in other countries, in different surroundings, which would enable other variables to also be included in the model which would take into consideration the context within which management innovations are implemented. That would amplify the interpretive power of the model, and a generalisation of the model could be achieved as well as the area of management innovations significantly advanced.

## REFERENCES

- Androniceanu, A. (2014): *Absorption of the structural funds by the local administration of Bucharest*, Administration and Public Management Review, No. 23, pp. 36-45.
- Annerstedt, P., Björkbacka, R. (2010): *Feasibility study of public sector organizations*, Statistics Sweden, Sweden.

Anton, S., Onofrei, M. (2016): *Public Policies to Support Entrepreneurship and SMEs. Empirical Evidences from Romania*, Transylvanian Review of Administrative Sciences, No. 47, pp. 5-19.

Armbruster, H., Bikfalvi, A., Kinkel, S., Lay, G. (2008): *Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys*, Technovation, Vol. 28, No. 10, pp. 644-657.

Ashworth, R., Boyne, G., Delbridge, R. (2009): *Escape from the Iron Cage? Organizational Change and Isomorphic Pressures in the Public Sector*, Journal of Public Administration Research and Theory, Vol. 19, No. 1, pp. 165-187.

Baranano, A. (2003): *The non-technological side of technological innovation: State-of-the-art and guidelines for further empirical research*, International Journal of Entrepreneurship and Innovation Management, Vol. 3, No. 1-2, pp. 107-125.

Baron, R. M., Kenny D. A. (1986): *The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations*, Journal of Personality and Social Psychology, Vol. 51, No. 6, pp. 1173-1182.

Berrone, P., Gelabert, L., Fosfuri, A., Gómez-Mejía, L. R. (2007): *Can institutional forces create competitive advantage? An empirical examination of environmental innovation*, Working Paper, University of Navarra, Navarra.

Birkinshaw, J. Mol, M. (2006): *How Management Innovation Happens*, MIT Sloan Management review, Vol. 47, No. 4, pp. 81 – 88.

Birkinshaw, J., Hamel, G., Mol, M. (2008): *Management innovation*, Academy of Management Review, Vol. 33, No. 4, pp. 825-845.

Bloch, C. (2010): *Towards a conceptual framework for measuring public sector innovation. Module1 – Conceptual Framework*, Danish Agency for Science, Technology and Innovation, Denmark.

Camisón, C., Villar-López, A. (2012): *Organizational innovation as an enabler of technological innovation capabilities and firm performance*, Journal of Business Research, Vol. 67, No. 1, pp. 2891-2902.

Černe, M. (2013): *A Multilevel Approach in examining non-technological innovation*, Ph.D. diss., University of Ljubljana, Faculty of Economics, Ljubljana.

Damanpour, F., Szabat, K. A., Evan William, M. (1989): *The relationship between types of innovation and organizational performance*, Journal of Management Studies, Vol. 26, No. 6, pp. 587-602.

Danaher, P. J., Mattsson, J. (1994): *Customer satisfaction during the service delivery process*, European Journal of Marketing, Vol. 28, No. 5, pp. 5-16.

Gebauer, H. (2011): *Exploring the contribution of management innovation to the evolution of dynamic capabilities*, Industrial Marketing Management, Vol. 40, No. 8, pp. 1238-1250.

Gera, S., Gu, W. (2004): *The Effect of Organizational Innovation and Information Technology on Firm Performance*, International Performance Monitor, No. 9, pp. 37-51.

Grčić Fabić, M., Zekić, Z., Samaržija, L. (2016): *Implementation of management innovation – a precondition for the development of local government effectiveness: evidence from Croatia*, Administration and Public Management Review, No. 27, pp. 7-29.

Gunday, G., Ulusoy, G., Kilic, K., Alpkan, L. (2011): *Effects of Innovation Types on Firm Performance*, International Journal of Production Economics, Vol. 133, No. 2, pp. 662–676.

Hamel, G. (2011): *First, 'Let's Fire All the Managers*, Harvard Business Review, Vol. 89, No. 12, pp. 48-60.

Kirner, E., Som, O., Armbruster, H., Lay, G., Zhou, W. (2008): *Measuring organisational innovation – concepts, indicators and outcomes*, in: 6 CP Workshop-Non-Technical Innovations – Definitions, Measurement and Policy Implications, Proceedings, Karlsruhe: Fraunhofer Institute for Systems and Innovation Research (ISI).

Kossek, E. E. (1987): *Human resources management innovation*, Human Resource Management, Vol. 26, No. 1, pp. 71–92.

Leisen, B., Vance, C. (2001): *Cross National Assessment of Service Quality in the Telecommunication Industry: Evidence from the USA and Germany*, Managing Service Quality: An International Journal, Vol. 11, No. 5, pp. 307-317.

Linderman, K., Schroeder, R. G., Zaheer, S., Liedtke, C., Choo, A. S. (2004): *Integrating quality management practices with knowledge creation processes*, Journal of Operations Management, Vol. 22, No. 6, pp. 589–607.

Mele, C., Colurcio, M. (2006): *The evolving path of TQM: towards business excellence and stakeholder value*, International Journal of Quality and Reliability Management, Vol. 23, No. 5, pp. 464-489.

Mol, M., Birkinshaw, J. (2009): *The sources of management innovation: When firms introduce new management practices*, Journal of Business Research, Vol. 62, No. 12, pp. 1269-1280.

Mol, M., Birkinshaw, J. (2012): *Relating management innovation to product and process innovation: Private rents versus public gains*, in Pitsis, T.S., Simpson, A., Dehlin, E., ed.: Handbook of organizational and managerial innovation, Edward Elgar Publishing Limited, Cheltenham, UK, pp. 13-35.

Nicolescu, O., Nicolescu C. (2013): *Entrepreneurs' Perceptions of the State Implication in the Business Environment Modelling in Romania*, Transylvanian Review of Administrative Sciences, No. 38, pp. 106-124.

OECD (2005): *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd Edition 2005:

<http://www.oecd.org/sti/inno/oslomanualguidelinesforcollectingandinterpretinginnovationdata3rdedition.htm> (accessed February 2016)

Polder, M. (2010): *Product, Process and Organizational Innovation: Drivers, Complementarity and Productivity Effects*, UNU-MERIT working paper series, UNU-MERIT, Maastricht Economic and Social Research and Training Centre on Innovation and Technology, Maastricht.

Rogers, E. M., Shoemaker, Floyd, F. (1971): *Communication of innovations: A cross-cultural approach*, Macmillan, New York.

Rutgers, M. R., Van der Meer, H. (2010): *The Origins and Restriction of Efficiency in Public Administration: Regaining Efficiency as the Core Value of Public Administration*, Administration & Society, Vol. 42, No. 7, pp. 755–79.

Shrout, P. E., Bolger, N. (2002): *Mediation in experimental and nonexperimental studies: New procedures and recommendations*, Psychological Methods, Vol.7, No. 4, pp. 422–445.

Staropoli, C. (1998): *Cooperation in R&D in the pharmaceutical industry - The network as an organizational innovation governing technological innovation*, Technovation, Vol. 18, No. 1, pp. 13-23.

Tidd, J. (2001): *Innovation management in context: Environment, organization and performance*, International Journal of Management Reviews Vol. 3, No. 3, pp. 169–183.

Vaccaro, I. G., Jansen, J. J. P., Van Den Bosch, F. A.J., Volberda, H. W. (2012): *Management Innovation and Leadership: The Moderating Role of Organizational Size*, Journal of Management Studies, Vol. 49, No. 1, pp. 28–51.

Volberda, H. W., Van Den Bosch, F. A. J., Heij, C. V. (2013): *Management innovation: Management as fertile ground for innovation*, European Management Review, Vol. 10, No. 1, pp. 1–15.

Walker, R. M. (2006): *Innovation type and diffusion: An empirical analysis of local government*, Public Administration, Vol. 84, No. 2, pp. 311-335.

Walker, R. M., Damanpour, F., Devece, C. A. (2011): *Management Innovation and Organizational Performance: The Mediating Effect of Performance Management*, Journal of Public Administration Research and Theory, Vol. 21, No. 2, pp. 367-386.

Yeh-Yun Lin, C., Yi-Ching Chen M. (2007): *Does innovation lead to performance? An empirical study of SMEs in Taiwan*, Management Research News, Vol. 30, No. 2, pp. 115-132.

Yuksel, A., Rimmington, M. (1998): *Customer satisfaction measurement*, Cornell Hospitality Quarterly, Vol. 39, No. 6, pp. 60-70.

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## **ISSUES AND CHALLENGES FACED BY RE-STARTERS IN CREATING NEW BUSINESSES IN EU28**

### **PROBLEM I IZAZOVI S KOJIMA SE SUSREĆU NOVI PODUZETNICI U EU28**

#### **ABSTRACT**

*Small and medium enterprises (SME) presents the backbone of the European economy. Particular micro enterprises accounted for almost 93% of all enterprises in the non-financial business sector and generated for 37% of the growth in total employment in 2015. In recent years micro and young SMEs of no more than nine years of age were the main net employment creators. But, as new businesses being born every year, many of them fail in their early years. Some were closed voluntarily, while many of them were liquidated or went bankrupt. Moreover, despite previous business failure, many entrepreneurs, so called re-starters would like to create a new business, but they face numerous obstacles in doing so. Consequently, it produces negative effects on economic growth and employment creation in the European economy. In response to such concerns and to stimulate entrepreneurship, the European Commission launched in 2014 Recommendation on a new approach to business failure and insolvency, following a second chance principle of the Small Business Act for the Europe adopted in 2008. Using newly gathered data from the SME Performance Review Annual Report on European SMEs 2015/2016 and Special Study accompanying Annual Report, this paper outlines the main features and challenges faced by re-starters. The results of this study suggests that further progress in implementing the second chance principle, primarily, reducing the discharge from bankruptcy for honest entrepreneurs is essential in creating new businesses.*

**Key words:** *Small and medium enterprises, re-starters, second chance principle, new business*

#### **SAŽETAK**

*Mala i srednja poduzeća predstavljaju okosnicu europskog gospodarstva. Osobito mikro poduzeća koja čine 93% svih poduzeća u nefinancijskom poslovnom sektoru i generiraju 37% rasta u ukupnoj zaposlenosti u 2015. godini. Proteklih godina, mikro i mlada mala i srednja poduzeća koja nisu starija od devet godina bila su glavi pokretači zaposlenosti. Prirodno je da kako se nova poduzeća svake godine osnivaju, dio poduzeća odlazi u stečaj, likvidira se ili gasi. No, unatoč prethodnim poslovnim promašajima ili neuspjesima, veliki broj poduzetnika, tzv. novih poduzetnika, imaju volju ponovno se okušati u poduzetništvu. No, u tom pokušaju suočeni su s veliki problemima i izazovima. Posljedice takovih problema su negativni pokazatelji ekonomskog rasta i zaposlenosti u cjelokupnoj europskoj ekonomiji. S ciljem stimuliranja poduzetništva, Europska komisija je 2014. godine objavila Recommendation on a new approach to business failure and insolvency, slijedeći Second Chance principle iz Small Business Act for*



*the Europe koji je usvojen 2008. godine. Koristeći najnovije podatke iz SME Performance Review Annual Report on European SMEs 2015/2016 i Special Study accompanying Annual Report, ovaj rad naglašava glavne probleme i izazove s kojima se susreću novi poduzetnici. Rezultati ovoga rada ukazuju na daljnji napredak u implementaciji Second Chance principle, prvenstveno na smanjivanje razdoblja potrebnog da se okonča stečajni postupak koji je neophodan u cilju stvaranja novih poduzetnika i novih poduzeća.*

**Ključne riječi:** mala i srednja poduzeća, novi poduzetnici, načelo druge prilike, nova poduzeća

## 1. Introduction

A second chance policy that enables entrepreneurs who experienced business failure restart may represent one of the most promising issues in creating new businesses. Commission *Communication*<sup>1</sup> from 2007 recognized and underlined that a less harsh environment towards bankruptcy and bankrupt entrepreneurs would facilitate a more entrepreneurial Europe especially among former bankrupt entrepreneurs. A year after, building on this Communication from 2007, the European Commission launched *Small Business Act for the Europe*<sup>2</sup> devoted the second of its ten principles in promoting the second chance for entrepreneurs who have failed. In order to turn principles into policy actions, according to second principle Member States are invited to "Ensure that honest entrepreneurs who have faced bankruptcy quickly get a second chance". Member States are also invited to promote a positive attitude in society towards giving entrepreneurs a fresh start, aim to complete all legal procedures to wind up the business in the case of non-fraudulent bankruptcy within a year and to ensure that re-starters are treated as equal as new start-ups. In 2011 European Commission presented *A second chance for entrepreneurs: prevention of bankruptcy, simplification of bankruptcy procedures and support for a fresh start*<sup>3</sup> in which explained separate conclusions for each of the four consecutive sub-areas that compose the bankruptcy process. All four sub-areas includes bankruptcy process from the beginning when the company starts experiencing financial problems (early warning systems, support mechanisms) until the company is either made out of court settlements or if it is not possible to reorganize a company out of court, then the company is re-organised through formal court procedures or liquidated. The last sub-area emphasised the importance of a clear distinction between honest but unlucky and dishonest or fraudulent bankrupts. Further, despite the fact that only 4-6% of bankruptcies are fraudulent, public opinion makes a strong link between business failure and fraud<sup>4</sup>. Formerly bankrupt but honest entrepreneurs are stigmatised through social perception as dishonest, failed entrepreneurs. Looking ahead, it is important to enable honest entrepreneurs who experienced business failure a second chance in creating new businesses. In response to such concerns and to stimulate entrepreneurship, the European Commission in 2014 launched *Recommendation on a new approach to business failure and insolvency*<sup>5</sup>. The objective of this Recommendation was to ensure that viable enterprises in financial difficulties (at early

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<sup>1</sup> COM(2007) 584 final: Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – Overcoming the stigma of business failure – for a Second Chance policy, Implementing the Lisbon Partnership for Growth and Jobs

<sup>2</sup> COM(2008) 394 final: Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "Think Small First" A "Small Business Act" for Europe

<sup>3</sup> European Commission: Report of the expert group: A second chance for entrepreneurs: prevention of bankruptcy, simplification of bankruptcy procedures and support for a fresh start, 2011

<sup>4</sup> Flash Eurobarometer 192 "Entrepreneurship Survey of the EU (25 Member States), United States Iceland and Norway" (2007) and Flash Eurobarometer 283 "Entrepreneurship in the EU and beyond" (2009)

<sup>5</sup> C(2014) 1500 final: Commission recommendation on a new approach to business failure and insolvency

stage), with the support of national insolvency framework, opportunity to restructure their business with aim to prevent their insolvency. The Recommendation also aimed to give honest bankrupt entrepreneurs a second chance in creating new businesses.

The importance of a fair and quick second chance principle is not appropriately recognized by national legislations. Implementation of Second chance principle in Croatia is below the EU average. The time and relative cost of resolving insolvency put Croatia among the five last performers in the EU with regard to these two indicators. According to latest European Commission key points about Croatia, the 'Pre-bankruptcy Settlement Law' focused on easing and speeding up insolvency and bankruptcy procedures, has not yet yielded desired results. Further, no specific measures have been implemented in order to help businesses to avoid failure. Also, there is lack of nationwide awareness-raising campaigns or similar initiatives to resolve the stigma of business failure. The most important and concerning fact is there are no significant new 'second chance' policy measures addressing the re-start for 'Second chance' entrepreneurs<sup>6</sup>. This paper is closely linked to the survey of the European Commission and their initiatives to better understanding of the insolvencies of SMEs and the role of Second Chance. Using newly gathered data from the SME Performance Review Annual Report on European SMEs 2015/2016 and Special Study accompanying Annual Report, this paper outlines the main features and challenges faced by re-starters.

The paper is divided into four sections, including an introduction and concluding remarks. In the following section the related literature in the context of the second chance principle is analysed. A comparative analysis of EU28 and Croatia is discussed in Section 3. Finally, the concluding remarks are presented in Section 4.

## 2. Literature review

Small and medium enterprises (SME) presents the backbone of the European economy. Particular micro enterprises accounted for almost 93% of all enterprises in the non-financial business sector and generated for 37% of the growth in total employment in 2015. In recent years micro and young SMEs of no more than nine years of age were the main net employment creators. But, as new businesses being born every year, many of them fail in their early years<sup>7</sup>. Some were closed voluntarily, while many of them were liquidated or went bankrupt. Most of the time business failure is not due to the incompetence of the entrepreneurs but to external circumstances<sup>8</sup>. Further, in many countries, national legislation and support programmes do not distinguish between honest and dishonest entrepreneurial failure. Consequently, all above mentioned produces negative effects on economic growth and employment creation in the European economy. Furthermore, unfavourable macroeconomic conditions are negatively related with the life satisfaction. Therefore, it is important for better understanding of the factors affecting SMEs survival. Moreover, despite previous business failure, many entrepreneurs, so called re-starters would like to create a new business, but they face numerous obstacles in doing so. In order to promote economic recovery, the Commission has identified the key role of judicial reforms, including reforms of national insolvency laws. In January 2013 the Commission adopted the *Entrepreneurship 2020 Action Plan*<sup>9</sup> where the Member States are invited, among others, to reduce when possible, the discharge time and debt settlement for an honest

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<sup>6</sup> European Commission: 2016 SBA Fact Sheet Croatia

<sup>7</sup> European Commission: SME performance review 2014/2015

<sup>8</sup> European Commission: Report of the expert group: A second chance for entrepreneurs: prevention of bankruptcy, simplification of bankruptcy procedures and support for a fresh start, 2011

<sup>9</sup> COM(2012)795 final

entrepreneur after bankruptcy to a maximum of three years by 2013 and to offer support services to businesses for early restructuring, advices to prevent bankruptcies and support for SMEs to restructure and re-launch<sup>10</sup>. In Croatia, the ‘Fundamental Act on Bankruptcy’ has been adopted, but often legal procedures connected to bankruptcy are not completed within a year, and discharge from bankruptcy takes more than three years<sup>11</sup>. The aforementioned is further evidenced by the European Commission’s *Recommendation on a new approach to business failure and insolvency*, launched in 2014. The objective of this Recommendation was to encourage Member States to put in place a restructuring framework for viable enterprises in financial difficulty and to give honest entrepreneurs a second chance, in order to promote entrepreneurship, investment and employment. This Recommendation aimed on providing a preventive restructuring frameworks and discharge of debts of bankrupt entrepreneurs. Those steps are taken to reduce negative effects of bankruptcy on entrepreneurs in particular the social stigma, legal consequences and the on-going inability to pay off debts, followed by discharged of their debts which were subject of a bankruptcy after no later than three years. As stated in *A new European approach to business failure and insolvency*<sup>12</sup> the ‘time to discharge’, which is the time from when a company is bankrupt (liquidation) and when it can restart its business, is one of the most crucial issues for the opportunity to restart. Furthermore, evidence shows that entrepreneurs who have gone bankrupt have more chance to be successful the second time<sup>13</sup>. According to *Bankruptcy and second chance for honest bankrupt entrepreneurs* (2014)<sup>14</sup> there are hardly any statistics available on how many entrepreneurs have started a new company after their bankruptcy. Calogirou et al. (2011)<sup>15</sup> stated that second chance represent the re-start of entrepreneurial activities by formerly bankrupt or failed entrepreneurs. Armour and Cumming (2008)<sup>16</sup> researched the impact of the “friendliness” of the bankruptcy regime in a number of European countries on different measures of self-employment. Authors concluded that more entrepreneur-friendly bankruptcy laws (in terms of the possibility of getting discharge) lead to higher levels of entrepreneurship through a higher number of self-employment. Wagner, J. (2002)<sup>17</sup> stated that Germany suffers from a gap in self-employment with a level of entrepreneurial activity that is too low compared to other developed industrial countries. Author concluded that one of the reason lies in a business culture which stigmatising entrepreneurs who tried but failed, so called “stigmatization of failure”. In his paper, author documented that 18 percent of firm owners founded a firm in the past that went bankrupt. Furthermore, author found that 23 percent of all nascent entrepreneurs are failed entrepreneurs, and that 8 percent of people who went out of business with their former firm are actively engaged in starting a new business in the time of survey. According to the evidence reported in paper, about one in five active owners and nascent entrepreneurs is a failed entrepreneur. These failed entrepreneurs, therefore, form a considerable part of entrepreneurial population in Germany. Author concluded that,

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<sup>10</sup> Commission staff working document impact assessment: Accompanying the document Commission Recommendation on a New Approach to Business Failure and Insolvency, C(2014) 1500 final

<sup>11</sup> European Commission: 2016 SBA Fact Sheet Croatia

<sup>12</sup> COM(2012) 742 final A new European approach to business failure and insolvency

<sup>13</sup> C(2014) 1500 final Commission staff working document impact assessment: Accompanying the document Commission Recommendation on a New Approach to Business Failure and Insolvency

<sup>14</sup> Bankruptcy and second chance for honest bankrupt entrepreneurs, Ecorys for EC - DG Enterprise & Industry, 2014

<sup>15</sup> Calogirou, C., Fragozidis, K., Houdard-Duval, E., Perrin-Boulonne, H. (2010) Business Dynamics: Start-ups, Business Transfers and Bankruptcy, PLANET S.A., CCIP, DTI and GFA, Published in 2011 by th European Commission, DG Enterprise and Industry. IMAM CIJELO ISTRAŽIVANJE

<sup>16</sup> Armour, J. and D. Cumming (2008), Bankruptcy Law and Entrepreneurship. American Law and Economics Review V10 N2 2008 (303-350).

<sup>17</sup> Wagner, J. (2002): Taking a Second Chance: Entrepreneurial Restarters in Germany, IZA Discussion Paper No. 417, <http://papers.ssrn.com/abstract=297094>

restarts, therefore, matter. Gupta and Gregoriou (2015)<sup>18</sup> acknowledged that determinants and predictions of bankruptcy and financial distress are different across different size categories of SME. Estimated determinants also differ between models of bankruptcy and financial distress. So, it is important to distinguish these two defaults. Using annual firm-level data of the United States small and medium sized enterprises in period from 1990 to 2014 authors concluded that survival probability increases with increasing firm size and firms in different size categories of SMEs have different determinants of bankruptcy, while factors affecting financial distress are mostly invariant. Although, the scale of effect for significant variables changes across the size categories of both bankrupt and financially distressed firms. Authors evidenced that earnings and the ratio of assets to liabilities are only important for the largest size of firms. Financial expenses are found to be important, but the size of effect varies, especially in regard to micro firms. Capital growth found to be a consistent signal that firms are less likely to file for bankruptcy or to become financially distressed. Results confirmed that firms with greater cash flow and short term investments are less likely to face financial distress. Contrary, taxes are consistently found to have an effect in the case of financial distress but not in the case for bankruptcy, where only the model across SMEs as a whole provides evidence of a significant effect. Authors also evidenced that the effect of the ratio of current assets to liabilities is different in its effect across different classes of firm in predicting financial distress. According to authors, the value of trade debt predicts financial distress, while the value of trade credit is reduced as a firm appears more likely to go bankrupt. Consequently, it is prevalent that business failures are followed by unemployment and decline in economic growth. Furthermore, the most recent economic crisis in Europe has accompanied considerable losses in life satisfaction particularly in several Mediterranean countries (Veenhoven, R., (2013)<sup>19</sup>, Veenhoven, R. et al, (2014)<sup>20</sup>) where regional unemployment rates reached 35%. Hence, in the next chapter, the main issues and challenges faced by re-starters in EU and Croatia are analysed.

### **3. A comparative analysis of issues and challenges faced by re-starters in creating new businesses in EU and Croatia**

As explained in the previous section, in order to reduce a negative effects of bankruptcy on entrepreneurs, followed by the Second Chance principle, entrepreneurs should be fully discharged of their debts which were subject of a bankruptcy after no later than three years. For this reason the time to discharge, expressed in years, ranking by the mean in period 1990-2015, including all EU Member States are presented in Figure 1.

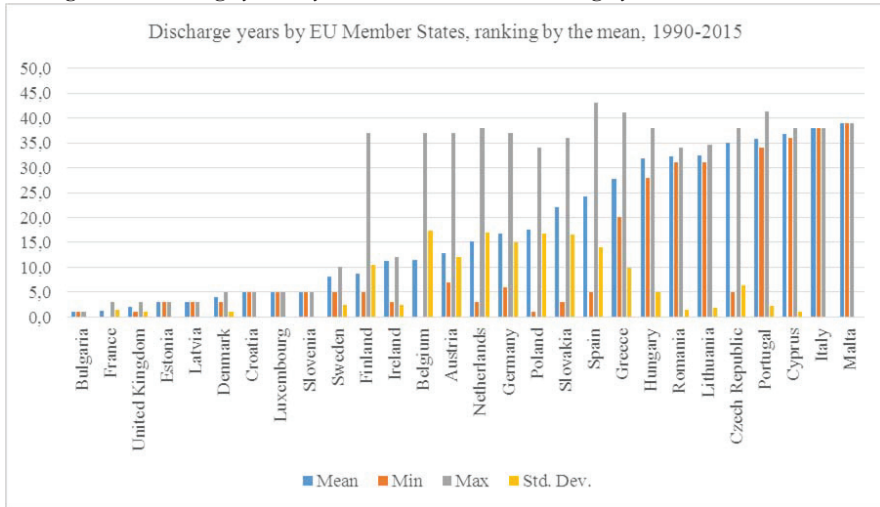
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<sup>18</sup> Gupta, J., Gregoriou, A., (2015): Bankruptcy and Financial Distress in US Small and Medium Sized Enterprises, <http://ssrn.com/abstract=2638485>

<sup>19</sup> Veenhoven, R. (2013). Happiness in Nations. World Database of Happiness, Erasmus University Rotterdam <https://personal.eur.nl/veenhoven/Pub1990s/93b-part1.pdf>

<sup>20</sup> BurgerVeenhoven, R., Arampatzi, E., Burger Martijn J.,(2014): Financial Distress and Happiness of Employees in Times of Economic Crisis, <http://ssrn.com/abstract=2463162>

**Figure 1** Discharge years by EU Member States, ranking by the mean, 1990-2015



Source: *Special Study: Insolvencies and SMEs: the role of Second Chance*

Figure 1, shows that the discharge time varies greatly from country to country. In some countries like Belgium, France, Poland, Bulgaria, and United Kingdom, honest business bankruptcies are discharge immediately after liquidation is finished. In these countries discharge period is equal to 0 or 1. In Denmark, Slovakia, Ireland, Estonia and Latvia discharge period is minimum three years. In some countries like Malta, Italy, Cyprus, Portugal, Lithuania, Romania, Hungary and Greece bankrupted companies cannot obtain discharge. When it comes to Croatia, discharge period is minimum and maximum five years, putting Croatia among countries in which discharge from bankruptcy is not achieved in 3 years or less. Nonetheless, Croatia did not implemented second chance policy measures and it remains a major issue to SMEs in Croatia.

In Table 1, two impacts are estimated: the impact of reducing the current level of discharge years to the level suggested by Second Chance, and the impact of reducing the current level of discharge years to one year.

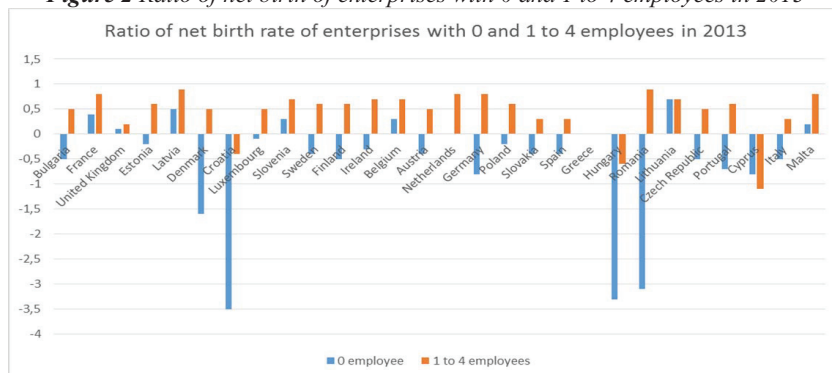
**Table 1** Projections of potential changes in number of SMEs as reducing the years to discharge

| Country        | New businesses (latest year available) | Years to discharge (2015) | Differential from suggested Second Chance years (3) | Differential from minimum years (0) | Potential increase in number of new businesses due to implementing Second Chance (i.e. 3 years) | % increase | Potential increase in number of new businesses due to implementing discharge in a year | % increase |
|----------------|--|---------------------------|---|-------------------------------------|---|------------|--|------------|
| Austria        | 4181                                   | 7                         | -4  | -7                                  | 601   | 14%        | 902  | 22%        |
| Belgium        | 14897                                  | 0                         | 3   | 0                                   | n.a.  | n.a.       | n.a.   | n.a.       |
| Bulgaria       | 42613                                  | 1                         | 2   | -1                                  | n.a.  | n.a.       | 127  | 0%         |
| Croatia        | 13073                                  | 5                         | -2  | -5                                  | 149   | 1%         | 298  | 2%         |
| Cyprus         | 11169                                  | 38                        | -35   | -38                                 | 525   | 5%         | 555  | 5%         |
| Czech Republic | 24366                                  | 5                         | -2  | -5                                  | 370   | 2%         | 739  | 3%         |
| Denmark        | 15806                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 199  | 1%         |
| Estonia        | 13867                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 46   | 0%         |
| Finland        | 11961                                  | 5                         | -2  | -5                                  | 192   | 2%         | 385  | 3%         |
| France         | 94927                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 2330   | 2%         |
| Germany        | 68526                                  | 6                         | -3  | -6                                  | 4256  | 6%         | 7093   | 10%        |
| Greece         | 5761                                   | 41                        | -38   | -41                                 | 3555  | 62%        | 3742   | 65%        |
| Hungary        | 24490                                  | 38                        | -35   | -38                                 | 6078  | 25%        | 6425   | 26%        |
| Ireland        | 17601                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 162  | 1%         |
| Italy          | 91853                                  | 38                        | -35   | -38                                 | 37453   | 41%        | 39593  | 43%        |
| Latvia         | 13991                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 70   | 1%         |
| Lithuania      | 8481                                   | 34.7                      | -31.7   | -34.7                               | 1634  | 19%        | 1737   | 20%        |
| Luxembourg     | 2224                                   | 5                         | -2  | -5                                  | 19  | 1%         | 37   | 2%         |
| Malta          | 5062                                   | 39                        | -36   | -39                                 | 271   | 5%         | 286  | 6%         |
| Netherlands    | 58900                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 595  | 1%         |
| Poland         | 14434                                  | 1                         | 2   | -1                                  | n.a.  | n.a.       | n.a.   | n.a.       |
| Portugal       | 31860                                  | 41.3                      | -38.3   | -41.3                               | 7010  | 22%        | 7377   | 23%        |
| Romania        | 56381                                  | 34                        | -31   | -34                                 | 10857   | 19%        | 11558  | 20%        |
| Slovakia       | 12027                                  | 3                         | 0   | -3                                  | n.a.  | n.a.       | 191  | 2%         |
| Slovenia       | 6243                                   | 5                         | -2  | -5                                  | 73  | 1%         | 145  | 2%         |
| Spain          | 91544                                  | 5                         | -2  | -5                                  | 1637  | 2%         | 3274   | 4%         |
| Sweden         | 42063                                  | 5                         | -2  | -5                                  | 341   | 1%         | 683  | 2%         |
| United Kingdom | 537658                                 | 1                         | 2   | -1                                  | n.a.  | n.a.       | n.a.   | n.a.       |

Source: Special Study: Insolvencies and SMEs: the role of Second Chance

As shown in the table, according to the latest years to discharge from bankruptcies, some countries already have a period to discharge of less than 3 years. For countries where the discharge period is above recommended years, potential increase in number of new businesses due to implementing second chance measure is respective. In Croatia, 149 new businesses would be born if second chance measure would be implement. Decreasing years to discharge from three to a year, another 298 new businesses would be born in Croatia. Moreover, it is appreciable number because according to Figure 2, ratio of net birth of enterprises with 1 to 4 employees in 2013 is positive in all but three Member States, namely Croatia, Cyprus and Hungary.

**Figure 2** Ratio of net birth of enterprises with 0 and 1 to 4 employees in 2013



Source: Annual Report on European SMEs 2015/2016

Figure 2, shows that the average net birth ratio across Member States was only 0.5 for enterprises with 1 to 4 employees. This indicates that two new firms with 1 to 4 employees have to be born in order to increase the overall number of firms by 1. For enterprises with 0 employee, the average net birth ratio across Member States was -0,6. Only eight Member States, namely, France, United Kingdom, Latvia, Slovenia, Lithuania, Belgium, Malta and Netherlands (0%) has positive average net birth ratio of enterprises with 0 employee. In Croatia the average net birth ratio for enterprises with 1 to 4 employees was -0,4 and for enterprises with 0 employee it was -3,5. This negative net birth rate in both category implies high mortality rates of enterprises in Croatia. Furthermore, the evidence suggests that the length of the discharge period and no significant new policy measures addressing the 'second chance' has a negative and important impact on the creation of new businesses, particularly in Croatia.

#### 4. Conclusion

As stated in previous sections, as new businesses being born every year, many of them fail in their early years. This paper highlights the major problems faced by entrepreneurs in attempt to create new business. Although, there any statistics available about number of entrepreneurs who have started a new company after their bankruptcy, the available literature and statistics shows that although micro enterprises accounted for almost 93% of all enterprises in the non-financial business sector and generated for 37% of the growth in total employment, the average ratio of net birth of enterprises was generally much lower than one. High death rate of micro enterprises produces negative effects on economic growth and employment creation in the European economy. Consequently, new businesses needs to be born. The existing EU framework in the area of promoting second chances for entrepreneurs shown least progress. In less than a half of Member States, entrepreneurs can be fully discharged of their debts which were subject of a bankruptcy after no later than three years. Although, Commission yielded a number of Recommendations in order to encourage Member States to put in place a framework that enables honest entrepreneurs a second chance, the greatest challenges among re-starters are still a perception of failed entrepreneurs, easing and speeding up insolvency and bankruptcy procedures and difficulty in obtaining finance after bankruptcy.

#### REFERENCES

- Armour, J. and D. Cumming (2008): *Bankruptcy Law and Entrepreneurship*. American Law and Economics Review Vol.10, No.2, pp. 303-350.
- Bankruptcy and second chance for honest bankrupt entrepreneurs (2014): Ecorys for EC - DG Enterprise & Industry
- BurgerVeenhoven, R., Arampatzi, E., Burger Martijn J. (2014): *Financial Distress and Happiness of Employees in Times of Economic Crisis*, <http://ssrn.com/abstract=2463162>
- Calogirou, C., Fragozidis, K., Houdard-Duval, E., Perrin-Boulonne, H. (2010) *Business Dynamics: Start-ups, Business Transfers and Bankruptcy*, (2011): European Commission, DG Enterprise and Industry, PLANET S.A., CCIP, DTI and GFA.
- COM(2007) 584 final: *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions – Overcoming the stigma of business failure – for a Second Chance policy, Implementing the Lisbon Partnership for Growth and Jobs*



COM(2008) 394 final: Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions "Think Small First" A "Small Business Act" for Europe

COM(2012) 742 final A new European approach to business failure and insolvency

COM(2012)795 final

C(2014) 1500 final: Commission recommendation on a new approach to business failure and insolvency

C(2014) 1500 final Commission staff working document impact assessment: Accompanying the document Commission Recommendation on a New Approach to Business Failure and Insolvency

European Commission: Report of the expert group: A second chance for entrepreneurs: prevention of bankruptcy, simplification of bankruptcy procedures and support for a fresh start, 2011

European Commission: 2016 SBA Fact Sheet Croatia

European Commission: SME performance review 2014/2015

European Commission: Report of the expert group: A second chance for entrepreneurs: prevention of bankruptcy, simplification of bankruptcy procedures and support for a fresh start, 2011

European Commission: 2016 SBA Fact Sheet Croatia

Flash Eurobarometer 192 "Entrepreneurship Survey of the EU (25 Member States), United States Iceland and Norway" (2007) and Flash Eurobarometer 283 "Entrepreneurship in the EU and beyond" (2009)

Gupta, J., Gregoriou, A., (2015): Bankruptcy and Financial Distress in US Small and Medium Sized Enterprises, <http://ssrn.com/abstract=2638485>

Veenhoven, R. (2013): Happiness in Nations. World Database of Happiness, Erasmus University Rotterdam <https://personal.eur.nl/veenhoven/Pub1990s/93b-part1.pdf>

Wagner, J. (2002): Taking a Second Chance: Entrepreneurial Restarters in Germany, IZA Discussion Paper No. 417, <http://papers.ssrn.com/abstract=297094>

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**ATTITUDES OF PARTICIPANTS OF TRAINING IN CURRICULUM  
DEVELOPMENT BASED ON LEARNING OUTCOMES WITH RESPECT  
TO INFORMATION AND COMMUNICATION TECHNOLOGY**

**STAVOVI SUDIONIKA EDUKACIJE KREIRANJA KURIKULUMA NA  
OSNOVU ISHODA UČENJA UVAŽAVAJUĆI INFORMACIJSKO  
KOMUNIKACIJSKU TEHNOLOGIJU**

**ABSTRACT**

*As years go by, students show very little interest in STEM (science, technology, engineering and mathematics) areas, while at the same time, they are very active in using information technologies. Numerous studies show that nowadays, both in business and private environment, we use information and communication technology that we cannot live without. The idea of including information and communication technology in high schools has been converted into a European project named ICT science laboratory. The project's holder is private grammar school Gaudeamus in Osijek, while project partners are private grammar language school Pitagora in Split and Faculty of Humanities and Social Sciences in Osijek. During the project, five educational trainings were held, which dealt with outcomes of learning, developing a curriculum and using multimedia content. Teachers from Gaudeamus and Pitagora participated in the aforementioned education. After the trainings, a study among teachers was conducted using a qualitative method – interview. Study was conducted in order to analyze attitudes of participants who took part in curriculum development based on learning outcomes including information and communication technology. Teachers from Split and Osijek, eight of them, took part in the study. Data was collected using a semi-structured interview in which the participants presented their attitudes and opinions concerning education, school systems in Croatia and application of sources and tools in their own teaching plans and programs. Each conversation was recorded and transcripts were made for each interview based on which the participants' answers were analyzed. This paper presents the study results.*

**Keywords:** *information and communication technology, STEM, interview, ICT science laboratory, curriculum*

## SAŽETAK

*Iz godine u godinu, učenici pokazuju slabije interese za STEM područja, dok su istovremeno, vrlo aktivni u korištenju informatike. Mnogobrojna istraživanja pokazuju da danas i u privatnom i poslovnom okruženju koristimo informacijsko komunikacijsku tehnologiju, bez koje ne možemo. Ideja uključivanja informacijsko komunikacijske tehnologije u srednje škole pretvorena je u europski projekt pod nazivom ICT znanstveni laboratorij. Projekt nosi privatna gimnazija Gaudeamus u Osijeku, dok su projektni partneri privatna jezična gimnazija Pitagora u Splitu te Filozofski fakultet u Osijeku. Tijekom projekta, provedeno je pet edukacija vezanih uz ishode učenja, izradu kurikulumu te korištenje multimedijalnih sadržaja. Edukacijama su prisustvovali nastavnici iz Gaudeamusa i Pitagore. Nakon održanih edukacija, provedeno je istraživanje među nastavnicima, pomoću kvalitativne metode – intervjua. Istraživanje je rađeno s ciljem analiziranja stavova sudionika edukacije kreiranja kurikulumu na osnovama ishoda učenja uvažavajući informacijsko komunikacijsku tehnologiju. U istraživanju su sudjelovali nastavnici iz Splita i Osijeka, njih osam. Podaci su prikupljeni metodom polustrukturiranog intervjua, a kroz intervju ispitanici su iznosili svoje stavove i mišljenja vezana uz edukacije, sustave školovanja u Hrvatskoj te primjenu izvora i alata na vlastite planove i programe u školovanju. Svi razgovori su snimani te su izrađene transkripcije svakog pojedinog intervjua, na temelju kojih se naknadno radila analiza odgovora. U radu su prikazani rezultati istraživanja.*

**Ključne riječi:** *informacijsko komunikacijska tehnologija, STEM, intervju, ICT znanstveni laboratorij, kurikulum*

### 1. Introduction

Nowadays everyone should have basic understanding of information and communication technology and should know how to use it in order to become better citizens, students, teachers. Teaching people to become competent users of ICT (information and communication technology) is an important role of ICT education that enables success in academic and working career, especially regarding teaching and learning and in order to efficiently participate in modern society. Besides that, especially within STEM (science, technology, engineering and mathematics) subjects, ICT can help students understand abstract ideas, invisible processes, complex models and concepts such as energy, molecules, electrons, chromosomes and similar (Frikkie i Ogunniyi, 2016).

The importance of STEM area, especially in education, is recognized by the European Union as well. In a document called *Encouraging STEM Studies for the Labour Market* there is a review of the state of the labour market regarding STEM area. According to recent data, labour market within STEM area grows daily despite current economic crisis. Need for workers educated in STEM areas is growing, so European Union encourages introduction and widening of STEM subjects in schools (Encouraging STEM Studies for the Labour Market, 2015). The same problem is recognised by the Government of the Republic of Croatia which has, in key guidelines of reform government, emphasized the importance of encouraging the development of STEM area by allocating funds for research and development in STEM area, as well as by encouraging enrollment in PhD program. Technology should be used in order to improve the process of learning, so it is vital that teachers are competent by using it to ensure their students all advantages offered by the educational technology (Frikkie i Ogunniyi, 2016).

There is a widespread belief that ICT can strengthen teachers and students, while transforming the process of teaching and learning from one dominated by teachers to one aimed at students and that such transformation will result in increase in education outcomes for students, creating and enabling situations that develop creativity, problem solving skills, reasoning skills,

communication skills and other higher-order thinking skills. However, although most teachers have noticeable skills in ICT, there is a question why ICT cannot be successfully integrated in regular classes.

In a broad research conducted by the European Commission in 2013, access, use and attitudes to technology in Europe's schools were analysed. The research used a stratified sample of schools and it was conducted using a questionnaire on three levels: school level (headmaster), classroom level (teachers) and students' level. Research included Croatian school as well. According to the results, between 95% and 97% of teachers use a computer and Internet for lesson preparation. However, 81% to 87% of teachers use a computer and/or Internet in classrooms with students. Standard deviation in most countries was relatively high, showing that among teachers, there are high variations regarding use of ICT. It is well known that teachers often have issues implementing ICT in their teaching process, despite having access to technology and positive attitude towards it. For that reason one could conclude that they need support not only in technical way, but also pedagogical. It is, therefore, necessary to increase number of educational workshops and trainings which need to be done with teachers of all disciplines. Furthermore, it is necessary to promote various online platforms for teachers and possibilities they give to that community. Majority of school headmasters and teachers in schools surveyed agree or completely agree with the importance of using ICT in various teaching activities. Most of them also agree that ICT has a positive influence on motivation and students' achievements. Teachers and headmasters are almost unanimous concerning the fact that using ICT in teaching processes is necessary for students to become prepared for living and work in the 21<sup>st</sup> century. This research also concluded that headmasters and teachers in most European schools think that there is a need for a radical change in order to achieve complete use of ICT in teaching processes (European Schoolnet and University of Liège, 2013).

On the other hand, Lal (2014) states that using ICT in schools is so diverse, that it is almost impossible to count all of its applications. Taylor (2003, according to Lal, 2014) recognised three main roles of a computer in a classroom: tutor, tool and student. Using ICT in biology class can not only improve the level of knowledge in biology, but also student's attitude towards the subject. Possibility of working with information and communication technology is recognised as one of key competences that are necessary for success in life and competition on the labour (Levy i Murmane, 2001, according to Lal, 2014), which each citizen should have (according to the recommendation of EuropeanParliament, 2006). The term computer literacy was, on the other hand, introduced in order to differentiate people who use ICT from those who do not. Research results show that despite significant investments in training and resources, in reality schools are still very much below the level of usage of ICT in science, transport, communication, industry and other areas (Hawkings, 2002, Hepp et al., 2004, Eteokleous, 2008, according to Lal, 2014). Furthermore, a fact arises that attitudes of teachers/professors plays a vital role in using or not using technology in their teaching.

Alongside the development of technology, there comes a change in human interaction and activities. Therefore, students' way of learning also changes in accordance with what educational institutions consider a relevant form. As a consequence of this modification, the accent in learning is shifting from pure reproduction of known facts to the ability of creating something new and useful (Mukama i Andersson, 2008). Furthermore, one of the problems emphasized by teachers was the fact that there are no curricula based on ICT. The problem is in the implementation of ICT and one of the teachers states that there is constant talk about ICT, but all the activities are not performed in practice. Also, it is a disadvantage that there is no keeping track of teacher's work after education, nor is there insistence on working in a way it was learned. Therefore, knowledge acquired by the teachers during the education is quickly forgotten (Mukama i Andersson, 2008).

Outside Europe, Albugami and Ahmed (2015), in their research surveyed factors that affect success of implementing ICT in Saudi Arabia high schools. They were interested in what are the obstacles of introducing ICT in schools and how those obstacles can be overcome. In their research they used semi-structured interview. Semi-structured interview is, according to Harris and Brown (2010) often used in qualitative research in order to get wanted outcomes. Research pointed towards a negative attitude of teachers towards use of Internet at schools, due to fear of danger and inappropriate contents. Teachers also often emphasize how they refrain from using ICT tools in classrooms because of their belief that their skills in using those tools are much worse than the skills of their students. However, they emphasize that headmasters have the most important role of facilitator in the process of introducing and using ICT tools. Resistance of teacher to incoming changes is also one of the barriers in using possibilities offered by new technologies. Authors of the research emphasize how teachers' attitudes towards learning using ICT is an important fact, since their perception will influence their performance in the classroom. While results on one hand show that teachers are interested in ICT education, time slots of educations are sometimes inconvenient. Most teachers questioned said that educations outside working hours and with no support from their superiors would result in low attendance. Similarly, teachers think that for efficient and quality use of ICT, constant trainings and educational workshops are necessary.

Curriculum, as a developmental document, is a cornerstone of school, so we can define it as a relatively reliable, precise and optimal way of implementing flexibly and process of learning, education and acquisition of competences (Marsh, 1994). According to Previšić (2007), curriculum is an aggregate of planned and implicit guidelines which direct educational process towards goals and contents that are based on aims, and directs towards organisational forms and ways of work, as well as procedures of verifying success that are dependent on many process factors and circumstances. Curriculum encompasses precise and systematic totality of planned education, it means scientifically based goals, tasks, contents, plan and program, organization and technology of implementation, as well as various forms of evaluation of performance (Previšić, 2007). Learning outcomes are one of the basic elements of curriculum and they are a basis of detailed change of educational process (Lončar-Vicković i Dolaček-Alduk, 2009). Learning outcomes signified competences acquired after learning. In other words, learning outcome is emphasized instead of entry attributes, such as duration of learning, form of learning and other (Lončar-Vicković i Dolaček-Alduk, 2009). According to Lončar-Vicković and Dolaček-Alduk (2009), a prone to base the learning outcomes has significant effect on development of teaching plan, on the process of teaching, process of learning and guarantee of quality. Application of learning outcomes in developing new curricula represents basis of change in relation to previous practice. Learning outcomes represent a change from a system in which teaching was in the focus, into a system in which learning is in the focus, i.e., from a teacher-oriented system into a student-oriented system. There are two basic rules for forming learning outcomes: (1) to focus on what the student will be able to do after a certain period, and (2) to determine clear, concrete and precise (measurable) learning outcomes (Kovač i Kolić-Vehovec, 2008).

## **2. ICT science laboratory**

While analyzing theoretical works and previous research done about this topic, it is clear that there are many challenges within schools related to integration of information and communication technology, especially within STEM area. As a part of a project competition, a project *ICT science laboratory* was started. Project is done by private grammar school Gaudeamus from Osijek, as a holder, in cooperation with private language grammar school Pitagora in Split and Faculty of Humanities and Social Sciences in Osijek. Goal of the project *ICT science laboratory* is to raise the level of education of teacher and students, especially in STEM area. Level of education of teachers and students is raised by using information and communication technology.

All information technologies that we know and use nowadays can be included into teaching processes of any area. Apart from raising the level of education of features and learners in fan area these projects wants to increase the interest among students were subjects and studies in the aforementioned area.

In order to bring curriculum development closer to teachers, as well as using information and communication technology, five trainings were held: (1) Development of curriculum based on learning outcomes; (2) Methods of defining learning outcomes; (3) Curriculum development; (4) Digital content; (5) Implementation of ICT curriculum. Trainings were intended for teachers of private grammar school Gaudeamus and private language grammar school Pitagora. Trainings were held by professors from the Osijek's Faculty of Humanities and Social Sciences. Trainings could be attended live, as well as online, so they were imagined as multimedia type of class. First training, learning outcomes, was based on starting points for curriculum development based on learning outcomes. Training methods of defining learning outcomes, defined Bloom's taxonomy as well as a generic terms and hierarchy of learning outcomes. Within this training, workshops were held on the technique of defining learning outcomes and a workshop on connecting learning outcomes, teaching methods and evaluation of learning outcomes. The third training, on the curriculum development, presented theoretical grounds for curriculum development, as well as workshops of curriculum development of elective subjects in STEM area. Last two trainings referred to digital content, so the participants of the fourth education were familiarized with digital content and their history and technological development, and they had a chance to participate in workshops on creating web pages, as well as creating electronic books. Last training familiarized participants tools for learning support and it showed how to use tools available in Moodle LMS(learning management system). After each training, examinations were held. Training had 54 participants employed in the aforementioned schools, and training was successfully completed by 33 of them. Competences acquired by participants by finishing the program are various, and some of them are to define and classify basic characteristics of qualification and learning outcomes, evaluate knowledge acquired through learning outcomes, make a curriculum for elective subjects in STEM area, recognize format of digital contents, evaluate acquired knowledge through module of curriculum development and digital content.

### **3. Aim and purpose of research**

The goal of the research is to gain an insight into attitudes of participants of trainings after they had been held. Considering the fact that all participants of trainings work in high school, it is a goal to present a attitudes of participants related to not only trainings and STEM area, but also to elementary education, curriculum development and using multimedia tools in teaching, with emphasis on information and communication technology. Interview was made with certain assumptions, such as: teachers interest will affect satisfaction with trainings held, for instance, teachers of IT (information technology) will be more satisfied which trainings related to digital content, since that content is closer and more familiar to them than others, or teachers of social sciences will find more interest in trainings related to learning outcomes and curriculum development, since they are familiarized with these components during their studies. Also, it is an assumption that participants communicate with colleagues at their workplace, so by asking questions related to communication with colleagues outside workplace it is attendance to find out how other people see this project and what is their opinion on it. Purpose of this paper is to give the guidelines for future similar trainingsbased on results and conclusion. Results obtained will be compared with results of previous similar research, mentioned in the introduction of this paper.

## **4. Methodology**

After trainings held, a research was conducted with participants of the trainings in order to research attitudes of participants of education in curriculum development based on learning outcomes with respect to information and communication technology.

In accordance with the goal of the research, a qualitative approach of data collection and analysis was used. In data collection, a method of semi-structured interview (Powell i Connaway, 2004) was used, while the analysis of answers obtained used a qualitative analysis of content, by which the unit of the analysis was interview. Such research, considering the research problem and purpose of research, as well as a limited size of sample (N=8), is a descriptively-qualitative research. Method of research, semi-structured interview, was chosen due to flexibility during data collection. The interview has a set structure of 11 open-ended questions which were presented to all the participants in research, and of course, all questions allow asking sub-questions and creating, possibly, new questions for the needs of research. Questions refer to experiences after training, opinions on using information and communication technology in teaching and on developing their own curricula in the near future. Interview was conducted on a sample of eight teachers, four from private grammar school Gaudeamus, four from private language grammar school Pitagora. Research encompassed 5 male participants and 3 female participants. Years of experience with participants vary, from one year of work experience to 24 years, but the analyses the yielded average years of work experience among participants - 6 years of work experience. Choice of participants in research was determined according to criteria of attending trainings and different profession. Participation in interview was voluntary. All participants answers were recorded and based on audio recordings transcripts of all conversations were made. Interviews were conducted individually, at time and place which suited participants. All participants, prior to the interview, were familiarized with purpose and the goal of the research.

## **5. Research results**

This part of paper presents the analysis of content and proceeds with discussion in which conclusions regarding the results will be given.

### **5.1. Content analysis**

All participants present themselves in the introductory part and state their profession, classes they teach, years of working experience and school they are employed at. In the introductory part, the aforementioned data are required from participants in order to make an analysis of vocations, average years of experience, and to see if there is a connection between the same vocations or not. Furthermore, participants gave their opinions on necessity of greater inclusion of STEM area on a high school level – all participants (I1 – I8) agree that it is necessary to spark interest for STEM area in children. Out of 8 participants, only one (I1) participated in curriculum development prior to this project, while remaining (I2, I3, I4, I5, I6, I7, I8) state that they had not had the chance to participate in such activities. All participants (I1 – I8) participated in trainings held as a part of the project. All participants from Osijek attended live trainings, while participants from Split attended online. Participants (I1-I8) find information and knowledge received at trainings useful, but answers differ according to their vocations. The analysis concludes that participants educated in humanities and/or social sciences (I1, I3, I4, I5, I6) find first three parts of trainings useful, more precisely those referring to learning outcomes and curriculum development. Some participants (I3, I4) emphasize that trainings were useful because they find them more necessary for their field of work, while some (I6, I7) state that they were useful because they were previously familiarized with the content, so they could recall and improve their knowledge. Remaining participants, for instance teachers of IT (I2) find the last two trainings useful – those related to digital content, since they use more digital content and tools in their teaching. It should be emphasized how



participants (12, 17) who found last two trainings useful, do not comment on previous three or simply grade them as good. Participants (11-18) find information received during trainings very useful and necessary for further work and professional development. One participant's answer (13) especially stands out, and states how there should be more practical work: "Well, I think, we were trying to do the practical part, and a colleague really tried hard, but I think that there should have been a bit more practical work". They find (11-18) tools and sources useful for their future professional development, whether in making plans and programs or curriculum development. Participants (12-18) already know about some of the tools (depending on subjects they teach) and use some of them in their teaching to bring content closer to students. After trainings where they learned about additional tools and sources, they state (12-18) that they will use them combined with sources and tools they had used until then. Question item related to developing their own curriculum showed many different answers that can be grouped into following: (1) curriculum in Croatia is prescribed by Ministry of science, education and sport, and individuals should not make their own curricula (11-14), (2) does not think about developing own curriculum (12, 15, 16, 17), (3) does not give curriculum too much attention and does not have time for it (17), (4) making of program for mathematics and state exam program which would have its own curriculum (18). In cases of making their own curriculum, participants mostly agree they would use sources and tools they learned about at trainings, but also tools they had previously used (11-18). They find combination of existing tools with new ones to be of the best use in classrooms. Moodle has been singled out by the participants as the best tool they learned about during trainings, since they did not know about possibilities and advantages of teaching using Moodle (12, 18). Application of such projects for improving quality of education system on elementary school level is considered necessary by the participants, but not vital. Tenth question in the interview referred to utility and improvement of quality of education system on elementary level. Several participants (12, 16, 17) had never worked in elementary schools, but all participants (11-18) think such projects should be introduced in elementary school as well. Attitudes and opinions regarding elementary school and quality of education system can be summed up in following: (1) Europe makes similar curricula on elementary levels as well, our programs should be complementary (11); (2) Introduce less demanding programs for elementary schools in comparison to high schools (12); (3) Application to all subjects – information and communication technology combined with STEM area (13); (4) Quality solution for some of the problems in elementary schools, especially higher grades (15); (5) Children use technology since early age, IT is not a problem for children. With elementary knowledge of IT, high school could upgrade existing knowledge (16); (6) Teachers in high school already use some of the programs, but lack of IT classrooms represents a problem for them (18); (7) Occurrence of a problem of children spending too much time on PC (16). Last question wanted to research to what extent the participants communicated experiences from *ICT science laboratory* with other colleagues, but outside workplace. All participants, except one (12) communicated with other colleagues. Participant (12) who did not, states how he did not do it because he has no working colleagues outside the institution which he works at. Other participants (11, 13, 14, 15, 16, 17, 18) expressed various opinions and attitudes of people outside their work environment. Opinions and attitudes are mostly positive. As some of the problems regarding why people do not deal with the topic more, participants stated how their colleagues outside their workplace have problems with finances (11), lack of real education (13) and lack of interest towards such projects and trainings (14).

## 5.2. Discussion

Research conducted with participants of trainings held as a part of *ICT science laboratory* showed varying attitudes and opinions of participants on developing operative plans and programs and curriculum, using information and communication technology and importance of STEM area. Beginning of this paper presented analyzed research conducted in similar areas of work. Results of research conducted by Magallanes (2014) show that teachers are willing to acquire new

knowledge on using information and communication technology, which is connected with the results yielded in this research, which showed how all participants positively reacted on using information and communication technology during teaching. Results presented by Magallanes showed today that there are teachers who do not want information and communication technologies in their teaching and that there are many teachers who are in doubt regarding advantages and disadvantages of using information and communication technology in teaching. Results of this research do not show that there are teachers among participants who do not want to use information and communication technology in teaching, although some participants expressed both positive and negative sides of using it. There is an assumption that in greater sample, there would be participants who do not want to use information and communication technology. However, expressing positive and negative sides brought participants to a conclusion that there should be balance in everything, and data remained advocates of using information and communication technology in teaching. As in previous research, Magallanes (2014), this research shows that some teachers are already familiarized with various applications and software they include in their teaching process. Teaching skills related to IT and multimedia content are very low, according to other research, due to lack of trainings related to information and communication technology. Similar examples can be found in this research as well, although the level of knowledge of participants is satisfactory and it varies with regard to their field. Analysis of answers show that among participants, regardless of whether they are younger or older, there is no resistance towards using information and communication technology, on the contrary - participants support such projects and ideas even in elementary schools. Frikkie i Ogunniyi (2016) research yielded results that show how older teachers have resistance towards integrating and using information and communication technology in schools. Participants during research stated that they used certain tools and software belonging to information and communication technology in order to improve their teaching and in that way bring content closer to students. Results of this research coincide with results of research conducted by European Commission (2013), according to which between 95% and 97% of teachers use computers and Internet for preparing their lectures, and 81% to 87% use the aforementioned in class with students. Similar difficulties are found in answers of participants who attended trainings of *ICT science laboratory* and participants in research by European Commission. 75% of participants who attended *ICT science laboratory* trainings use tools for teaching during classes, which is somewhat a smaller number in comparison to the aforementioned research. Research done by European Commission still yields same conclusions and guidelines as research done by Magallanes - increase the number of trainings and improve working conditions for teachers. Their conclusions can be identified with conclusions of participants who attended trainings. Similarly to research from 2015 done by Albugami and Ahmed, this research showed how participants indicated positive attitudes and views towards integration of information and communication technology in education, more precisely, high schools. Participants of trainings held as a part of *ICT science laboratory* project had through interview expressed their own thoughts and attitudes related to creating operative plans and programs and curriculum. It is important to point out that all participants of these trainings have for the first time encountered curriculum development, and only one participant had prior to these trainings participated in curriculum development. Why is that so, can be seen from answers that are shown in detail in the subchapter "1. Content Analysis. Some teachers individually or as help for other teachers, participate in developing operative plans and programs and try to independently find new ideas and solutions in order for lectures to be interesting and innovative for students. During the research, as well as after the results analysis, among the aforementioned participants there were no negative attitudes towards information and communication technology, nor towards integrating ICT in teaching. On the contrary, as it was previously mentioned, participants independently use some of the tools and/or sources in their teaching.

## 6. Conclusion

Analysis of answers provided by participants of interviews yields a conclusion that their attitudes and opinions do not differ much from the results of previous similar research done by foreign colleagues, presented at the beginning of this paper. All participants have positive opinions regarding project and trainings. They find them very useful and they plan to use received knowledge in future in teaching, curriculum development and making operative plans and programs. Although the teachers were from different areas of profession, they all found interest in certain parts of education, depending on the area of interest, and they feel competent after education to develop their own curricula for elective programs, in which they can boost usage of information and communication technology, especially in STEM area. From the participants' answers it is evident that they think that school system in Croatia will be more efficient and quality if changes are introduced in elementary schools as well, since then high school could improve existing knowledge and high education could give final profile of future labor force. In the near future, there should be a research on interest and motivation among teachers in Croatia for this area, in public schools. Since technology is used by young children, it is advisable to include the aforementioned technologies in systems of education in Croatia in order for it to follow modern times. As one of the first steps of integrating information and communication technology in the process of teaching, it is necessary to continuously hold trainings and educational workshops among teachers of all subjects with the goal of creating awareness of importance and advantages of using technology in teaching.

## REFERENCES

- Albugami, S., Ahmed, V. (2015). *Success factors for ICT implementation in Saudi secondary schools: From the perspective of ICT directors, head teachers, teachers and students*. International Journal of Education and Development using Information and Communication Technology, 11(1), 36-54.
- Caprile, M., Palmen, R., Sanz, P., Dente, G. (2015). *Encouraging STEM Studies for the Labour Market: Study for the EMPL Committee*. Brussels: European Parliament.  
URL:[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542199/IPOL\\_STU\(2015\)542199\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542199/IPOL_STU(2015)542199_EN.pdf) (2016-10-05)
- European Schoolnet and University of Liège. (2013). *Survey of Schools: ICT in Education. Benchmarking Access, Use and Attitudes to Technology in Europe's Schools*. European Union.  
URL:[http://www.eun.org/c/document\\_library/get\\_file?uuid=9be81a75-c868-4558-a777-862ecc8162a4&groupId=43887](http://www.eun.org/c/document_library/get_file?uuid=9be81a75-c868-4558-a777-862ecc8162a4&groupId=43887) (2016-10-05)
- European Schoolnet and University of Liège. (2012). *Survey of schools: ICT in education. Country profile: Croatia*.
- Frikkie, G., Ogunniyi, M. (2016). *Teachers' Perceptions on the Use of ICT in a CAL Environment to Enhance the Conception of Science Concepts*. Universal Journal of Educational Research, 4(1), 151-156.
- Domoljubna koalicija i Most nezavisnih lista (2016). *Ključne smjernice reformske Vlade. [Key guidelines of reform Government]*. Republika Hrvatska.
- Kovač, V., Kolić-Vehovec, S. (2008). *Izrada nastavnih programa prema pristup temeljenom na ishodišta učenja – Priručnik za sveučilišne nastavnike*. Rijeka: Sveučilište u Rijeci – Rektorat.

Lal, C. (2014). *Attitudinal Study of User and Non-User Teachers' towards ICT in Relation to Their School Teaching Subject*. Universal Journal of Educational Research, 2(3), 213-218.

Lončar-Vicković, S.; Dolaček-Alduk, Z. (2009). *Ishodi učenja - priručnik za sveučilišne nastavnike*. Osijek : Sveučilište Josipa Jurja Strossmayera.

Magallanes, A. L. (2014). *A Framework for an ICT-based Development Program for Science Teachers in State Universities and Colleges in Region VI*. Universal Journal of Educational Research, 2(9), 659-668.

Marsh, C.J. (1994). *Kurikulum – temeljni pojmovi*. Zagreb: Educa.

Mukama, E., Andersson, S. B. (2008). *Coping with Change in ICT-based learning environments: newly qualified Rwandan teacher's reflection*. Journal of Computer Assisted Learning, 24, 156-166.

*Nacionalni okvirni kurikulum za predškolski odgoj i obrazovanje te opće obvezno i srednjoškolsko obrazovanje* (2011). Zagreb: Ministarstvo znanosti, obrazovanja i sporta.

Powell, R., Connaway, L.S. (2004). *Basic research methods for librarians*.

Previšić, V. (2007). *Pedagogija i metodologija kurikuluma // Kurikulum: teorije, metodologija, sadržaj, struktura*. Zagreb : Školska knjiga.

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## **THE INFLUENCE OF MANAGING RISKS ON STRATEGIC MANAGEMENT OF ENTERPRISES IN VIROVITICA COUNTY**

### **UTJECAJ UPRAVLJANJA RIZICIMA NA STRATEŠKO POSLOVANJE PODUZEĆA U VIROVITIČKO-PODRAVSKOJ ŽUPANJI**

#### **ABSTRACT**

*Globalization and market integration, as unavoidable components, alongside with development of technologies and availability of different resources and information are leading to business uncertainty. Considering the unpredictability and market volatility, enterprises have the need to protect their values with the aim of better efficiency and effectiveness of business through defining and analysis of individual risks. Involvement in all business processes and organizational culture of enterprises is one of preconditions in process of risk management as one of the instruments for managing crisis. Through risk management enterprises take proactive approach to business market while achieving their strategic guidelines. While doing business, according to relevant laws and bylaws risk management, through certain techniques of measuring exposure of enterprises to certain risk and risk analysis, it is possible to control damage done to their business. Work problematic is directed towards risk management as a central part of strategic management. Analyzing and grading former researches on the topic of risk management in enterprises and possibilities of protection and improving their business will contribute execution of strategic components of development and achieving positive enterprise image. While the aims of this paper are determining existence of a certain type of risk in enterprises, knowing and using prescribed standards for risk management and the register of risks in enterprises. Results of the research will give a grade of applying instruments of risk management in Virovitica county enterprises through a questionnaire. Considering assessment of applying instruments for risk management, recommendations will be given to the enterprises for managing risks through applying standards and techniques for the sake of more successful enterprise management.*

**Key words:** risk management, risk analysis, enterprises, uncertainty, strategic management.

#### **SAŽETAK**

*Globalizacija i integracija tržišta, kao neizostavne komponente, uz razvoj tehnologija i dostupnost različitih resursa i informacija dovode poduzeća do poslovne neizvjesnosti u poslovanju. S obzirom na nepredvidljivost i volatilnost tržišta, poduzeća imaju potrebu zaštititi svoje vrijednosti*

*s ciljem bolje efikasnosti i efektivnosti poslovanja upravo kroz definiranje i analizu pojedinačnih rizika. Uključenost u sve poslovne procese i organizacijsku kulturu poduzeća jedan je od preduvjeta pri procesu upravljanja rizicima kao jednog od instrumenata upravljanja krizom. Poduzeća kroz upravljanje rizicima zauzimaju proaktivan pristup poslovanja na tržištu u ispunjenju svojih strateških smjernica. Poslujući, sukladno relevantnim zakonskim i regulatornim zahtjevima upravljanje rizicima, kroz određene tehnike mjerenja izloženosti poduzeća pojedinom riziku, te analizom rizika moguće je sanirati posljedice za njihovo poslovanje. Problematika rada usmjerena je na upravljanje rizicima kao središnjeg dijela strateškog upravljanja. Analizom i ocjenom dosadašnjih istraživanja na temu upravljanja rizicima u poduzećima i mogućnostima zaštite i poboljšanja svog poslovanja pridonijeti će se izvršenju strateških komponenti razvoja i ostvarenju pozitivnog imidža poduzeća. Dok su ciljevi rada utvrditi postojanost određene vrste rizika u poslovanju, poznavanje i korištenje različitih metoda za analizu rizika, poznavanje i korištenje propisanih standarda za upravljanje rizicima te utvrđivanje postojanosti strategije upravljanja rizicima i registra rizika u poduzećima. Rezultati istraživanja će kroz anketni upitnik dati ocjenu stanja primjene instrumenata upravljanja rizicima u poduzećima Virovitičko-podravске županije. S obzirom na procjenu primjene instrumenata upravljanja rizicima biti će dane preporuke poduzećima za upravljanje rizicima kroz primjenu standarda i tehnika, radi uspješnosti poslovanja poduzeća.*

**Ključne riječi:** *upravljanje rizicima, analiza rizika, poduzeća, neizvjesnost, strateško upravljanje*

## **1. Introduction**

Paper problematic is directed towards activity of risk management in an enterprise. Considering unpredictability and volatility of the market, businesses have the need to protect their values which lead to tenable management. Using proactive approach in protecting and operations, companies manage the risks in the context of the strategic objectives and provide security to success and survival, and increase enterprise value. The work will show the basic steps in risk management and single mode risk management using various methods and techniques at a particular stage of the process management. Risk management, as a sub-system of enterprise management, represents an increasingly important business link. The risk management process should be integrated within the strategic lines of business and organizational culture of the company to timely and appropriately respond in the event of crisis companies.

## **2. Theoretical display of the definition and analysis of individual risk companies**

With rapid flow of information, goods, capital, people and generally all resources, business enterprises are faced with a number of risks that are an integral part of every business venture but they impose their conditions and endanger their actions. Risk is often defined as a state of uncertainty which has adverse effects on the company and therefore there are different definitions that define risk in the narrow and broad sense. Interactive relationship intensity of several factors such as uncertainty, exposure to catastrophic situations, the probability of their occurrence and the possibilities of preventive action in the best way describes the whole process of risk management. Exposure to risks due to changes in the domestic market and trends world-scale forces companies to manage them, to analyze them and manage them appropriately. Andrijić et al. (2016) present risk management as a modern understanding of the process that introduces a new comprehensive approach to management based on enclosing the measurement and control of potential risks and their analysis. The perception of the probability and consequences are three basic elements of the entire risk management process. A review of research are numerous examples in the world show that they are just huge financial losses incurred due to the lack of a risk management system which should be a structural element of the system of managing the organization as a whole (Drljača and Bešker, 2010). By including process of risk management in strategic business of



enterprises, wholeness of process is achieved, while at the same time the strategic goals of the enterprise are achieved. Decision-making under conditions of uncertainty and risk can be disastrous for the company because modern techniques contribute to the quality of decision-making where the most important role is risk analysis. Risk analysis is an important stage in the risk management process whereby the identification of all possible data about potential harmful situations in the companies enables quality management of business risks. Insufficient understanding of the data is lost on the importance of identifying potential opportunities and potential threats. Dojčinović (2010), also postulates that except for indicators of early warning of risk identification, systematical risk management includes risk analysis as an important component and their evaluation, management and risk control. The goal of risk analysis is qualitative risk assessment and application of quantitative measures. During the risk analysis probability of their occurrence is analyzed alongside with the impact they can do to the business enterprises.

### **3. The role of risk management as an organizational component of strategic enterprise management**

Risk management through a move away from traditional ways of risk management, where each area is analyzed separately, includes internal (strategic risks, risks management, operational risks and financial risks) and external risks (market risks, political, social and legal risks and natural disasters) for business enterprise. (Drljača and Bešker, 2010). On the other hand, the process of risk management includes many elements of the business in accordance with organizational guidelines of the company. "An integral part of the strategic planning process are also the steps of risk management related to risk identification, risk assessment, treatment by risks and monitoring and reporting on risk management<sup>1</sup>." The modern approach to risk management represents the risk as a continuous process in which all stakeholders are involved and the inefficiency of the process represents the primary source of business risk. The focus of risk management is related to establishing a formal policy risk and responsibility for the assessment and management of business risks. According to a pre-established real sources of risk focuses preventive action where there are unacceptable risks should be reduced to an acceptable level or even be avoided (Drljača and Bešker, 2010). The implementation process of enterprise risk management within the strategic plans and activities includes several important rules that management must pay attention to. Above all, Andrižanić et al. (2016) state that those rules relate to non-restricting of risk taking process by the management which would hurt the advancement of business, need to keep objectivity in their judgment of risks and risk management should be encouraged and developed. The risk management system of the company consists of four main components: risk management process (identification, prioritization, strategy, and control systems), elements of the organizational structure (risk committee, manager, link with other organizational units, roles and responsibilities), instruments, methodology and systems as well as knowledge and skills in risk management (Jakaša et al., 2008). Components of the risk management system range from determining the context of the company to risk, risk assessment and treatment. Wherein the risk assessment is reflected in the identification of risk analysis and risk evaluation.<sup>2</sup> These stages of risk management company proactively impact on their business and survive in the market. Osmanagić Bedenik (2007) also points out that proactive risk management is very important because it achieves security survival of society, the security of future success, the increase in the market value of the company and to avoid and reduce the cost of risk. The risk management system also needs to become a development system and part of a culture of enterprise. Individual measures thereby enabling integration in operational and strategic management. The risk

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<sup>1</sup> Ministry of Finance of the Republic of Croatia, Risk management as an integral part of strategic planning, <http://www.mfin.hr/adminmax/docs/Upravljanje%20rizicima%20kao%20sastavni%20dio%20strateskog%20planiranj a.pdf> , (accessed 23 February 2017)

<sup>2</sup> Adapted according to Drljača and Bešker, 2010; Pongrac and Majić, 2015.



management system in enterprises, according to Jakaša et al., (2008) based on integrated frameworks of risk management (COSO). Framework principles combine the categories of goals, organizational units and risk management process. Within the category objectives include the strategic and operational objectives and reporting and harmonization leading to the close relationship the strategic direction of the company and risk management. Risk management from a strategic point of view affects the process of quality management, taking into account the fulfillment of the norms of the process of internal and external quality control in business enterprises. Ministry of Finance<sup>3</sup> proposed a systematic way of risk management where the organization chooses its strategic planning (defining its mission, vision and goals of the company) where its operational planning and programming organization determine how to achieve the strategic objectives set. And finally systematic ways of risk management work procedures ensure the implementation of planning documents, programs and projects. Law on Public Internal Financial Control in the public sector regulated<sup>4</sup> the risk management budget users where they are required to provide risk management strategy within the organization. These regulations also prescribed guidelines<sup>5</sup> for the implementation of risk management budget users in order to adequately and timely respond to potential hazards that may be introduced in the organization of a crisis situation and her thereby jeopardizing the reputation and business. "Better decision-making and achievement of objectives, better forecasting and optimizing the available resources, addressing priorities and strengthening confidence in the management system of the public sector are the benefits of effective risk management"<sup>6</sup> mentioned in the above guideline. By establishing the basic steps and the risk management activities of the company normal growth and business development are ensured. This way of managing and implementing risk management processes can be an example for many companies that are not required under legislation to manage the risks of forming a risk management strategy and leading risk register. Enterprises can take instructions<sup>7</sup> for developing a strategy for managing the risks according to which the given template of base areas<sup>8</sup> of the strategy. Although they are defined for budget users have a holistic approach to the development of such a strategy and a good methodological framework for the development of strategies and with the company. By defining risk management strategy, the company will have the ability of the organization and implementation of risk management processes in a consistent manner. By determining the occurrence of possible risks, calculation and risk assessment, using appropriate methods and techniques for their prevention and reporting of risks incurred is an important step in managing enterprise risk. The action of the company in such a way to ensure the control of the newly emerged risks and anticipatory company managed the crisis (preventive action) by strengthening the individual and social competence of management. Given surveyed even 26.3% of the company Virovitica-owned risk management strategy in their organization, while 31.6% of them stated that their risk management included in the strategic goals of the company. Thus it can be concluded that the risk management at the strategic level is actually essential for the conduct of

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<sup>3</sup> More systematic management mode by which the proposed method of risk management in the context of the strategic guidelines in the Ministry of Finance, Risk management as an integral part of strategic planning, <http://www.mfin.hr/adminmax/docs/Upravljanje%20rizicima%20kao%20sastavni%20dio%20strateskog%20planiranja.pdf>, (accessed 23 February 2017)

<sup>4</sup> More of a defined manner of risk management budget users in the Ministry of Finance, Risk management, <http://www.mfin.hr/hr/upravljanje-rizicima-1-2-1>, (accessed 23 February 2017)

<sup>5</sup> More about the guidelines listed on the Ministry of Finance, Risk Management, Guidelines for the implementation of risk management budget users, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017)

<sup>6</sup> Ministry of Finance, Risk management as an integral part of strategic planning, <http://www.mfin.hr/adminmax/docs/Upravljanje%20rizicima%20kao%20sastavni%20dio%20strateskog%20planiranja.pdf>, (accessed 23 February 2017)

<sup>7</sup> More about the instructions for making the Ministry of Finance, Instructions for making risk management strategy, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017)

<sup>8</sup> More on fundamental areas: Ministry of Finance, Instructions for making risk management strategy, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017)

business enterprises since the survey sample included active businesses that have had the highest total revenue dedicated to a report from 2015. Mapping the risk of the company is an important part of the business management. To uncertainty and risk to a minimum it is necessary to map the risks and keep a record of all its phenomena. An important part of mapping risk is risk register whose value is reflected in the ability to collect the necessary information and streamline communication activities related to the management of business risks. "Risk Register can be achieved by transparent managing of business risks linking of different types of risk, the responsible persons, defining the size and likelihood of risk and planning the necessary actions to minimize possible damage business." (Andrijanić et al., 2016: 155). Risk register<sup>9</sup> that is kept by the budget users normally contains objectives that affect risk, which shows, according to risk assessment matrix risk (probability and impact), exposure to risk, type of risk that appears, recommendations of control activities and responsible person. Budget users risk register is defined by an internal document with key elements, made after the document of the European Commission, and the data used to create reports and summaries within the control mechanisms. According to research conducted by very few companies Virovitica-owned and used the risk register in their operations which makes 10.5% of respondents. This gives us an indication that there is room for improvement of the performance of companies on the basis of risk management in enterprises.

#### **4. Methods and Techniques in risk management of business of enterprises**

Risk analysis is closely related to the different methods of risk management. Risk management uses certain methods and techniques enabling sustainable development and growth. With regard to the identification, evaluation and assessment of the reliability of the risk management process, there are several groups of methods: methods of scenario analysis (analysis of losses, tree faults and analysis flow, scenario analysis), methods of creative techniques (brainstorming, Delphi method, morphology), methods of analysis functions (FMEA, analysis of threat, HAZOP, HACCP), statistical methods (standard deviation, confidence interval, Monte Carlo simulation) and methods of analysis of indicators (coverage of critical events, risk management based on changes). When we speak about the methods used and connecting with the risk we find a handful of meetings of the methods for risk. Andrijanić et al. (2016) outlines the basic method of the whole process of risk management in business enterprises. Different methods of applying certain techniques for calculating, measuring, analyzing and controlling risk We have grouped according to the same author in the following categories. The first group of methods consists of methods for evaluation in the identification of risks among which are: checklist, brainstorming, surveys / interviews, analysis of "what if", diagram of cause and effect, tree errors, event tree diagram of influence, awarding points risks and assessing the probability and consequence. The second group of methods make qualitative (analysis of investment risk, decision tree, the theory of preference, evaluation of credit risk), risk analysis and quantitative (key financial relations, sensitivity analysis, scenario analysis, Monte Carlo simulation, beta risk) risk analysis in the context of methods of risk analysis. The third group comprises the method for measuring business risks such as measuring market risk in production, trading, measuring banking risks, insurance business risks and risk measurement of information system. Methods for insurance risk consist of internal (self-insurance, factoring, forfeiting, foreign exchange risk management, hedging, the cost of risk management) management methods and security risks and external (insurance as a separate activity, the risk that it provides, insurance premiums, insured events, types damage, force majeure) the method of insurance risk which is the fourth group of methods. Last, but not least

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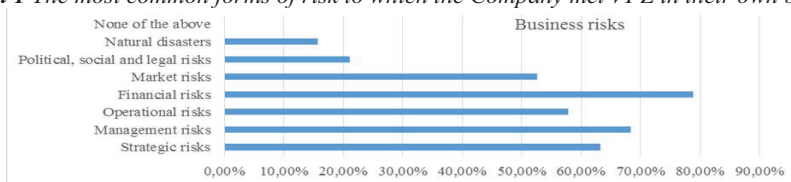
<sup>9</sup> More on the register of risk in the Ministry of Finance, Risk Management, Guidelines for the implementation of risk management with budget users, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017); in: Ministarstvo zaštite okoliša i prirode, Strategija upravljanja rizicima Ministarstva zaštite okoliša i prirode, Zagreb, 2015, [http://www.mzoip.hr/doc/strategija\\_upravljanja\\_rizicima.pdf](http://www.mzoip.hr/doc/strategija_upravljanja_rizicima.pdf), (accessed 29 February 2017)

important group of the control methods that make the methods of physical control and methods of financial control. The said methods and techniques present the matrix of risk management through the stages of enterprise risk management and certain techniques and methods of risk management precisely at certain stages of the risk management process.

## 5. Methodology and survey results

The subject of this paper is risk management at the company where the goal was to determine the stability of certain types of risks in business, knowledge and use of different methods of risk analysis, knowledge and use of prescribed standards for risk management and establishing stability risk management strategy and risk register in companies. For the purpose of this work was conducted primary research while at the study noted the companies that are in the Register of Business Entities of the Croatian Chamber of Economy County Chamber Virovitica ECC. A sample of companies that is analyzed includes all active companies, sorted descending by total revenues, which were handed over financial statements for 2015. Given that such companies in 1552 one of the limitations of this study was to collect data from all of these companies. Namely, in the Register of Business Entities, according to selected criteria, limit the listed companies is 500, as represented us and limit research. A sample of 500 companies ECC Virovitica was the basis for the research survey method (via Internet and phone). The survey questionnaire was made using Google form that was sent to the mail addresses of basic sample participants of this research. Given the small turnout of employers in fulfilling the survey via the Internet and examining the collected answers, we started interviewing them by phone in order to collect as many completed surveys as possible. Total time for the preparation of a questionnaire, subjects polling and processing of the data obtained was about 6 weeks. Of the total 500 active companies that were surveyed in the end there were 235 filled out surveys. The questionnaire was structured to support goal of this research in which there were 18 issues of open and closed multiple choice enumeration and multiple choice questions where the intensity is used Lickert scale for measuring attitudes of respondents. Questions involving basic information on the companies that were interviewed and according to the National Classification of Activities were mostly in the field of manufacturing industry, manufacture of food products, wood processing and products of wood and cork, construction, legal and accounting activities, retail trade and much of that computer programming, consultancy and related activities. Due to the legal form of the company was the most limited liability companies with a percentage of 84.2%, 10.5% of trades and 5.3% of joint stock companies. 47.4% of companies said they do business 20 years and over, 31.6% of the business from 5 to 10 years, 15.8% that operate 10-20 years and 5.3% of companies are relatively small market and business up to 5 years. In processing the collected data could be concluded that the company was equally divided between micro (31.6%), small (31.6%) and medium-sized enterprises (36.8%) and that they are the clear majority declared that the practice of risk management in their company with even 68.4%. This statement was confirmed earlier research conducted as though there is a practice of risk management in companies. In the previous study Sučić et al. (2011: 76) concluded that much of the company manages all or at least one financial risk in the total percentage of 93.02%. In the next graph (Graph 1) the business risks to which the Company Virovitica-faced in their operations is shown.

**Graph 1** The most common forms of risk to which the Company met VPŽ in their own business



Source: author's research

Using Likert scale the attitude of the respondents towards the importance of risk management in the company was determined. Respondents rated their views on a scale from 1 to 5 where the score 5 represented the intensity or total agreement, utmost importance and intensity score 1 complete disagreement with the claim or the claim rate that is completely irrelevant. Through descriptive statistics, the average value of the characteristics of all the units together on the issue of the importance of risk management for the success of the company is 4.32, which represents a very high value; the company declared that they are important for the success of companies, out of which 84.2% said it was important and 15.8% of them neither important nor not important. Also, the high average stacking respondents (4.37) is in terms of the positive impact of risk management in the financial situation of the company. 84.2% agree with the statement that risk management has a positive effect on the financial situation of enterprises and 63.7% of respondents believe that the need for additional training of employees on risk management in the company where the average value of 4.16. According to Spearman correlation coefficient in the framework of descriptive statistics, there is a statistically significant relationship between attitudes to risk management is important for the successful operation of the company and that has a positive effect on the financial situation of enterprises where the correlation coefficient is 0.89. It was also a statistically significant correlation between attitudes to risk management has a positive effect on the financial situation of the company and the need for training employees on risk management, with a correlation coefficient of 0.87. This occurs secondary strong association between attitudes to risk management is important for the successful operation of the company and the need for training employees on risk management, with a correlation coefficient of 0.77.

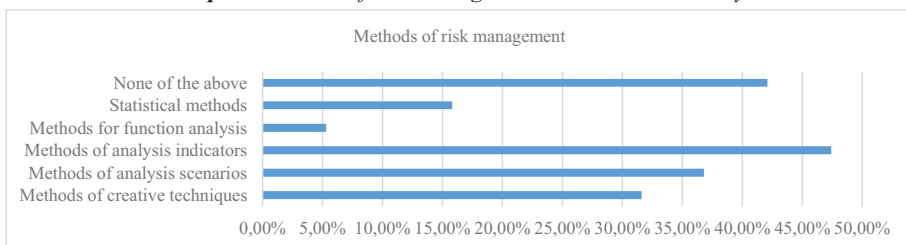
**Table 1** Correlation attitudes about risk management in the company

|                             | 1. The risk management is important for a successful business enterprise | 2. Managing risks has a positive effect on the financial situation of the company | 3. It is necessary to train staff on risk management |
|-----------------------------|--|---|--|
| 1st correlation coefficient | 1  | 0,893774511   | 0,767425767  |
| 2nd correlation coefficient | 0,893774511  | 1   | 0,86572279   |
| 3rd correlation coefficient | 0,767425767  | 0,86572279  | 1  |

Source: author's research

When asked what methods of risk management in the company there are, the respondents used; the results are as follows (Graph 2).

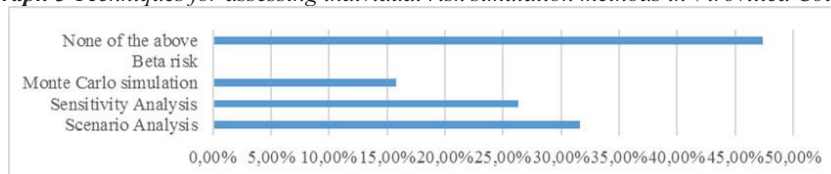
**Graph 2** Methods of risk management in Virovitica County



Source: author's research

Furthermore, there was the attempt to observe the condition of the use of techniques for the assessment of individual risk methods of simulation where it can be concluded that the most used are valuation techniques and scenario analysis techniques which examined companies do not use the beta risk. It is interesting that quite a large percentage of the companies chose not to use any of the above techniques and to 47.4%. The results are shown in the following chart (Graph 3).

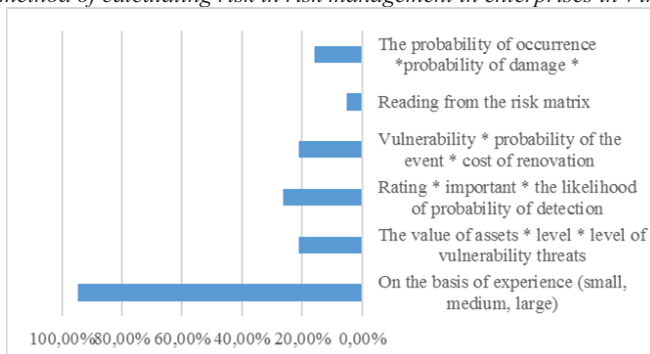
**Graph 3** Techniques for assessing individual risk simulation methods in Virovitica County



Source: author's research

Adaptation of enterprises to changes in the market are defined ways of measuring and managing risk. Andrižanić et al. (2016: 35) in his work cited research on the method of evaluation of the risk it was interesting to compare these data. According to the survey, the most commonly used method of calculating risk is based on experience (28.6%), calculating  $\rightarrow$  risk = asset value \* level \* level of vulnerability threats (28.6%) and reading from the matrix of risk (20%). According to the research conducted for this study results (Graph 4) are almost identical with the even with these three types and uses a lot of calculating a relevance score \* \* the likelihood probability of detection.

**Graph 4** The method of calculating risk in risk management in enterprises in Virovitica County



Source: author's research

As for the standardization of risk in companies very large proportion of companies do not use some of the standardized ISO standards for risk management. Interesting data is that companies do not use the standards for risk management with even 73.7% while the remaining 62 (26.3%) companies most used quality management system (ISO 9001, 4P - Deming cycle, Total Quality Management) and ISO protection of information systems (ISO17799 / BS7799). Although a lot of data collected, since the 500 companies in the county chambers ECC Virovitica in Virovitica County managed to poll only 235 companies, it can be concluded that a large number of companies not interested in interviewing this guy or this area of risk management the company is not interested. This was also one of the limitations of empirical research as it is with regard to the total number of such companies from the business register (1552) surveyed only sixth. But it gives opportunities for new and expanded empirical research which may be one of the suggestions for further research.

## 6. Conclusion

The aims of this empirical study were to determine the stability of certain types of risk where employers chose certain kinds of risks they faced in their operations that is something for a long time, since the results of the research showed that the least number of companies actually up to 5 years. It also conducted survey method showed that some employers recognize and use different

methods to analyze risk and are only one familiar with the standards and the standardization of risk being used by some of the ISO standards. The possibilities are much greater and to educate employers could refer to the existence of the same, whereby the achieved higher utilization possible standards, which favorably affect the company's business. Companies also largely do not have a risk management strategy and risk register they can be a useful tool for managing risk and one of the proposals to improve the business enterprise. Based on the research in the area of Virovitica-it can be concluded that there is a great lack of interest in enterprise risk management in their operations which is an essential problem of today's organizations. Although the majority of surveyed companies considered how risk management is important for business success and how a positive effect on the financial situation of the company, it is still at a very low level. The inclusion of risk management in the strategic direction of the company achieved a proactive approach to business the same. A proactive approach and focus on achieving strategic business objectives are achieved sustainable success and business. Only the inclusion of risk management in the enterprise management system as subsystems can efficiently respond to all the potential risks and the possibility of a crisis. Their analysis revealed the early symptoms of a crisis and increases the chance of his avoiding or reducing to a minimum without major consequences.

## REFERENCES

- Drljača, M., Bešker, M. (2010): *Održivi razvoj i upravljanje rizicima poslovanja*, XIV. savjetovanje SQM, Centar za kvalitet Crne Gore, magazine Kvalitet, br. 7-8, Poslovna politika, Beograd, [https://bib.irb.hr/datoteka/520678.9\\_Odrivi\\_uspjeh\\_i\\_upravljanje\\_rizicima\\_poslovanja.pdf](https://bib.irb.hr/datoteka/520678.9_Odrivi_uspjeh_i_upravljanje_rizicima_poslovanja.pdf), (accessed 20 February 2017)
- Andrijanić, I., Gregurek, M., Merkaš, Z. (2016): *Upravljanje poslovnim rizicima*, Libertas – Plejada, Zagreb
- Jakaša, T., Osmanagić Bedenik, N., Iliopoulos, F. (2008): *Sustavi upravljanja rizicima u poduzećima elektroprivrede*, Određivanje učinkovitosti sustava, Energija, year. 57 no. 2, Zagreb, <http://hrcak.srce.hr/file/40950>, (accessed 20 February 2017)
- Ministarstvo financija RH, *Upravljanje rizicima kao sastavni dio strateškog planiranja*, <http://www.mfin.hr/adminmax/docs/Upravljanje%20rizicima%20kao%20sastavni%20dio%20strateskog%20planiranja.pdf>, (accessed 23 February 2017)
- Ministarstvo financija RH, *Smjernice za provedbu procesa upravljanja rizicima kod korisnika proračuna*, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017)
- Ministarstvo financija RH, *Upravljanje rizicima*, <http://www.mfin.hr/hr/upravljanje-rizicima-1-2-1>, (accessed 23 February 2017)
- Ministarstvo financija RH, *Upute za izradu strategije upravljanja rizicima*, [http://www.mfin.hr/adminmax/docs/Smjernice\\_za\\_upravljanje\\_rizicima-konacno.pdf](http://www.mfin.hr/adminmax/docs/Smjernice_za_upravljanje_rizicima-konacno.pdf), (accessed 25 February 2017)
- Pongrac, B., Majić, T. (2015): *Upravljanje poslovnim rizicima*, Technical journal 9/1, pp. 94-98, [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=203373](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=203373), (accessed 25 February 2017)
- Ministarstvo zaštite okoliša i prirode, *Strategija upravljanja rizicima Ministarstva zaštite okoliša i prirode*, Zagreb, 2015, [http://www.mzoip.hr/doc/strategija\\_upravljanja\\_rizicima.pdf](http://www.mzoip.hr/doc/strategija_upravljanja_rizicima.pdf), (accessed 29 February 2017)
- Dojčinović, D. (2010): *Strateški sustavi upozorenja i upravljanje rizikom*, <http://www.ebizmags.com/strateski-sustavi-upozorenja-i-upravljanje-rizikom/>, (accessed 25 February 2017)
- Osmanagić Bedenik, N. (2007): *Križa kao šansa, Kroz poslovnu krizu do poslovnog uspjeha*, 2nd amended edition, Školska knjiga, Zagreb
- Hrvatska gospodarska komora, *Registar poslovnih subjekata*, [http://www1.biznet.hr/HgkWeb/do/extlogon?lang=hr\\_HR](http://www1.biznet.hr/HgkWeb/do/extlogon?lang=hr_HR), (accessed 08 February 2017)
- Sučić, H., Miloš, Sprčić, D., Zoričić, D. (2011): *Upravljanje financijskim rizicima u hrvatskim poduzećima*, Zbornik ekonomskog fakulteta u Zagrebu, year. 9., no. 1., Zagreb

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**DIGITAL EXCHANGE OF UNPUBLISHED AUTHORIAL CONTENT  
(A PRECONDITION FOR ESTABLISHING CREATIVE MARKET)**

**DIGITALNA BURZA NEOBJAVLJENIH AUTORSKIH SADRŽAJA  
(PRETPOSTAVKA USPOSTAVLJANJU KREATIVNOG TRŽIŠTA)**

***ABSTRACT***

*The creative industries are a prosperous sector with its basic organisation still being formalized. One of the indicators of legal and economic disorderliness of the creative market is also reflected in the nonexistence of transparent market of authorial content. Correspondingly, authorial content refers to a developed authorial idea, i.e. creative content which can be elaborated in accordance with basic entries including: authors' name, biography and portfolio, content title, annotation and/or extended abstract, key words and other features. Digital exchange of authorial content is hereby suggested as a model of an open and transparent market aided by digital technology. Such digital platform intended for advertising of authorial content enables open market communication, i.e. market competition in buying and selling of developed authorial ideas / content. The intention of this paper is to conceptualize digital exchange of unpublished authorial content offered in the domain of publishing industry. The paper also analyses basic conditions which need to be met by the advertisers and provided in production by digital platform organizers. Additionally, statistical metrics is envisioned and it would be a direct contribution to regulation and establishing of a market open to creative industries aided by digital channels of communication. The availability of statistical indicators would enable an insight into the functionality of digital exchange, measurement of economic impacts of trading with authorial content of creative industries as well as long-term expertise of quantitative economics.*

**Key words:** *creative industry, statistics measurement, digital marketplace, unpublished authorial contents, production, publishing industry.*



## SAŽETAK

*Kreativna industrija prosperitetna je gospodarska grana čije je temeljno ustrojstvo još uvijek u formaliziranju. Jedan od indikatora pravne i ekonomske neuređenosti tržišta kreativnih proizvoda uočava se i u nepostojanju transparentnog tržišta autorskih sadržaja. Pri tome se pod autorskim sadržajem smatra razrađena autorska ideja, odnosno, takav kreativan sadržaj koji je moguće elaborirati s obzirom na njegove temeljne odrednice među kojima su: ime autora, životopis autora, portfolio autora, naslov sadržaja, anotacija i/ili prošireni sažetak, ključne riječi te žanrovska i druga određenja autorskoga sadržaja. Digitalna burza autorskih sadržaja predlaže se kao model otvorenog i transparentnog tržišta potpomognutog digitalnom tehnologijom. Takva digitalna platforma namijenjena oglašavanju autorskih sadržaja omogućuje otvorenu tržišnu komunikaciju, odnosno, tržišno natjecanje u kupnji i prodaji razrađenih autorskih ideja (autorskih sadržaja). Cilj rada konceptualizacija je digitalne burze neobjavljenih autorskih sadržaja ponuđenih u domeni nakladničke proizvodnje. U radu su analizirani temeljne pretpostavke koje oglašivači trebaju ispuniti, a organizatori digitalne platforme osigurati u produkciji. Predviđene su i statističke metrike koje bi bile drugi izravni doprinos uređivanju i uspostavljanju otvorenog tržišta kreativne industrije potpomognutog digitalnim kanalima komunikacije. Dostupnost statističkih indikatora omogućila bi uvid u funkcionalnost digitalne burze, ali i mjerenje gospodarskih učinaka trgovanja autorskim sadržajima kreativne industrije te dugoročne ekspertize kvantitativne ekonomije.*

**Ključne riječi:** *kreativna industrija, statističko mjerenje, digitalna burza, neobjavljeni autorski sadržaj, produkcija, nakladnička industrija.*

### 1. Introduction

Over the last decade the creative industries phenomenon has resulted in numerous documents and authors striving to define scope and content of creative industries, among others, Baumol (2011), Caves (2000), Cowen (2011), DCMS (1998, 2001), Eurostat (2016), Twse (2011), UNCTAD (2008, 2010), UNESCO (1986, 2009) and WIPO (2003, 2015). A summary of a large number of definitions of creative industries was provided by Goto (2017:11) concluding that creative industries are characterized accordingly by three features. "First, creative industries contain cultural and economic aspects relating to cultural policy goals such as cultural diversity and access to culture, as well as economic policy goals. Second, creative industries are a combination of art, in the narrow sense, and commerce: the combination of a specific form of creativity, cultural content creation, and its delivery. Third, creative industries are defined to include both non-profit and for-profit organizations".

The focus of authors' reflection in this work is insufficient marketplace organization of (unpublished) authorial content. Namely, if creative industry products are observed as economic goods, then the first condition for doing business with authorial content is to advertise it in a free, and yet regulated market as a meeting place of supply and demand protecting, at the same time, the authorial idea and providing legal protection to the authors advertising their unpublished content. Additionally, the authors of this paper have recognized the potential of digital age to establish digital marketplace of unpublished authorial content providing consequently suggestions how to establish it and basic principles of business in digital marketplace of unpublished authorial content. Using digital marketplace of unpublished authorial content connected to performance of publishing companies as an example, uniqueness of such a marketplace is explained by the authors.

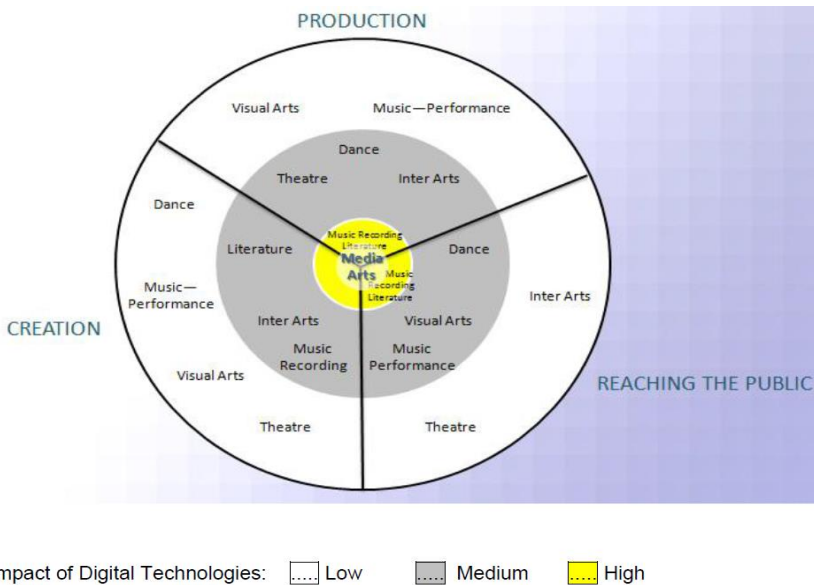
## 2. Exchange of unpublished authorial content in creative industries domain

Within the framework of creative industries it can be initially concluded that there are three active markets with established exchange of various finalizations of the same products. For example, the first step in implementation of a business idea implies exchange of unpublished authorial content, representing, in a way, a "prototype" of a future creative product. Once an author of a creative idea finds a buyer (producer) of his own authorial idea, a signed and certified contract leads to duplication of unpublished authorial content, i.e. its "publication" and preparation and placement on the market of finished products.

Considering the non-existence of such a platform which would enable transparent exchange of unpublished authorial ideas, this paper suggests a digital exchange of unpublished authorial content as a model of open and transparent market aided by digital technology. Such digital platform intended for advertising authorial content enables open market communication, i.e. competitive selling and buying of developed authorial ideas (authorial content), and it can be established for all creative industries sectors.

Justification for the proposition to establish the exchange of unpublished authorial content on digital platform in publishing industry is supported by Figure 1 depicting three dimensions through which the impact of authorial content in creative industries is observed: production, creation, reaching the public (Poole and Le-Phat Ho, 2011: 18). Described impact of digital technology, which finalizes unpublished authorial content into a published product in the domain of (literary) publishing production is depicted in the very centre of the circle in Figure 1. The same authors have characterized such an impact as being extremely high which is of great importance for this paper.

*Figure 1 Impact of digital technologies by artistic discipline/practice*



Source: Poole and Le-PhatHo (2011: 18)

Figure 1 is based on reading and research for which Poole and Le-PhatHo (2011) assigned impact values of flow, medium or high and colour-coded graphic accordingly. Poole and Le-Phat Ho (2011) created colour-coding to describe where digital technologies are having an impact in art disciplines and practice supported by Canadian public art funders.

The concept of *digital exchange of authorial content* which will be explained in the next chapter, originated from a number of presentations which took place on the occasion of *Creative treasury 2015* – the popularisation symposium of cultural and creative industry held at the Faculty of Economics in Osijek.

Some kinds of prototypes of digital CCI exchange which are to be adjusted and improved in the implementation process were presented by Horvat et al. (2015). Academic community was informed about the preliminary draft development exemplified by publishing production in the autumn of 2015 at the 3rd International conference on publishing trends and contexts. On the occasion the trio of authors (Mijoč, Horvat and Tomašević) presented the basic draft of digital exchange of authorial content which will be presented here in a concise version. Despite the fact that in a broader sense authorial content can refer to every developed authorial idea, in this case authorial content will be observed from publishing perspective implying authorial text.

### **3. Digital exchange of authorial content: example of authorial content in publishing domain**

Publishing production is based on three key elements: authorial text, publishing design of authorial text (following the selection of text i.e. unpublished authorial content) and distribution of finalized publishing product. The first step in publishing production is creation of authorial text, and no less important step is the second one by which publisher selects authorial text which is to be formatted.

Exactly publisher's selection of authorial text is the subject of this debate since quality selection requires the first prerequisite to be met and this is the publisher's familiarity with all texts present and offered in a given place and period. At this very moment we consider it important to emphasize that current offer of authorial texts and respective publishing demand takes place in a market where authors are bidders of unpublished authorial content (texts), and publishers - demanders / seekers of the same. According to the basic law of supply and demand the same rule applies to this market implying that increased supply results in decreased demand, whereby disproportionately large number of potential authors and authorial content in relation to relatively low number of (big) publishers, creating therewith a sort of a publishing monopoly. Due to the mentioned reason, authors as bidders of their own content are thinking how to contact the publishers directly and how to inform them about existence of certain authorial content and its characteristics. Publishers, on the other hand, don't have the opportunity to gain insight into the whole offer of authorial content limiting thereby market competition to free communication of only those authors who managed to contact the interested publishers.

In other words, the process of communication between the authors with finished authorial content and publishers, who would potentially publish their content, stops and gets interrupted in the very beginning. Publishers do not have insight into all authorial content, and authors do not manage to inform them about the same.

One of possible digital age solutions is construction of digital exchange of authorial content. Conceptualization of such digital exchange rests on the fact that authorial work (published or unpublished) never becomes obsolete and has potential to be advertised on such a platform permanently.

The basic concept of digital exchange of authorial content rests on construction of digital platform on which authors could publish basic information about their completed, and yet unpublished authorial content. This information database would be available for inspection and

digital search to publishers and other interested financiers (film producers, publishers etc.), whereby the date of content announcement would at the same time serve as copyright protection. In order to avoid unsystematic and inconsiderate publishing of authorial content, the authors with the right to publish their content on digital exchange platform would have to meet two criteria: either be the members of DHK<sup>1</sup> i.e. HDP<sup>2</sup> or possess two reviews of their authorial content written by the members of the mentioned associations or academic institutions. Figure 2 contains the scheme of digital exchange of unpublished authorial content.

*Figure 2 Digital exchange of unpublished authorial content*

| Author<br>(identification number) | Information about unpublished authorial content /text (to be filled up by the author) |  | Publisher     |
|-----------------------------------|---|--|---------------|
|                                   | <b>About authorial content:</b>   | <b>About the author:</b>                           |               |
| Author 1 →                        | Manuscript title  | Biography  | ← Publisher 1 |
| Author 2 →                        | Genre(s)  | Portfolio  | ← Publisher 2 |
| Author 3 →                        | Key words   | Memberships in professional and other associations | ← Publisher 3 |
| ...                               | Literary characteristic 1 (i.e. theme)  | Awards and recognitions                            | ...           |
|                                   | Literary characteristic 2 (i.e. style)  | URL  |               |
|                                   | Literary characteristic n (...)   | Other information                                  |               |
|                                   | Exchange publishing date  | Exchange access date                               |               |
| Author n →                        |   | Contact  | ← Publisher n |

*Source: authors*

As shown in Figure 2, the author who opted for the possibility for his authorial content to be published would advertise basic information about his authorial content (title, key words, characteristics of literary text: genre, theme, style, annotation etc.), i.e. him/herself as the author (biography, contact, URLs). Exchange administrators authorize each publication individually if an author applies for the first time. Permanent members of digital exchange of authorial content i.e. professional associations members (DHK and HDP) do not undergo verifications, except for periodic ones or in case of unethical publication practices by exchange users. Publication date of authorial content is at the same time protection of authorial idea since every publication is accompanied by a date clearly visible to all, whereas other information (such as reviews or parts of authorial content) can be provided to potential publishers upon request or in direct contact with the authors.

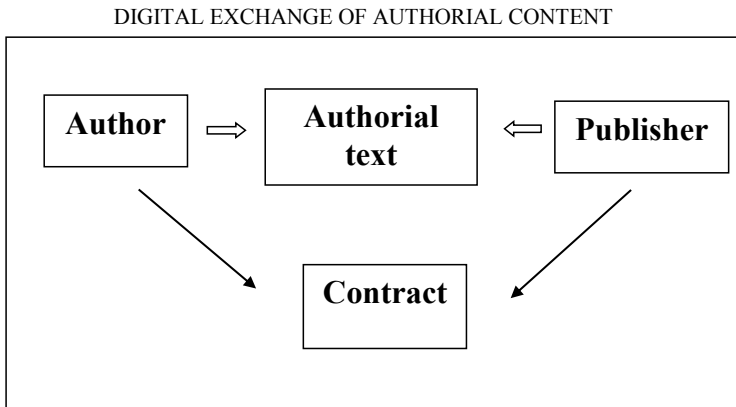
<sup>1</sup> DHK - Croatian Writers' Association, <http://dhk.hr/>

<sup>2</sup> HDP - The Croatian Writer's Society, <http://www.hrvatskodrustvopisaca.hr/hr/>

#### 4. Discussion

Constitution of exchange of unpublished authorial content would enable informing publishers and other interested “producers” about existence of authorial content which is: completed, defined by key characteristics, accompanied by reviews or professional opinion and available for inspection on condition that specific author is contacted. For authors, on the other hand, this would mean the following: avoiding lobbies or other kinds of unethical communication present in the process of informing publishers about availability of certain authorial content, protecting their authorial idea at the moment of publication on digital exchange and public display and availability of authorial content to all interested “producers” (e.g. publishers, directors, producers etc). The mentioned implies that both authors and publishers, i.e. producers in the broadest sense would be provided with the opportunity to communicate directly and “do business” aided by digital technology. (Figure 3)

*Figure 3 Business communication between authors and publishers aided by digital exchange of authorial content*



*Source: authors*

To become reality here defined and envisaged digital exchange of unpublished authorial content would require both parties to have confidence and trust – both authors (content advertisers) and producers (in the given example – publishers), as well as all potential users of published information about authorial content. The mentioned trust can only be established if supported by institutions such as Ministry of Culture or European Commission bodies whose reputation can guarantee supervision and ethics in establishing and usage of such digital platform. Besides, construction of digital exchange of authorial content would enable direct communication on the market between author – producer (e.g. publisher), which would assure omission of mediators and lobbies (Horvat et. al, 2015). All interested parties would also get an insight into creative potential of the Republic of Croatia which would enable future statistical metrics of each creative industry stakeholder interested in advertising on digital exchange of unpublished authorial content.

The question arising is if there is enough interest to leave the monopoly in which big producers of unpublished authorial content are the monopolists and whether an open competition could be established in the supply and demand market of authorial content? The fact which is to enable open trading with authorial ideas become reality is digital age and simplified advertising of

authorial ideas on digital platform (exchange). The other big advantage of digital age is a simplified opportunity to conclude a contract between an advertiser of authorial idea and potential buyers. The third advantage of digital platform would be a possibility to construct new metric systems of creative industry which would speed up the process of its formalization and facilitate the realization.

#### Acknowledgement

This work was supported by research grant from the Croatian science foundation for the research project: Ekonomski temelji hrvatske književnosti (ETHK IP-2016-06-2613).

#### REFERENCES

- Baumol, W.J. (2011) *Application of welfare economics*. In: Towse R (ed) A handbook of cultural economics, 2nd edn. Edward Elgar, Cheltenham
- Caves, R. (2000) *Creative industries, contract between art and commerce*. Harvard University Press, Cambridge
- Cowen, T. (2011) *Creative economy*. In: Towse R (ed) A handbook of cultural economics, 2nd edn. Edward Elgar, Cheltenham
- DCMS (1998) *Creative industries mapping documents* 1998. <https://www.gov.uk/government/publications/creative-industries-mapping-documents-1998> Accessed 4 Feb 2017
- DCMS (2001) *Creative industries mapping documents* 2001. <https://www.gov.uk/government/publications/creative-industries-mapping-documents-2001>. Accessed 4 Feb 2017
- Eurostat (2016) *Culture statistics*. Publications Office of the European Union, Luxembourg. <http://ec.europa.eu/eurostat/documents/3217494/7551543/KS-04-15-737-EN-N.pdf/648072f3-63c4-47d8-905a-6fdc742b8605> Accessed 4 Feb 2017
- Goto, K. (2017). *Defining Creative Industries. In Tax Incentives for the Creative Industries* (pp. 11-20). Springer Singapore.
- Horvat, J., Mijoč, J., & Kalazić, Z. (2015). *Digital CCI Exchange: Paradigm, Concept and Construction. In Conference Proceedings of the International Scientific Conference* (p. 381). Sveuciliste Jurja Dobrile u Puli, Odjel za Ekonomiju i Turizam" Dr. Mijo Mirkovic".
- Office for the Arts (1994) *Creative nation: commonwealth cultural policy*. <http://apo.org.au/node/29704>. Accessed 4 Feb 2017
- Poole, D., and Le-Phat Ho *Digital Transitions and the Impact of New Technology On the Arts*. Report, Canadian Public Arts Funders (CPAF) Network, 2011.
- Throsby, D. (2010) *The economics of cultural policy*. Cambridge University Press, Cambridge
- Towse, R. (2011) *Creative industries*. In: Towse R (ed) A handbook of cultural economics, 2nd edn. Edward Elgar, Cheltenham

UNCTAD (2008) *Creative economy report 2008*.[http://unctad.org/en/docs/ditc20082cer\\_en.pdf](http://unctad.org/en/docs/ditc20082cer_en.pdf). Accessed 4 Feb 2017

UNCTAD (2010) *Creative economy report 2010*.[http://unctad.org/en/Docs/ditctab20103\\_en.pdf](http://unctad.org/en/Docs/ditctab20103_en.pdf). Accessed 4 Feb 2017

UNESCO (1986) *The UNESCO framework for cultural statistics*. Statistical commission and economic commission for Europe, UNESCO, conference of European statisticians. Third joint meeting on cultural statistics, 17–20 March 1986. CES/AC/44/11. 13 February 1986. <http://www.uis.unesco.org/culture/Documents/unesco-fcs-1986-en.pdf>. Accessed 29 Sep 2016

UNESCO (2009) *UNESCO framework for cultural statistics*, UNESCO, Institute for Statistics, Montreal. <http://www.uis.unesco.org/culture/Documents/framework-cultural-statistics-culture-2009-en.pdf>. Accessed 4 Feb 2017

WIPO (2003) *Guide on surveying the economic contribution of the copyright-based industries*. WIPO Geneva

WIPO (2015) *Guide on surveying the economic contribution of the copyright-based industries*. WIPO Geneva [http://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo\\_pub\\_893.pdf](http://www.wipo.int/edocs/pubdocs/en/copyright/893/wipo_pub_893.pdf). Accessed 4 Feb 2017



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## **ROLE OF INNOVATIVE MANAGEMENT IN CREATING COMPETITIVE ADVANTAGE IN HOSPITALITY INDUSTRY**

### **ULOGA INOVATIVNOG MENADŽMENTA U STVARANJU KONKURENTSKE PREDNOSTI U HOTELIJERSTVU**

#### **ABSTRACT**

*Entrepreneurship is based on identifying opportunities for innovation and their quickest possible market and economic valorization. Innovations create resources. Innovations lead to the creation of new resources that did not exist until then (or existed, but had no use value), or give new possibilities for using the existing resources. Innovations enable constant raising of the technological level of products, processes, equipment and materials. Innovation is vital for achieving a competitive advantage. Innovation is an important element of the new economy, i.e. the knowledge economy. Innovative management equals entrepreneurship. Therefore, innovation should not be considered as a separate event, but a process. The very concept of innovation has been a household name for a long time. During the last years the use of its semantic meaning in different areas and contents of economic life has been significantly expanded.*

*The management of innovation processes focuses mainly on creativity and enhancement of existing products, services and processes. The aim of the research is to demonstrate the fundamental advantages of using innovation and technology in the context of innovation management in order to achieve competitive advantage. The purpose of this paper is to demonstrate the improvement of production processes as well as guest satisfaction through the use of innovative management methods.*

*The paper uses adequate scientific and professional methodology to analyze innovation developments affecting the improvement of business processes of a company. Both domestic and international bibliographic materials were used in preparing the paper. Also used were scientific methods mostly of classification and description, as well as induction and deduction and concretisation.*

*The growing competitive environment suggests that the challenges facing the management system will be different in the future. Managers will have to create an environment to execute complex strategies. Intensive implementation of information technology in the business system will allow management companies a relatively more effective implementation of strategies and the convergence to objectives. By putting the guest, i.e. the relationship with the guest, at the strategic center, new innovative forms of management functions and concepts are being*

sophisticated, which will enhance this approach and try to keep the guest for life, with constant delight with their products or services.

**Key words:** innovative management, entrepreneurship, information technology, customer satisfaction.

## SAŽETAK

Poduzetništvo se zasniva na prepoznavanju prilika za inovacije i njihovu najbržu moguću tržišnu i ekonomsku valorizaciju. Inovacije kreiraju resurse. Inovacije dovode do stvaranja novog resursa koji do tada nije postojao (ili je postojao, ali nije imao upotrebnu vrijednost), ili daje novu mogućnost upotrebe već postojećem resursu. Inovacija omogućava stalno podizanje tehnološkog nivoa proizvoda, procesa, opreme i materijala. Inovacija je od vitalne važnosti za ostvarivanje konkurentske prednosti. Inovativnost je važan element nove ekonomije, odnosno ekonomije znanja. Inovativni menadžment jednak je poduzetništvu. Stoga se inovacija ne smije smatrati zasebnim događajem, nego procesom. Sam pojam inovacija udomaćen je dosta dugo. Tijekom zadnjih godina znatno je proširena primjena njegovog semantičkog značenja na raznim područjima i sadržajima gospodarskog života.

Upravljanje inovacijskim procesima usmjerava se u najvećoj mjeri kreativnost i poboljšavanje postojećih proizvoda, usluga i procesa. Cilj istraživanja je prikazati temeljne prednosti korištenja inovacija i tehnologije u okviru inovativnog menadžmenta kako bi se postigla konkurentska prednost. Svrha rada je dokazati poboljšanje proizvodnih procesa kao i samo zadovoljstvo gosta kroz korištenje inovativnih metoda upravljanja.

U radu se adekvatnom znanstvenom i stručnom metodologijom analiziraju inovacijska dostignuća koja utječu na poboljšanje poslovnih procesa poduzeća. Kod izrade rada koristila se domaća i svjetska bibliografska građa. Ujedno su korištene i znanstvene metode ponajviše klasifikacije i deskripcije, te indukcije i dedukcije i konkretizacije.

Razvijajuća konkurentska okolina sugerira da će izazovi pred menadžment sustavom, u budućnosti biti drugačiji od sadašnjih. Menadžeri će morati kreirati okolinu za izvršavanje kompleksnih strategija. Intenzivno implementiranje informacijske tehnologije u poslovni sustav omogućit će menadžmentu tvrtke relativno efikasniju realizaciju strategije i približavanje ciljevima. Stavljanje gosta, tj. odnosa s gostom, u strateško središte, sofisticiraju se inovativni oblici menadžment funkcija i koncepcija, koji će poboljšati taj pristup i pokušati zadržati gosta doživotno, uz neprestano oduševljavanje svojim proizvodima ili uslugama.

**Ključne riječi:** inovativni menadžment, poduzetništvo, informacijska tehnologija, zadovoljstvo gosta.

### 1. Innovative - creative approach to management

The development of civilization is the result of many entrepreneurial ventures. "Different times and different circumstances demanded that the human positive energy, ideas and creativity are channeled into various ventures. If we consider the past time, it can be seen that the civilizational shift is the work of a number of courageous, different, creative individuals and groups willing and able to engage in risks in order to achieve progress and advancement of society. Periods of civilization stagnation are related to the deficit of human resources of this type and reluctance towards new undertakings. Transition periods in the history of market-oriented societies are characterized by the key role entrepreneurs. Even Schumpeter placed business cycles into functional dependence from innovation and entrepreneurship. Progress was created when a

number of entrepreneurs, whose ideas were a step ahead of time, engaged in new ventures (Lajović,1998, 67). For easier understanding of main differences of creative approach in relation to the rational approach to management, we will use the following table:

**Table 1** Overview of differences between rational and creative approaches

| RATIONAL APPROACH                                | CREATIVE APPROACH  |
|--|--|
| Precise definition of situation, task or problem | Trying to understand the situation, task or problem              |
| Setting goals                                    | Data collection  |
| Formulation of a hypothesis                      | Analysis of the situation and data                               |
| Data collection                                  | Incubation (letting the understanding of the problem to mature)  |
| Processing of collected data                     | Inspiration (generating ideas)                                   |
| Determining the available alternatives           | Synthesis (connecting more ideas in a whole)                     |
| Selection of the best alternative                | Verification of ideas and comparison with the desired objectives |

Source: Srića, V. (1992): *Principles of Modern Management*, Zagreb Business School, Zagreb, p. 234.

Even a rough comparison of the abovementioned phases makes it evident that a rational approach is more concrete, i.e. more conventional in relation to the creative approach, which is far more flexible. Creativity is an important factor in managing people and is usually dimensioned as a generation, production of new ideas, with the ultimate goal of adopting and implementing these ideas. It can be said that the creative approach is a reflection of the ability to connect previously unconnected things, provided that they obtain a new, so far unknown, dimension. When comparing the notion of creativity and innovation, innovation is precisely the goal of creativity. When we talk about the creative process, it consists of the following four stages, which are in interdependence: unconscious search, intuition, promotion, logical formulation (Weichrich, Koontz, 1998, 213).

## 2. Innovation as the driving force of efficient business

The term "innovation" in the world, in the last twenty years, has become a key word in the title of a large number of books on entrepreneurship, management and strategic management. Innovation represents every system of organizational and meaningful activities aimed at making changes (new product, production process, organizational structure, management style, etc.). Etymologically, the term innovation is derived from the Latin word *innovare* meaning to do something new. Innovation, in essence, is the improvement of technology. Innovation is a new product, service, process, technology created by applying ones own or other people's results of scientific research, discovery and knowledge; through ones own concept, idea or method of its creation, and which is placed on the market with appropriate value. Peter Drucker points out that: "Innovation represents an action that endows resources with new capacity to create wealth. Innovation, in fact, creates resources. There is no such thing in the world as "resource", as long as one does not find a use value of something in nature and bestows something with economic value (Weichrich, Koontz, 1998, 81) The entrepreneurial economy is the economy in which innovation is a normal, regular, stable and continuous phenomenon. Entrepreneurship is a process by which an individual or group of individuals use organized effort to take advantage of opportunities and create value, and in order to expand by the fulfillment of requirements and needs through innovation and uniqueness, regardless of the resources that the applicant possesses. Innovation is the key characteristic of entrepreneurship. In fact it can be said that innovation is what makes entrepreneurial business "entrepreneurial". Entrepreneurial business is exposed to constant changes. Changes occur by influence of external (changes in laws and regulations, exchange of technology, economic changes) and internal forces (introduction of new

equipment, changes in the organization, relation of employees). Of the many problems that entrepreneurs have, changes are the biggest problem. "Innovation is an instrument of entrepreneurship. We should bear in mind that innovation creates resources. Resources remain a dysfunctional thing until the moment they get a usable and then economic value." (Schumpeter, 1954, 80). Therefore innovation is a "magical thing" that leads to the creation of new resources that previously did not exist (or existed, but had no use value), or gives a new possibility of using an existing resource. Innovation increases the potential for producing wealth. Given that today two most valuable resources in economy are time and information, most innovation focuses on them. Any innovation that increases the time available to us (by reducing the time required to perform specific processes) or gives us more information, allows us to create more. Of course, one should take into account the fact that innovation does not need to be only of technical nature. Innovations do not even have to be physically tangible. A good example is the project organization that has revolutionized the business of enterprises. Realization of the process of innovation is approached only by some, daring entrepreneurs, who use innovation, make profit, but also provide the benefit for the whole society, because there are significant interdependencies between different forms of innovation. Thus, new products open up new markets, generating demand for new resources and raw materials and encouraging innovation of production technologies. Innovation is the process of turning ideas into practical application - realization. This definition is best illustrated by the following relations (Trott, 2005, 27):

$$\text{Innovation} = \text{Theoretical concept} + \text{Technical inventions} + \text{Commercial exploitation}$$

The main factors affecting innovation are the specific competitive environment in the branch to which the organization belongs to and innovation of the organization itself. New product development can bring the company more strategic advantages, because the new product can: be a source of competitive advantage, provide opportunities for enhancement or change of strategic direction, improve the corporate image, ensure return on investment and capitalize on the results of research and development, strengthen marketing/brand, favorably impact human resources (Narayanan, V. K., 2001, 54).

Successful innovation management must ensure the flow of knowledge within key functions in the company, as well as the flow of knowledge between these and other functions, which should also support communication with the environment in order to increase competitiveness and profitability, and achieving business success. Innovation, as a feature of the organization, consists of the openness of the organization to change, successful change management and successful acceptance of changes. Innovation is a characteristic of companies that engage in the adoption of new ideas and quickly react to impulses from the environment. Innovation organization is a necessary condition for successful functioning in order to achieve long-term business success, i.e. profitability and competitiveness. Innovative organization is characterized by orientation towards customers and markets and reliance on technology as a resource for achieving competitiveness, openness and orientation towards change, which is a requirement for a high degree of innovativeness of a company. Key factors in the competitiveness of innovative enterprises are innovations that represent their strategic resource.

### **3. Application of innovation in croatian tourism**

Innovations in products relate to the development of completely new tourism products and to improving the existing ones. Modern trends in the tourist market point to the emergence of hyper tourism market and the creation of tourist products and services intended for a narrow market segments with very homogeneous characteristics. This leads to the development of tourism of

special interests, or to the development of market niches such as, for example, bird watching, free jumping, dark tourism and eco tourism, etc.. These are all examples of innovative development of new tourism products aimed at satisfying the specific needs of narrow market segments. In addition to the development of completely new tourism products, new and creative ways of packaging existing tourism products can also be regarded as a kind of innovation.

Examples of such innovations can most often be found in the hotel industry, where different types of hotel amenities such as gastronomic offer, wellness facilities, entertainment and animation, excursions, etc. are combined in different ways and thus create new and innovative tourism products. Additional examples of innovations in this area include consumer loyalty programs, construction of environmentally sustainable accommodation, organizing events based on local tradition and the like. Unlike other areas of innovation, innovation in the field of tourism products for consumer are very easily perceived and these innovations are very often the deciding factor when making decisions about buying travel products. Innovations in business processes are related to the optimization of business processes, i.e. reduction of operating costs by applying innovative technology solutions that can help reduce the need for production inputs. When it comes to tourism as a work-intensive activity, optimization of business processes is usually accomplished by applying those technological solutions that reduce the need to use the production input of labor. Innovation in the field of business processes is achieved because of the need for continuous quality improvement of the tourism product. The example of such innovation is the introduction of standards for storage, preparation and serving of food (the so-called HACCP), and their implementation enables faster cooking in better hygienic conditions and at lower costs.

In recent times very popular are innovations of business processes as a function of energy saving and reduction of negative impacts of tourism activities on the environment. All innovations that are happening in the field of business processes would not be possible without intensive application of information and communication technologies (ICTs). Although very important for the final quality of the tourism product, innovation in this area of business processes as opposed to innovation in products that are in the function of attracting consumers, business process innovations are more in the function of the smooth operation of the tourism system. Innovations in the field of information management are in the closest connection with the development of information and communication technologies. The development of ICT, and especially the Internet, in the last two decades has resulted in major changes, particularly in the field of marketing. However, in addition to marketing, ICT has found an important application in other business functions of tourist enterprises such as purchasing, production, finance, accounting, administrative functions and the like. In addition to raising the efficiency of business processes, innovative application of modern information and communication technology, particularly advantageous synergy effects are achieved when innovative application of modern ICT is combined with other policy measures such as the construction of key competences and quality human resources management. Innovations in the field of management are related to new and innovative approaches aimed at high-quality human resources management. For example, one of the biggest challenges of hotel companies is retention of highly qualified personnel while maintaining organizational flexibility and cost control. Therefore, it is precisely this area that was the subject of frequent innovation in management. The objectives of these innovations are different, but the most important are to increase job satisfaction, increase loyalty of employees and internal development of key competencies of employees through career development plans, some financial simulations, team building activity, internal marketing and the like. In addition, innovations in the field of management and are aimed at raising the skills of management of tourism enterprises and organizations to adequately manage the often complex relationships between the various stakeholders involved in tourism development (tourists, locals, tourism companies, etc.).

It is difficult to accurately assess the degree of innovativeness of the Croatian tourist industry given that there are no official figures, nor has so far been conducted any research on the innovation potential of Croatian tourism. One of the few studies of innovativeness of the entire Croatian economy is the "Croatian Innovation Quotient" which was for the first time this year conducted by the consulting house Sense Consulting, Vern College and business weekly Lider. Although the focus of this research is not tourism but total Croatian economy, the results of this study provide a good insight into the degree of innovation of the Croatian economy. Given the fact that tourism is an integral part of the economy, innovativeness characteristics of Croatian tourism should not largely differ from the characteristics of the innovativeness of the overall economic system of our country. The survey shows that Croatian companies, regardless of perceiving themselves as very innovative, still inadequately manage their innovation development. While companies recognize the importance of innovation for business success and accordingly give innovations an important place in their business strategies, most companies invest very little in raising their innovation potential. More than half of the companies does not have an organized system to encourage innovation but obtains innovations spontaneously or due to increased personal involvement of employees. Also there is a very small proportion of companies that have institutionalized the process of innovation by introducing specific organizational units to deal with innovations. The slow commercialization of innovations being developed by Croatian companies stands out as an additional problem, i.e. a long period from the development of ideas to the placement of products or services onto the market. It is important to point out that there are differences in the innovative capacities of small and large companies. Large companies have a growing number of newly-developed products/services, but also a very long period to launch new products on the market. Unlike them, smaller companies have a smaller number of new products, but they very quickly put them onto the market so in their total income they have a greater share of revenues from innovative products than large companies.

As is the case with Croatian companies in general, such innovations are not developed systematically nor in tourism, whether it is about innovation at the company level, in the public sector or the planning documents that do not incorporate innovation into strategic objectives, nor into action plans. This does not mean that the Croatian tourism does not innovate, but that this process has not gained awareness what is vividly illustrated by the example of the program EDEN, which has been implemented in the European Union since 2006, and which is considered a good example innovativeness in tourism. In this program destinations are competing in the field of innovative rural tourism development according to the principles of social, cultural and environmental sustainability, and are given the title of "European Destination of Excellence". Although Croatia has been participating in this program from the start, and every year the Days of Croatian Tourism give an award to selected destinations, we in Croatia are not aware of the innovative dimension of this program. Another such example is social tourism that is often propagated under the slogan "Tourism for all" - an affordable, responsible tourism freed of obstacles that includes all socially vulnerable groups (youth, elderly, people on low incomes, people with limited mobility, etc.). Although in Croatia, as well as in many other countries, there were a variety of activities that fall under the concept of social tourism, they were conducted within the framework of social and social policies and at the initiative of socially vulnerable groups. Only recently have they been brought under the common concept of social tourism and, more importantly, introduced into the sphere of national tourism development policy, like for example in Austria, Belgium, Italy, France and Germany. In Croatia, the Ministry of Tourism is already in 2008 drafted a strategy of social tourism. However, as in the case of EDEN, this approach is not recognized as an innovation.



#### **4. Role of information technology in obtaining a competitive advantage**

The strategy of technological development is access to enterprise development and use of technology. Technology strategy can be established at different levels, at the level of the state, economy, branch and enterprise. The business strategy of the company aims to determine, globally speaking, position, attitude and action of the company in relation to the environment. The strategy of technological development is closely linked to business strategy, and is influenced by a large number of technological and non-technological factors (Stipanović, 2006, 145). The issue of technology strategy is of paramount importance for any company, because its competitive advantage for the most part depends on the chosen technology. The company determines the optimal strategy of technological development on the basis of: established policies and strategies of technological development at a higher level, customer possibilities of technological development in the past and at the present time and, in the end, score and evaluation of possible technological alternative developments. In evaluating alternative options we have in mind: new technologies as a result of ones own research and development resources, new technologies as a result of horizontal transfer of technology within the country and new technologies as a result of horizontal transfer of technology from abroad.

Professor at Harvard Business School and a leading world authority in the exercise of competitive strategy and international competitiveness, *Michael E. Porter* in his famous and often quoted work, "Competitive Advantage", points out: "Technological changes are one of the main generators of competition. They play the most important role in changing the structure of the existing and creation of new industries. In addition, technological changes equate companies, since they reduce the competitive advantage of some companies, even the best positioned ones, and point out other companies. Many large companies today have arisen due to the fact that they were able to take advantage of technological changes. Technological changes are one of the most important factors that can change the rules of the competition." However, also present is the phenomenon that the relationship between technology and competition is often misunderstood. Technology or technological changes are not significant in themselves, i.e. they are not something that has a value by its own existence. Technological changes are important and have value if they affect the competitive advantage and industry structure. Wrong are those who believe that high technology guarantees the profitability of a company. It is not rare that investment in high technology can exacerbate the competitive position of the company. As the technology is included in all the activities of a company that create some value, it appears that technology, thanks to the impact that it has on virtually every activity, affects the competitiveness of enterprises. Any activity that creates value must use some technology, which enables a company to combine human resources and purchased inputs to produces some output. Technology can be very simple, but most commonly is a collection of sub-technologies.

#### **5. Innovative management in the function of guest satisfaction**

Croatian hotel industry is exposed to fierce global competition and its survival in a demanding and dynamic market is possible only by following trends relating to improving the quality of products and services at all levels of operations and the efficient performance of business processes. The hotel, as the primary holder of the tourist offer in the first place should have a professional and satisfied staff because the hotel management business, which is extremely sensitive to the lack of quality in all ways, and not enough professional and disgruntled employees can adversely affect customer satisfaction, and therefore the competitiveness and business success of the hotel. The success and profits of each hotel are closely related to customer satisfaction, which is one of the main preconditions for their loyalty. However, to



determine the level of guest satisfaction with the service provided at the hotel is a very complex task, because management can be satisfied with specific services and departments in the hotel, but that does not mean that the guests were happy. In time to come, the satisfaction of hotel guests will be a leading indicator of business performance of a hotel. Therefore, the underlying assumption is to find out what constitutes value for guests and what the initiators of their satisfaction are, because the more satisfied the hotel guests are the more likely is that they will be loyal and will buy and use its services. This guest satisfaction affects the profitability of the business, and this is in a way that due to high levels of satisfaction they are less sensitive to price changes and more resistant to efforts of the competition to attract them. Therefore, the need to harmonize existing hotel questionnaires with the recommended criteria that in scientific - professional practice are referred to as the standard is the basis for the collection of relevant information on the degree of satisfaction of hotel guests. This creates a good foundation for better decision-making on the improvement of business and increase of the level of satisfaction of hotel guests.

Each hotel product is specific and extremely complex. Business processes in all departments in the hotel must function perfectly, employees at any time need to know, what, how, and in what way to perform them in order to meet the needs and wishes of each guest staying at the hotel. Quality is an essential factor for survival in the market and represents the level of satisfaction of needs and desires of guests, or compliance with their expectations. The quality of the products/services in the hotel depends on many elements, and the focus of the quality is transferred to the ones who perform the services, i.e. all the employees at the hotel.

IN the essence of every business success is directing of business activities to the needs of end users/customers of products or services. In the field of tourism and hospitality it is the care of the guests that conceives the existence of all work processes within the sector. Reception of guests, accommodation, meals, entertainment and a host of other facilities in the tourism and hospitality industry are a set of business activities that meet the needs and desires of the customer. In a constantly growing industry offers of various goods and services for consumption of users/customers/guests, and business quality are increasingly measured by the ability to personalize services. Users/customers/guests with their specific needs and desires become a measure of effectiveness and profitability of business operations. In the sector of tourism and hospitality taking care of guests is the most important component of the professional activities of all employees involved in the production and provision of services. The success of tourism and hospitality industry depends entirely on the quality of care services that can be realized through a harmonized process of communication cooperation of all involved in the work process.

Interconnection, understanding, tolerance and cooperative relations of all stakeholders of the work process are manifested indirectly and directly to guests who consume tourist and hospitality products and services, which they strongly perceive, assess, remember and positively accept or reject. It is particularly important here to emphasize direct communication with guests. Successful communication with guests is the best publicity and great contribution to the quality of business, but also unprofessional and ineffective communication and guest's dissatisfaction can cause incalculable adverse consequences to the business. In personal contact with the guests it is necessary to identify their needs and desires and incorporate them into a quality service. It will thus become specific and to some extent personalized and will thus contribute to a marked level of satisfaction of the customer. The level of satisfaction of a guest corresponds to the level of professional efficiency of the services provided by the tourism and hospitality sector. In this context, quality of services are measurable and verifiable. The higher level of professional efficiency achieves a higher level of quality of service that the customer can/wants to consume,

but which actually creates business success and profit. Taking care of the guest is the central service of tourism and hospitality, which is at the same time selling the product and itself.

A number of factors affect the expectations of the customer. These expectations need to be recognized as clearly as possible and on their basis form a range of products and services. Expectations of guests stem from the value system of social status and culture to which they belong, attitudes about culture in which they reside, their personal (internal) values and attitudes, the current mood conditioned by internal and external events, their primary and secondary needs and habits. Providing quality services which presupposes a comprehensive care of the guests assumes: knowledge of the culture from which the guest is coming, understanding and acceptance of specificities of guest's personality, recognizing guest's expectations, good knowledge of production and service activities of the hotel and tourist destination where the customer is staying, communication skills in native and foreign languages, responsibility for undertaken commitments, the ability to identify problems and find satisfactory solutions, positive attitude and acceptance of diversity of cultures, values and attitudes, openness and good humor.

## 6. Conclusion

Very often need creates innovation. The production process is a common source of innovation. Everyday process of business activities is an endless source of innovation. Sometimes these innovations impose themselves, due to the natural ways of the process, while sometimes it is more difficult to get to them. What is common to all is that when it comes to them, they are very quickly accepted. Although theoretical analyzes show a synergistic effect of new technology on the reduction of costs, which suggests that the company should always decide to buy new technologies, because this solution brings great benefits, however, deciding on new technologies is very complex and open dilemmas. The complexity of the issues of new technology is based on the fact that the technology is very expensive and that a decision on the acquisition of new technology is made only after all possibilities of using existing technologies have been exhausted. This means that before investing in new technology, we should make maximum use of the possibilities of rationalization, increased flexibility, more efficient organization and management of technological processes and operations of the existing technology. The growing competitive environment suggests that the challenges facing the management system will be different in the future. Managers will have to create an environment to execute complex strategies. Intensive implementation of information technology in the business system will allow management companies a relatively more effective implementation of strategies and the convergence to objectives. Complex is the process of restructuring of a business that was valid in a traditional economy, in the form required by the new economy. Investing in knowledge in the modern economy is the most cost-effective investment. The most developed countries in the world today are countries that have a high level of investment in education and science. Therefore, we can say that knowledge has become a decisive factor in business success and competitive advantages of modern enterprises. Developed countries are turning to that which requires less labor, raw materials, energy, and as much knowledge as possible. Knowledge, information, skills and innovation have become key wealth and productive resource of industrial society. New marketing functions, which are being developed as a result of restructuring of modern business systems, in the direction of *e-business* and *e-commerce*, with their innovative approach increase efficiency, speed and quality of logistics functions, sales and purchasing. By putting the guest, i.e. the relationship with the guest, at the strategic center, new innovative forms of management functions and concepts are being sophisticated, which will enhance this approach and try to keep the guest for life, with constant delight with their products or services.

## REFERENCES

- Ansoff, I. (1965): *Corporate Strategy Business Policy for Growth and Expansion*, McGraw Hill Book Company, Boston
- Bahtijarević - Šiber, F. (1991): *Organizacijska teorija*, Informator, Zagreb
- Bahtijarević - Šiber, F. (1999): *Management ljudskih potencijala*, Golden marketing, Zagreb
- Brekić, J. (1994): *Inovativni management*, Alineja, Zagreb
- Bodrožić, D. (1978): *Tehnološki sistemi*, PFV, Beograd
- Buble, M. (1993): *Management*, Ekonomski fakultet, Split
- Cerović, Z. (2003): *Hotelski menadžment*, Fakultet za turistički i hotelski menadžment, Opatija
- Decelle, X. (2004): *A conceptual and dynamic approach to innovation in tourism*, OECD: Innovation and Growth in Tourism: Conference Papers, Paris
- Deželjin, J., Vujić, V. (2002): *Poduzetnički menadžment*, MEP, Zagreb
- Drucker, P. (1992): *Inovacije i poduzetništvo*, Globus, Zagreb
- Galičić, V., Ivanović, S. (2008): *Menadžment zadovoljstva gosta*, Fakultet za menadžment u turizmu i ugostiteljstvu, Opatija
- Golder, P., Tellis, G. (1992): *Pioneer Advantage: Marketing Logic or Marketing Legend?* Journal of Marketing Research, pp. 34-46.
- Hisrich, R., Peters, M., Shephard, D. (2011): *Poduzetništvo*, Mate, Zagreb
- Hjalager, A. (2012): *Innovation patterns in sustainable tourism: An analytical typology*, Tourism Management, Vol. 18, No. 1, pp. 5-41.
- Lajović, D. (1998): *Privatizacija i poduzetništvo - putokazi profita*, Ekonomski fakultet, Podgorica
- Narayanan, V.K. (2001): *Managing Technology and Innovation for Competitive Advantage*, Pearson, Cambridge
- Obraz, R. (1984): *Inovacija proizvoda od zamisli do ostvarivanja*, Informator, Zagreb
- Schumpeter, J. (1954): *History of Economic Analysis*, Oxford University Press, New York
- Sikavica, P., Novak, M. (1999): *Poslovna organizacija*, Informator, Zagreb
- Srića, V. (1992): *Principi modernog menadžmenta*, Zagrebačka poslovna škola, Zagreb

Stipanović C. (2006): *Koncepcija i strategija razvoja u turizmu – sustav i poslovna politika*, Fakultet za turistički i hotelski menadžment, Opatija

Stošić, B. (2007): *Menadžment inovacija - ekspertni sistemi, modeli i metodi*, FON, Beograd

Trott, P. (2005): *Innovation Management and New Product Development*, Prentice Hall, London

Wehrich, H., Koontz, H. (1998) : *Menedžment*, Mate d.o.o., Zagreb

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**THE ROLE OF TRANSPORT INDUSTRY IN CROATIAN ECONOMY:  
COMPARISON WITH EU28**

**ULOGA PROMETNOG SEKTORA U GOSPODARSTVU REPUBLIKE  
HRVATSKE: USPOREDBA S EU28**

**ABSTRACT**

*This article provides a comprehensive review of trends in transport industry and its role in Croatian and EU economy. It is well known that transport represents one of the crucial industry of the economy. Transport industry and related transport infrastructure networks are seen as key drivers in the promotion of economic growth and development. With around € 1.5 billion in Gross Value Added (GVA), the transport and storage services industry accounted more than 4.5 % of total GVA in Croatia in 2014, while it was 5% at the EU level. This paper surveys the theoretical and empirical literature on the linkages between transport industry and economic growth. The aim of the research is to analyze the role of transport industry in Croatian economy, distinguishing among different modes of transport. It is analyzed the economic performance of transport industry and trends of each mode of transport by using statistical methods. In the paper is estimated the impact of different variables on transport industry, moreover on gross value added of transport industry. It is used panel data analysis on data spanning 15 years, from 2001 to 2015 for 28 EU Member states, in order to estimate the effects of the most important variables that affect grow value added of transport industry. Fixed effects estimator shows that gross value added of manufacturing industry and compensation of employees have a significant impact on the gross value added of transport industry. Considering the trends in the transport industry in the past 14 years, among all modes of transport, the land transport e.g. road transport still counts for the most important factor in growth of transport industry on the both EU level and in each member state by itself.*

**Key words:** Transport industry, gross value added, fixed effects, Croatia, EU28.

## SAŽETAK

*Rad obuhvaća opsežan pregled kretanja trendova u sektoru prometa i njegove uloge u gospodarstvu Republike Hrvatske i gospodarstvu Europske unije. Opće je prihvaćeno da promet predstavlja jedan od krucijalnih sektora gospodarstva. Sektor prometa i povezana transportna infrastrukturalna mreža predstavljaju glavne pokretače u promoviranju gospodarskog rasta i razvoja. S otprilike 1,5 milijardi eura bruto dodane vrijednosti, sektor transporta i usluge skladištenja su 2014. godine činile 4,5% od ukupne bruto dodatne vrijednosti Republike Hrvatske dok je udio na razini Europske unije iznosio 5%. Ovaj rad obuhvaća teorijski i empirijski pregled dosadašnjih istraživanja o povezanosti prometa i gospodarskog rasta. Cilj istraživanja je analizirati ulogu sektora prometa u hrvatskom gospodarstvu, prema pojedinim vrstama prijevoza. Koristeći se statističkim metodama, u radu se analiziraju gospodarski trendovi sektora prometa i trendovi kretanja pojedinih vrsta prijevoza. Procjenjuje se utjecaj različitih varijabli na prometni sektor, odnosno na njegovu bruto dodanu vrijednost. U analizi se koriste panel podaci za razdoblje od 15 godina, od 2001. do 2015. godine za zemlje članice EU28 kako bi se procijenili učinci najvažnijih varijabli koje utječu na bruto dodanu vrijednost prometnog sektora. Procjenitelj fiksnih učinaka pokazuje kako su u posljednjih 14 godina bruto dodana vrijednost prerađivačke industrije i bruto plaće zaposlenima imali signifikantan učinak na bruto dodanu vrijednost prometnog sektora.*

**Ključne riječi:** prometni sektor, bruto dodana vrijednost, fiksni učinci, Republika Hrvatska, EU28.

### 1. Introduction

Since the beginning of the industrial revolution, transportation has become a frequent tool used for economic growth and development. Global, regional and local transportation systems have become essential components of economic activities. Economic opportunities in a global economy have been associated to the movement of people, goods and information. Transport industry together account for about 5 to 12 percent of GDP in developed countries. Even more important indicator of transport industry's importance is the share in national Gross Value Added. Data from Eurostat (2017) show that the transport and storage services industry accounted more than 4.5 % of total Gross Value Added (hereinafter: GVA) in 2014 and supported 4,91% of domestic labour force in EU28 and 6,53% in Croatia in 2015.

The purpose of this paper is to analyse the position of transport industry in Croatia and EU economy. It is important to point out that no single transport has been individually responsible for economic growth, and that is why in this paper is analysed the share of GVA of each mode of transport in GVA in total transport industry. In economic system, what takes place in one industry has impacts on another; demand for a good or service in one industry is derived from another. Considering the fact that transportation is directly the outcome of the functions of production and consumption, in the paper is empirically tested the impact of GVA of manufacturing industry on GVA of transport industry. The paper provides a macroeconomic overview of the transport industry in EU28 Member States during 2000-2015 period. The remainder of the paper is structured as follows. The review of the transport related literature follows the introduction. Section 3 presents the methodology of the research presented in this paper. In section 4, used data and descriptive statistics for GVA of transport industry in selected countries is explained. Section 5 contains results and discussion. Finally, section 6 concludes and gives suggestion for the potential further development of transport industry analysis.

## 2. Literature review

Theory of the impact of transport industry on economic growth is an open set. In the eighteenth century, Adam Smith highlighted the importance of transport. As in Smiths (2007), transport was a productive branch that creates value, but not the use value. In his work "The Inquiry into the Nature and Causes of the Wealth of Nations" he pointed out that increased production which exceed local market, needs to access wider markets (part of his vent for surplus idea), where water transport gain an important role. With the industrial revolution, transport started to play an important role in economic activity. Heldman (1973) stated that from the economic point of view, transport is like money, it fulfils the fundamental function in any economic system which is based on the division of labour.

Many empirical works have pointed to a strong relationship between transport and economic growth, e.g. the relationship between access to sea, percent of population living on the coast, urbanization and economic growth (Gallup, Sachs and Mellinger, 1998) The economic decisions are built and limited by the transport costs of goods and commodities from one place to another (Fujita et al.,1999; Glaeser and Kohlase, 2003).

Zelenika and Pupovac (2000) pointed out that transport services, as one of the key providers of the service sector with its meaning, transcend the limits of the respective sectors, and are almost irreplaceable, both for satisfying the needs of the population, and the needs of entrepreneurs and companies from other sectors of the economy. Čavrak (2003) stated that the transport makes a part in each phase of reproduction, e.g. production, trade, allocation and consumption. Which lead us to conclusion that economic activities could not be handled without transport system. Fageda and Gonzalez-Aregall (2012) tested the impact of various modes of transportation, including roads, railways, air traffic and different types of port traffic on industrial employment. The paper analyzed spillovers from network modes and from non-network modes (i.e., ports and airports). In the paper was used spatial Durbin model with spatial and time-period fixed effects, as the most suitable one. The paper finds that some types of transport infrastructure significantly influence the employment in the manufacturing sector e.g. motorways density and port traffic.

In the recent work, Rodrigue et al. (2013) gave a great contribution to the transport research in their literature "The Geography of transport system". According to them, the economic importance of the transportation industry can be assessed from both, macroeconomic and microeconomic perspective, where looking from the macro perspective, transportation is related to a level of output, employment and income within a national economy. From the microeconomic point of view, transportation is related to a producer, consumer and production costs. Moreover, Nistor and Popa (2014) identified the role of transport as a driver of new services and real time traffic capabilities. They stated that the relationship between transport and economic growth is not a direct one, more indirect thru its implementation into the structures and processes of production, location and size of firms, structures and processes of distribution and other characteristics of production organization. Transportation is a significant industry in every developed economy. The way with which firms are capable transporting goods within a country can affect their competitiveness in global trade. When transporting goods is accessible and economical, exporters can conveniently ship their commodity to export locations and on to international markets and vice versa (Goldsby et al., 2014).

As in Ismails and Mahyideen (2015) infrastructure plays a key role in facilitating trade. They tested the impact of hard and soft infrastructure on trade volume for exporters and importers. Th



findings showed that improvements in transport infrastructure have resulted in increased of trade flows.

According to Diaz et al. (2016), a stable transportation infrastructure improves the commercial attractiveness of a region, because convenient transportation infrastructure ease the fast movement of goods and persons. Nistor and Popa (2014) claimed that transport have an important effect to the balanced development of economic and social systems of a country.

### 3. Methodology

This paper uses both, a qualitative and quantitative approach to analyze the position of transport industry in EU28 Member States economies. The paper analyzes the trends in transport industry for the period from 2001 to 2015. The work provides the comparison of GVA of transport industry in Croatia and EU28. Moreover, the paper analyses the historical data for GVA and employment in the transport industry distinguishing between different modes of transport, e.g. land, water, air transport and warehousing.

Considering the demand for transportation as a derived demand from other industries (manufacturing industry in particular), and in order to estimate the effects of the most important variables that affect grow value added of transport industry is used panel data analysis. Moreover, using fixed effect estimator (henceforward FE), we estimate the impact of GVA of manufacturing industry, compensation of employment and employment on the GVA of transport industry. The FE estimator is best suited for explaining the relationship between predictor(s) and

outcome variable within an entity, in our case, country (Torres-Reyna 2007). One of the

downsides of the estimator is that it removes the effects of time-invariant characteristics because of the within transformation of the variables (estimator subtracts the mean of the particular variable from each observation and since time-invariant variable have constant value throughout time, they get wiped). Practically, FE is usually used because it produces consistent estimates, as we did in this paper (also, we employed the Hausman test in order to check whether the FE random effects are more suitable for the data at hand – the results of the test were in favour of FE; the results of the test are available upon request). In addition is presented the equation [1] which is basically a regression model:

$$GVA_{t_{it}} = \beta_0 + \beta_1 GVA_{m_{it}} + \beta_2 empl_{it} + \beta_3 comp_{it} + \lambda_t + \alpha_i + u_{it} \quad [1]$$

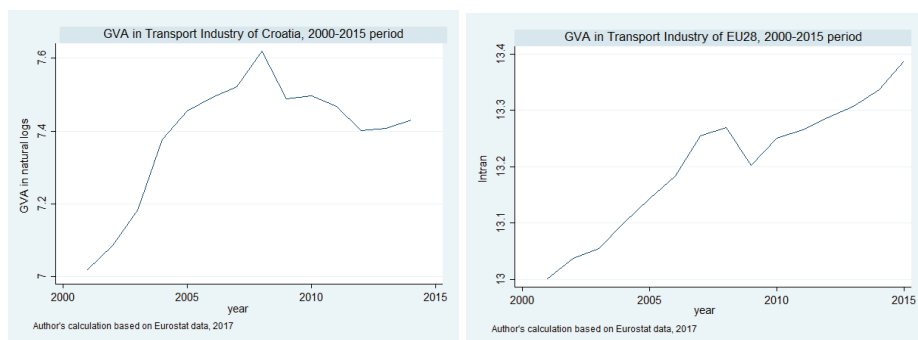
where  $GVA_t$  as a dependent variable presents gross value added of transport industry in each county “i” and year “t”. As a regressor we used gross value added of manufacturing industry,  $GVA_m$ , total employment,  $empl$  (all NACE activities), and total compensation of employees,  $comp$  (all NACE activities). We did logarithmic transformation of the variables for technical purposes, e.g. to facilitate the interpretation of coefficients, which are now present as percentage changes.

### 4. Data and descriptive statistics

The data on the macroeconomic conditions of the Croatian and EU28 economy were taken from the Eurostat database (section H, division 49-52, NACE Rev.2 classification). It consists transport and storage industry data for the period from 2000 to 2015 for 28 EU Member states

distinguishing into four modes of transport; land transport including pipelines, water transport, air transport and warehousing. It is chosen to analyze each mode of transport because since the industrial revolution onwards, the different modes of transport made its part of contribution to the economic growth. As in Nistor and Popa (2014), during the industrial revolution ocean transport made the greatest share in trade and economic growth. From 1900s until 1950, railways and roads were among largest transport contributors to economic growth, while in the globalization era, roads, air and telecommunication transport are the main force of the economic growth and development comparing to other modes of transport. The following Figure 1 shows the comparisons of GVA of transport industry in the period from 2000 to 2015. The GVA growth has been present in both Croatia and on the EU28 level until the crisis in 2008/2009 where is evident the drop off. After the crisis, EU28 countries record the constant growth, while in Croatia the situation is slightly different, it is evident the negative growth rate from 2012 onwards. These findings are not surprising since whole Croatian economy recorded negative growth in most of industries, except tourism. The driver force of EU28 GVA growth are Germany, France, UK and Hungary, which record constant positive GVA growth in the whole examined period, and in those countries, is even doubled the share of GVA of transport industry in total GVA of country economy (all NACE activities).

**Figure 1** GVA in transport industry, Croatia and EU28 comparison



Source: Author's calculation based on Eurostat data, 2017

Table 1 contains 4 descriptive statistics; first column shows the mean of GVA in transport industry throughout the observed period in selected EU countries. The second column shows the standard deviation, while the third column show the coefficient of variation which is to most important to go through. Last two columns show minimum and maximum values in observed countries.

**Table 1** Descriptive statistics for the GVA of transport industry in selected countries

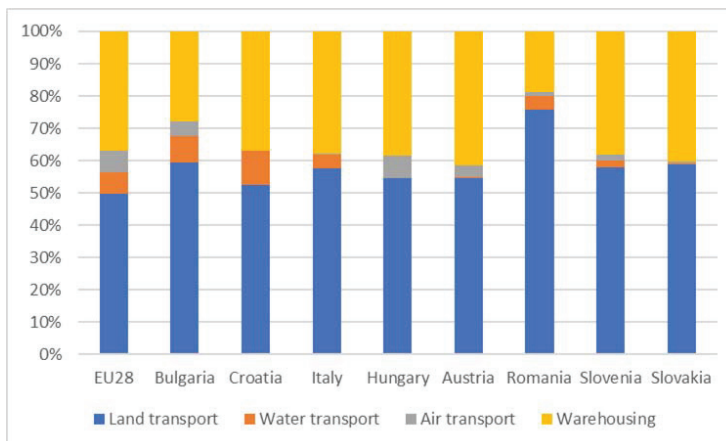
| Country  | Mean   | Standard Deviation | Coefficient of Variation | Minimum  | Maximum  |
|----------|--------|--------------------|--------------------------|----------|----------|
| Austria  | 14136  | 1920               | 13,58234295              | 11023.9  | 17142.1  |
| Bulgaria | 1928   | 340.5              | 17,66078838              | 1301     | 2369.5   |
| Croatia  | 1639   | 259.1              | 15,80841977              | 1117.3   | 2038.9   |
| EU28     | 546649 | 61895              | 11,32262201              | 443179.7 | 651881.4 |
| Hungary  | 4621   | 904.5              | 19,57368535              | 3006.7   | 5900.7   |
| Italy    | 73937  | 5607               | 7,583483236              | 62831.2  | 81757.8  |
| Slovenia | 1602   | 331.7              | 20,70536829              | 1050.6   | 2073.3   |

Source: Author's calculation based on Eurostat data, 2017

Based on calculated data, e.g. coefficient of variation is showing much more variability relative to its mean in Hungary, Bulgaria and Croatia. In Hungary, the GVA of transport industry grew by 96.2 percentage points in 2015 in the relation to the base year 2000. The same case is for Bulgaria, the GVA grew by 82.12 percentage points in 2015 in relation to base year 2000. The greater jump could be seen in the year 2004/2007 when Hungary and Bulgaria entered the Union, respectively Customs Union and when European transport enterprises enhance the operations in those countries. Unfortunately, that is not the case for Croatia. During the observed period, it is evident the oscillating trend and in 2014 (last available data), the GVA rate of GVA in transport industry is still on the lower rate than in 2008 when it was by 82.16 p.p. higher than in 2012. In case of Hungary and Bulgaria, the minimum and maximum values present the year 2000 and 2015, e.g. first and last observed year.

The reminder figures show the trend in transport and storage industry, differentiate among the four modes of transport. Given data is for the year 2014 which is the last available data for Croatia. Land transport makes the most significant share of GVA in the GVA of total transport industry with approx. 45 to 55 percent. Land transport includes road transport, railway transport and transport via pipelines which are the most used in EU. In Romania land transport makes 70 percent of GVA of whole transport industry. Warehousing contributes to GVA of transport industry with approx. 31 to 37 percent, while in Romania with only 17 percent. GVA in water transport contributes to GVA in total transport with 8,86 percent in Croatia, and the explanation could be found in geostrategic position of Croatia and importance of sea ports. The GVA of air transport still contributes with the smallest share to a GVA of total transport, except in Hungary where it makes 6,23 percent of total transport GVA.

**Figure 2** Share of each mode of transport's GVA in total transport GVA (2014)

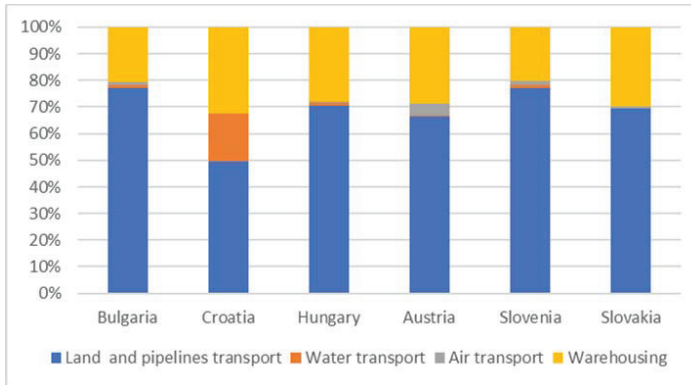


Source: Author's calculation based on Eurostat data, 2017

\*Air transport data not available for Croatia

Following the previous analysis, the number of employment is in line with the share of GVA of each mode of transport in total transport's GVA.

**Figure 3** Share of each mode of transport employment in total transport employment (2015)



Source: Author's calculation based on Eurostat data, 2017  
 \*Air transport data not available for Croatia

The highest rate of employment in transport industry is in land transport area in all observed countries, although in Croatia with the smallest amount 10 to 15 percent less than in other countries. When comparing employment in other transport areas, e.g. water transport, while in other observed countries share of employment in water transport in total transport is less than 1 percent, in Croatia it makes 15,26 percent, which enhance the importance of water transport in Croatia, both sea and inland transport.

The data for the variables used in the fixed effect estimation is taken from the Eurostat database (2017) followed by the National Classification of Economic Activities, Rev. 2 (NACE).

## 5. Results and discussion

Fixed effects estimator shows that gross value added of manufacturing industry and compensation of employees have a significant impact on the gross value added of transport industry. Table 2 presents the results of regression. According to the results, if the GVA of manufacturing increase per 1 percent, the GVA of transport industry will increase for 0,25 percent. The second significant variable is showing us if compensation of employees increase per 1 percent, the GVA of transport industry will increase for 0,5 percent. Two out of three variables are significant, and show the positive impact on growth of GVA in transport industry.

**Table 2** Fixed Effects results

| VARIABLES | (1)<br>Intran       |
|-----------|---------------------|
| Inman     | 0.255**<br>(0.106)  |
| lnempl    | -0.361<br>(0.286)   |
| lncomp    | 0.505***<br>(0.168) |
| VARIABLES | Intran              |
| Constant  | 3.748**             |

|                  |         |
|------------------|---------|
|                  | (1.829) |
| Year FE included | Yes     |
| Observations     | 423     |
| Number of state  | 29      |
| R-squared        | 0.849   |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Author's calculations

However, the third independent variable, employment, have a negative impact on growth of GVA in transport industry. The result could have different explanations. First, the p value is above 0,05 significant and second resound may lay in the industry of employment. Moreover, the employment rate is growing in tertiary sector, e.g. finance, IT, tourism etc., which can influence the negative growth of GVA in transport industry. Moreover, considering the fact transport services are extensively used in manufacturing industry for transporting raw materials and intermediary goods to the production and final products to the distributive centers and consumers, it confirms the theory in the second section where is said, what takes place in one industry has impacts on another. A consumer buying a good in a store provokes the replacement of the product, which cause the demands for activities such as manufacturing, resource extraction and after all transport.

## 6. Conclusion

Since the industrial revolution many papers examined the importance of transport in the economy, impact of transport system and transport infrastructure on economic growth etc. Most of studies show the positive relationship between transport and economic growth. The aim of the paper was to analyze the role of transport industry in Croatia and on EU28 level and furthermore, to estimate the effects of GVA growth in manufacturing industry on the GVA growth in transport industry. Our findings show the importance of transport industry in the national and EU economy, respectively it is evident the significant share of gross value added of transport industry in gross value added of the economy as a whole. Significant papers with empirical approach show that the development of different modes of transport was correlated with economic structures. During the industrial revolution, water transport had the most important impact on economic growth, while recent studies show the growing importance of road, railway and telecommunication transport. Our finding present similar results, the GVA of land transport has the most important share in GVA of transport and storage industry. The same result is present in employment analysis where the highest employment rate is present in land transport area. Moreover, it is complex to analyze the transport industry since its demand could be direct and indirect derived demand, where the movements are directly the outcome of economic activities or the movements are created by the requirements of other movements. In paper is used the fixed effect model to estimate the impact of other industry growth on another, e.g. manufacturing industry on transport industry. The results of the regression show that gross value added of manufacturing industry and compensation of employees have a significant impact on the gross value added of transport industry. Although the results of regression are significant, estimating the growth in transport industry could be quite complex. Finally, future models should include more variables that the best describe the triggers of GVA growth in transport industry.

## REFERENCES

- Council of Supply Chain Management Professionals and Goldsby T.J., Iyengar, D., Rao, S. (2014), *The Definitive Guide to Transportation, Principles, Strategies, and Decision for the Effective Flow of Goods and Services*, Pearson Education, Inc., New Jersey.
- Čavrak, V. (2003), *Makroekonomski management i Strategija prometa Hrvatske*, Politička kultura, Zagreb.
- Diaz, R., Behr, J. G. and Ng., M. (2016), *Quantifying the economic and demographic impact of transportation infrastructure investments: A simulation study*, Simulation: Transactions of the Society for Modeling and Simulation International, Vol. 92(4) 377–393.
- Eurostat (2017), available at: <http://ec.europa.eu/eurostat/data/database>, (accessed 19 January 2017).
- Fageda, X. and Gonzalez-Aregall, M. (2012), *The Spatial effects of transportation on industrial employment*, Research Institute of Applied Economics, Barcelona.
- Fujita, M., Krugman, P., Venables, A. (1999), *The spatial economy: cities, regions and international trade*, Cambridge, Mass.: MIT. 367p.
- Gallup, J., Sachs, J., Mellinger, A. (1998), *Geography and economic growth*. In: Chein, F. and de Xavier Pinto, C. (2014) 17th World Congress of the International Economic Association, Jordan.
- Glaeser, E., Kohlhase, J. (2003), *Cities, regions and the decline of transport costs*, Cambridge, Mass.: Harvard Institute of Economic Research. In: Chein, F. and de Xavier Pinto, C. (2014) 17th World Congress of the International Economic Association, Jordan.
- Ismail, N.W. and Mahyideen, J.M. (2015), *The Impact of Infrastructure on Trade and Economic Growth in Selected Economies in Asia*, ADBI Working Paper Series, Asian Development Bank Institute, Japan.
- Nistor, F., Popa, C. (2014), *The role of transport in economic development*, Mircea cel Batran, Naval Academy Scientific Bulletin, Volume XVII, Issue 2, Constanta, Romania.
- Rodrigue, J., Comtois, C., Slack, B. (2013): *The Geography of transport system*, 3<sup>rd</sup> edition, Routledge, New York.
- Smith, A. (2007) *An Inquiry into the Nature and Causes of the Wealth of Nations*, Edited by Soaeres, S.M., MetaLibri Digital Library, Lausanne.
- Statistical classification of economic activities in the European Community (2008), available at <http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>, (accessed 19 January 2017).
- Torres Reyna, O. (2007), Panel data analysis: fixed and random effects using STATA, Princeton University, available at: <http://dss.princeton.edu/training> (accessed 19 January 2017). [Google Scholar]
- Zelenika, R. Pupovac, D. (2000) *Transport - čimbenik proboja začaranog kruga razvitka tranzicijskih zemalja*, Ekonomski pregled, 51 (9-10) 970-986.

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**BACK TO THE CONVENIENCE STORES**

**POVRATAK KVARTOVSKIM PRODAVAONICAMA**

***ABSTRACT***

*When compared to the past, all the facets of modern life have changed significantly. The prevailing trend nowadays is the urbanization; the migratory shift, the relocation of the populace from the rural areas to the cities, as well as the increased overall emphasis on the quality of healthcare. More than half of the global population currently resides in the urban areas, simultaneously experiencing a rise in growth rates. Also, a significant portion of one's life is spent at the workplace, with a severely diminished time left for leisure activities. Caring for one's health, exercise and diet also garnered significant importance. All of these influences have impacted the overall lifestyle of most people, as well as the manner in which global business is conducted, thus reflecting on both the consumer habits and the consumer behaviour. Due to these shifts, the operational strategies of retail chains have to be thoroughly revised. The population boom, coupled with the opening of new stores, has resulted in the overall growth in retail sales. However, this factor is gradually losing its' significance. The modern consumer is, on average, much more educated, experienced and informed, primarily seeking more value for the money spent. Therefore, the retail chains need to submit to the customers' preferences and habits, otherwise, they may quite easily face a losing battle and surrender their foothold to the competition. This paper examines the factors influencing retail industry strategies and formats, arising from the, previously mentioned, shifting consumer characteristics. The re-emerging popularity of convenient stores will be researched, with an emphasis on the modern store formats, the ones' most feasible for both the customers and the retailers.*

**Key words:** retail, retail management, convenience store, customer, store format .



## SAŽETAK

*U odnosu na prošlost, svi aspekti suvremenog života su se značajno promijenili. Prevladavajući trend današnjice je urbanizacija: migracije, preseljenje stanovništva iz ruralnih krajeva u gradove, kao i povećani ukupni značaj kvalitete zdravog življenja. Više od polovice svjetskog stanovništva danas živi u urbanim sredinama, te istovremeno doživljava sve veće stope rasta. Također, značajan dio života ljudi provode na radnom mjestu, s jako smanjenim vremenom za aktivnosti u slobodno vrijeme. Briga za zdravlje, vježbe i dijeta su sve važniji životni trendovi. Svi ovi faktori su utjecali na cjelokupni način života većine ljudi, kao i način na koji se provodi globalno poslovanje, što se odražava na potrošačke navike i ponašanje potrošača. Zbog tih promjena, poslovne strategije maloprodajnih lanaca moraju se temeljito revidirati. Povećanje urbanizacije stanovništva, zajedno s otvaranjem novih trgovina, rezultiralo je ukupnim rastom u maloprodaji. Međutim, ovaj faktor postupno gubi svoje značenje. Suvremeni potrošač je, u prosjeku, mnogo više obrazovan, iskusniji i informiraniji, prije svega traži veću vrijednost za potrošeni novac. Stoga se maloprodajni lanci trebaju prilagoditi preferencijama i navikama kupaca, u suprotnom, oni se mogu vrlo lako suočiti s gubitkom tržišta i predati svoje uporište konkurenciji. Ovaj rad ispituje čimbenike koji utječu na strategije trgovačkih lanaca i formata, koje proizlaze iz prethodno spomenutih promjena karakteristika potrošača. Ponovna popularnost kvartovskih trgovina će biti istražena, s naglaskom na suvremene oblike prodavaonica, one koje su najviše prilagođene i potrošačima i trgovcima.*

**Ključne riječi:** trgovina, maloprodajna uprava, mini market, kupac, oblik prodavaonice.

### 1. Introduction

The retail world has changed significantly during the last decade. In times past, the store size format, vast quantity of goods offered and lower prices were the main factors influencing the customers' buying decisions, thus ultimately resulting in the retail market growth. However, because of the shift in lifestyle, customer behaviour has changed as well. These newly formed changes hold dominant sway over the development and thorough restructuring of the usual business practices and business tactics the retail chains employ. The urbanization process, healthy lifestyle, digitalization, millennial influence and the increase in the elderly population are all just some of the factors shaping the future of retail chains, with the repercussions of listed factors examined in the chapters to follow. Nowadays, more than ever, the following principles hold true for the Western European consumers (Linthicum & Pinnhamer, 2013), for they:

- Shop at the time and manner of their own choosing
- Demand value, immediacy and convenience
- Demand that retailers, as well as suppliers, listen to them and consider their feedback carefully
- Settle for nothing less than a stellar buying experience, one personalised for their specific needs
- If are unsatisfied with the service / product they receive, they simply take their business elsewhere. Moreover, a continued trend of economic uncertainty and consistently diminishing budgets practically means that customers need to be increasingly assured they are getting their money's worth for each and every item purchased.

## 2. Lifestyle changes

The World changes more quickly and significantly than ever before. The factors influencing the changes in customer behaviour, resulting in the reopening of convenience stores, are as follows:

- An increasing proportion of the elderly within the total populace,
- Urbanization,
- Shifts with regard to the perception of the healthy lifestyle.

These three factors, in equal degrees, directly influence the world of retail, creating challenges for the sellers and the need to adapt to novel business strategies and retail forms, in order to not just be competitive, but generally speaking, present on the market at all.

### a. The aging populace

According to the EC research, “The 2015 Ageing Report, Economic and budgetary projections for the 28 EU Member States (2013-2060)”, in the 2013, the median age for males and females was 40 and 43 years of age, respectively. In 2060, this value is projected to rise to 45 and 47, respectively, as the number of elderly people is bound to account for an increasing share of the population, due to the combination of the numerous cohorts that were born in the 1950's and 1960's and the continuing projected gains in life expectancy. The proportion of young people (aged 0-19) is projected to remain fairly constant by 2060, for the EU28 and the entire Eurozone (around 20%), while those aged 20-64 will become a substantially smaller share, declining from 61% to 51%. Those aged 65 and over will become a much larger share (rising from 18% to 28% of the population), and those aged 80 and over (rising from 5% to 12%) will almost become as numerous as the young population in 2060. As a result of these different trends among age groups, the demographic, old-age dependency ratio (people aged 65 or above, relative to those aged 15-64) is projected to increase from 27.8% to 50.1% in the EU as a whole, over the projection period. This implies that the EU would move from having four working-age people for every person aged over 65 years to only two working-age persons.

**Table 1** *The eldering populace of Europe, an overview*

| Country     | Population Over-65,1991(%) | Population Over-65,2001(%) |
|-------------|----------------------------|----------------------------|
| Austria     | 15,00                      | 17,60                      |
| Belgium     | 15,00                      | 17,10                      |
| Denmark     | 15,60                      | 16,80                      |
| Finland     | 13,50                      | 17,50                      |
| France      | 14,00                      | 16,70                      |
| Germany     | 14,90                      | 20,60                      |
| Greece      | 13,80                      | 19,30                      |
| Netherlands | 12,90                      | 15,60                      |
| Norway      | 16,30                      | 15,10                      |
| Portugal    | 13,60                      | 19,10                      |
| Spain       | 13,80                      | 17,10                      |
| Sweden      | 17,80                      | 18,50                      |
| UK          | 15,80                      | 16,70                      |

*Source: Value Redefined: Boosting margins in Western European retailing, 2013*

Table 1 clearly shows that the proportion of the populace older than 65 has significantly increased in all of the EU member states, with this trend expected to last into the future. With

regard to the lack of elderly populace mobility, when compared to younger groups, as well as the increased frequency of their purchasing needs, the convenience store concept suits them just fine. Also, elderly people's households have fewer members than those of the younger populace, nor the need for bulk products, usually offered by supermarkets and hypermarkets.

#### b. Urbanization

In the present, modern, highly-connected, globalized World, more than half of the population (54%) resides in the urban areas (World Urbanization Prospects: The 2014 Revision, Highlights), although there still exists a significant discrepancy at the global level. Considering the present urbanisation rates and the general population increase, by the year 2050, an additional 2.5 billion people will inhabit urban areas, with 90% of the said increase happening in Asia and Africa. The percentage of the urban populace is thus projected to be at around 66%.

There exists a great discrepancy between the global dispersion of urban areas. For instance, half of the urban populace resides in cities of up to 500.000 inhabitants, with 1/8 of the populace inhabiting one of 28 distinct cities, each numbering 10 million people or more. The number of these megacities tripled since the year 1990, with the estimate holding that in 2030 there will be at least 41 of these cities, each numbering at least 10 million inhabitants. The fastest sector of growing urban areas is the one inhabited between 500.000 and 1 million inhabitants and is primarily located in Africa and Asia. This particular category shows change, for not long ago the most inhabited urban areas were located in the most developed parts of the World. By the year 2030, the consumers in large cities will account for 81% of the entire global consumption, generating 91% of the World consumption growth during the 2015-2030 period (Dobbs, et al,2016). It is estimated that just 32 cities are likely to generate 25% of the overall 23 trillion USD of urban consumption, with 100 cities responsible for 45% of that 2015-2030 growth rate (Dobbs, et al,2016b).

Urbanisation process is frequently characterized by the consumption increase, because of more business opportunities arising, the centralised market, better wages and, generally speaking, more opportunities for increasing personal wealth. Precisely because of urbanization and the urban relocation, retail chains are shifting their strategies and opening their stores in cities.

#### c. A change in lifestyle

The lifestyle has changed significantly during time. The household structure shifted immensely, with a great proportion of people living in single-person households. In 2013, single-person households accounted for almost one third (31.7 %) of all the private households within the EU-28 (People in the EU: who are we and how do we live?, 2015). Also, the size of the "global middle class" will increase from 1.8 billion in 2009 to 3.2 billion by 2020 and 4.9 billion by 2030. The bulk of this growth will come from Asia: by 2030 Asia will represent 66% of the global middle-class population and 59% of middle-class consumption, compared to 28% and 23%, respectively, in 2009 (Pezzini, M; 2012).

Considering that job takes up a lot of time, particularly in developed countries, an 8-hour worktime has increasingly become a thing of the past, with the pace of life growing ever quicker. People refuse to waste their valuable time, opting to take care of as much chores, as quickly as possible. Therefore, convenience stores provide an ideal solution, for the working populace doesn't want to lose time by going to supermarkets, which are usually situated on the outskirts of cities. When the change in household structure is also taken into account, there is little incentive to buy in bulk, for there simply is no need for such purchases. Also, the time spent shopping is quite short. Moreover, a quite important change, when compared to times past, is the interest in a

healthy lifestyle. The need for healthy food and fresh produce increased the interest in convenience stores. People crave fresh, quality produce daily and everyday shopping does not represent a problem because they derive added value from such goods. According to the survey, „Nielsen Global Retail-Growth Strategies Survey, Q3 2015“, two-thirds of global respondents (67%) say they actively seek products with healthy ingredients, 62% say they read nutritional labels carefully, and 45% believe there are not enough healthy alternatives for purchasing.

**Table 2** The global average: top four attributes influencing purchase decisions by category type

|                         | Fresh food | Packed goods |
|-------------------------|------------|--------------|
| Price                   | 36%        | 32%          |
| Taste                   | 31%        | 29%          |
| All-natural ingredients | 22%        | 18%          |
| Sales / promotions      | 19%        | 19%          |

Source: Nielsen Global Retail-Growth Strategies Survey, Q3 2015

As is shown in the Table 2, the healthiness and freshness of the produce holds great importance when buying products. The buyers aim to live healthier lives, with the store chains required to make it a possibility. The store chain or the convenience store that meets these demands will gain a customer.

**Table 3** Store selection factors

|  |     |
|--|-----|
| 1. High-quality fresh produce                      | 57% |
| 2. Convenient location                             | 56% |
| 3. Products wanted are regularly in stock          | 54% |
| 4. Good value for money                            | 52% |
| 5. Carries the food and non-food items that I need | 50% |
| 6. Lowest price overall                            | 48% |
| 7. Great sales and promotion                       | 47% |
| 8. Organized layout                                | 45% |
| 9. Easy to get in and get out quickly              | 43% |
| 10. Personnel are friendly and knowledgeable       | 42% |
| 11. High quality meat department                   | 42% |
| 12. Short checkout lines/fast checkout             | 41% |
| 13. Variety of freshly prepared foods              | 40% |
| 14. Only store that carries what I want            | 38% |
| 15. Good sale/coupon items in store ad/circular    | 37% |
| 16. Customer loyalty card program                  | 32% |

Source: Nielsen Global Retail-Growth Strategies Survey, Q3 2015

Table 3 has the factors listed, ones crucial in customer store selection. It is clearly shown that the price is no longer the deciding purchasing factor, occupying the 6<sup>th</sup> spot. The most important factor is the high quality of fresh produce (57%), followed by the feasibility of the store's location (56%). The product availability is at the high, third spot, with 54%. Based on the top three factors, it can be understood why the convenience stores have begun to regain their past prominence, experiencing the biggest growth rate among all the retail formats.

### 3. The convenience store

According to the definition of the Cambridge dictionary, the convenience store is a shop that sells food, drinks, etc. and is usually open until late. Convenience stores usually charge significantly higher prices than conventional grocery stores or supermarkets, as convenience stores order smaller quantities of inventory at higher per-unit prices from wholesalers. However, convenience stores make up for this loss by having longer open hours, serving more locations, and having shorter cashier lines (Brown, A.,2011). According to the Republic of Croatia's Trade law (NN, 87/08, 96/08, 116/08, 76/09, 114/11, 68/13, 30/14), convenience stores may be from 15 square metres, up to 200 square metres in area.

The usual retail practices were guided by the maxim "the bigger the better". The supermarkets and hypermarkets were the backbone of retail chain growth and the size of large stores quite suited the sellers, for the economies of scale yielded greater ROI and the buyers were satisfied, for they could find all the products in one location, in bulk, at lower prices. However, there has been a change during the last decade. Smaller store formats found the way of maintaining profitability, taking on the bigger formats and successfully opposing the large retail chains, all thanks to the shifts in life habits. The customers want a unique shopping experience tailored to their preferences. Specialization and location are of utmost importance when considering the ability of certain retail chains to satisfy the needs of modern buyers. The advantages of convenience store lies in the offering of fresh produce, which modern customers are prepared to pay, for they highly value health. Furthermore, online sales have made purchasing of numerous products much easier, especially holding true for the electronic equipment, with the buyers no longer needing to go to supermarkets in search of great deals, rather opting for an online option. Also, great retail chains can utilise their own convenience stores as warehouses for goods sold online. Nowadays, the *click and collect* service is quite popular, giving the buyer an option of ordering a product online and then picking it up at the local convenience store.

The French retail chain, Carrefour, changed its long standing, usual business practice and focused on the customer, a change which is made evident in their yearly 2015 report (Carrefour, report Annuel 2015). One way of meeting the lifestyle changes and corresponding customers' needs is by opening convenience stores and stocking fresh vegetables and fruits, locally grown food and prepared meals. In 2015, Carrefour boosted its multi-format model with a focus on the development of convenience formats, which included store renovation and expansion. By the end of 2015, the Group had 7,181 convenience stores, including 1,070 new stores. Carrefour convenience store sales grew a substantial 7.5 percent in the fourth quarter of 2014, and Planet Retail estimates that sales from convenience stores across Europe will grow at an average yearly rate of 5.3 percent, among all the retailers. (French,L;2015)

In recent years, convenience stores have offered more healthy and nutritious foods, in order to provide customers with alternatives and fight obesity – and the consumers have taken notice, indeed. Nearly three in five Americans (59%) say that convenience stores offer food they feel comfortable eating. A number of grocery chains are tapping the urban consumer market through their convenience stores. They are serving these consumers with more meal solutions, which, for some retailers, includes building food-service stations. Especially in central and transit locations, convenience stores also function as food-to-go outlets that can compete with specialist food-service outlets. Nationwide, convenience stores sell 50% of all the single-serve bottled water and 45% of all the single-serve sports drinks (How Convenience Stores Work and Their Contributions to Communities, 2017).

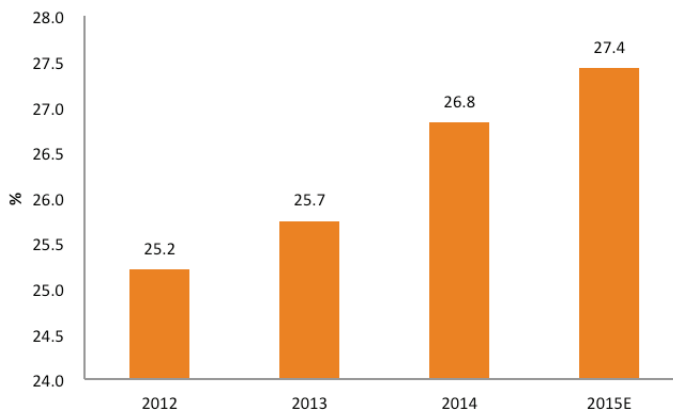
Most of all, convenience stores "sell time" - time that benefits the community, whether that time is spent living in, working in or supporting that community. And this is a commodity that

consumers value; 75% of consumers nationwide say that they would be favourable to a convenience store being built or opened near their home. Of the time spent in a convenience store, the customer controls much of the time spent there. Here is the time breakdown of an average, 3-minute, 33-second visit (How Convenience Stores Work and Their Contributions to Communities, 2017b):

- 35 seconds to walk from the car to the store
- 71 seconds to select item(s)
- 42 seconds to wait in line before paying
- 21 seconds to pay
- 44 seconds to leave the store

In the absolute amounts, supermarkets and hypermarkets are responsible for the greatest share in sales, however, convenience stores show the highest growth rate. Within the UK, convenience stores are growing immensely. During the 2014, according to research, the growth rate was at 5%, which is a higher growth rate than for the entire trade sector, which rose at a rate of 1% (Association of Convenience Stores/IGD/Office for National Statistics/FBIC Global Retail & Technology).

**Graph 1** Convenience stores' sales share in total overall sales in the UK, year 2015.



Source: Association of Convenience Stores/IGD/Office for National Statistics/FBIC Global Retail & Technology

The Graph 1 clearly shows that convenience stores consistently gain in market share. In the year 2014, they made a profit of 48,46 billion EUR, which translates to a 27,4 % share of total sales.

The fastest-growing grocery retailer in the US is now Kroger, and it's no coincidence that the company has 786 convenience stores dotted across the country. The giant has been growing constantly for 43 straight quarters and hit nearly \$100 billion in revenues in 2014, approaching the throne of Costco (at \$109.6bn in revenue as of May 2014) (French,A;2015b).

Within the Europe, situation is as follows: Spar is the biggest convenience store retailer, followed by Tesco and Carrefour.

**Table 4** Europe's Biggest Convenience Store Retailers: Net Revenues (Excluding Sales Tax), 2014 and 2013 (expressed in billions of EUR)

| Retail chain          | 2013. | 2014. |
|-----------------------|-------|-------|
| Spar                  | 7,4   | 7,5   |
| Tesco                 | 5,7   | 6,1   |
| Carrefour             | 5,8   | 5,9   |
| The Co-operative food | 4,3   | 4,5   |
| Musgrave group        | 3,7   | 3,9   |

Source: Euromonitor International

#### 4. Conclusion

The present shift in lifestyles led to structural changes within the entire trade sector. All the previous rules are void, big formats are no longer a guarantee for success, quite the contrary, they became a great burden for the companies in question. Smaller formats, such as the convenience stores, became the developmental backbone of retail chains and the answer to the modern customer's needs. Although the old rule of "customer is always right" wasn't much useful in the past, big-format driven retail business, nowadays it has gained a central role, with the management's priority to accommodate the buyer. The big retail companies, with yearly income of a few dozen billion EUR subject their entire business venture to the customer's needs. Also, as was shown in the paper, the demographic shifts hold great sway over the changes in customer behaviour. All of this is the proof that no company can be immune to the everyday, business environment changes. The changes in store format, inventory and assortment investments, digitalization of the business process, and investments into the workforce have all been the responses of retail companies to the newly formed changes. These changes are long-term and extremely costly in nature, however, those companies which do not adopt and implement them will soon become a thing of the past. Convenience stores, as just one of the responses of retail companies are the future of retail, for they merge a market offering fresh produce, the restaurant serving made dishes, and make other non-food items available, those needed in everyday life.

#### REFERENCES

- Borchert, K., Mukharji, P., (2016), **Modern retail supply chains: backbone for omnichannel**, Bain and Company, available at <http://www.bain.com/publications/articles/modern-retail-supply-chains-backbone-for-omnichannel.aspx> , [accessed 08. March 2017.]
- Carrefour – 2015 annual activity and responsible commitment report, (2016), available at: <http://www.ecobook.eu/ecobook/Carrefour/2015/view/RA-EN.html> [accessed 09. March 2017.]
- Dobbs, R., remes, J., manyika, J., Woetzel, J., Perrey, J. Kelly, G., Pattabiraman, K., Sharma, H. (2016), **Urban world: The global consumers to watch**, McKinsey Global Institute, available at <http://www.mckinsey.com/global-themes/urbanization/urban-world-the-global-consumers-to-watch>, [accessed 28. December 2016.]
- Linthicum,L., Pinhammer J.,(2013), **Value Redefined: Boosting margins in Western European retailing**, available at: <http://www.wipro.com/documents/value-redefined-boosting-margins-in-western-European-retailing.pdf> [accessed 08. March 2017.]



Noble, A., Anderson, J., Thakar, S., (2015), **Three rules for building the modern retail organization**, Bain and Company, available at: <http://www.bain.com/publications/articles/three-rules-for-building-the-modern-retail-organization.aspx>, [accessed 5. March 2017.]

**The Retail CMO's Guide to the Omnishopper: What transaction data and consumer insights say about the attitudes and behaviors of tomorrow's global customers**, (2015), available at: <http://insights.mastercard.com/omnishopper/#/chapter/1>, [accessed 5. March 2017.]

United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, Highlights (ST/ESA/SER.A/352).

United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, Key Findings and Advance Tables. Working Paper No. ESA/P/WP.241.

United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Ageing 2015 (ST/ESA/SER.A/390).

European commission, “The 2015 Ageing Report, Economic and budgetary projections for the 28 EU Member States (2013-2060)“, ISSN 0379-0991, 2015., available at: [ec.europa.eu/economy\\_finance/publications/european\\_economy/2015/.../ee3\\_en.pdf](http://ec.europa.eu/economy_finance/publications/european_economy/2015/.../ee3_en.pdf), [accessed 6. March 2017.]

European Union, (2015), „People in the EU: who are we and how do we live?“, available at [ec.europa.eu/eurostat/documents/...N.../8b2459fe-0e4e-4bb7-bca7-7522999c3bfd](http://ec.europa.eu/eurostat/documents/...N.../8b2459fe-0e4e-4bb7-bca7-7522999c3bfd), [accessed 6. March 2017.]

Pezzini, M.:(2012), **An emerging middle class**, OECD Observer, available at [http://oecdobserver.org/news/fullstory.php/aid/3681/An\\_emerging\\_middle\\_class.html](http://oecdobserver.org/news/fullstory.php/aid/3681/An_emerging_middle_class.html) [accessed 10. March 2017.]

The Nielsen company, “**Nielsen Global Retail-Growth Strategies Survey, Q3 2015**“ 2016, available at [http://www.nielsen.com/content/dam/niensenglobal/de/docs/Nielsen%20Global%20Retail%20Growth%20Strategies%20Report\\_DIGITAL.pdf](http://www.nielsen.com/content/dam/niensenglobal/de/docs/Nielsen%20Global%20Retail%20Growth%20Strategies%20Report_DIGITAL.pdf), [accessed 10. March 2017.]

Cambridge dictionary,(2017), Convenience store, available at <http://dictionary.cambridge.org/dictionary/english/convenience-store>, [accessed 10. March 2017.]

Brown, A.,(2011), Understanding Food: Principles and Preparation, Wadsworth cengage learning,2011.

French, L., (2015), **Death of the supermarket**, World finance, available at <http://www.worldfinance.com/markets/death-of-the-supermarket>, [accessed 10. March 2017.]

How Convenience Stores Work and Their Contributions to Communities, 2017, NACS, available at <http://www.nacsonline.com/YourBusiness/Refresh/Documents/How-Stores-Work.pdf>, [accessed 11. March 2017.]

Zakon o trgovini, Narodne Novine 87/08, 96/08, 116/08, 76/09, 114/11, 68/13, 30/14

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## **FOURTH INDUSTRIAL REVOLUTION AND INDIVIDUALIZATION OF PRODUCTS**

### **ČETVRTA INDUSTRIJSKA REVOLUCIJA I INDIVIDUALIZACIJA PROIZVODA**

#### **ABSTRACT**

*Fourth Industrial Revolution also known as Industry 4.0. brings a complete change in the working mode. Full computerization of entire production process in which machines communicate with each other and with the semi-finished products. Third Industrial Revolution brought electronics and computerization of production process, the fourth takes him one step further. Cybernetic-physical system (CPS) provides that from the moment of product selection to the time it is finished and packed for delivery machines do everything themselves. This approach to the production process will greatly change the current mode of production and allow end-users, customers to create their own product. Interview with the production director in socks factory Miro and owner of the production craft Drvomont gave an overview of the possibilities of production facilities which in accordance with the third industrial revolution used electronics and IT for production. In socks factory Miro it is possible, with a minimal amount (10 pairs), to order design, color and size according to the customer's wishes. Personalized stockings are designed in collaboration with the designer and via USB transmitted to the machine. Craft Drvomont is producing furniture according to customers' wishes, and in collaboration with designers craft can arrange shape, color, material and equipment of each product. The design is transferred to the CNC machining center. In these subjects is possible to fully individualize product and make it unique. This paper presents a schematic representations of possible use of CPS in the observed subjects. Further development and implementation of Industry 4.0. the whole process could be carried out from house where customers can design a product and put it into production. It remains only to courier to deliver it to your home.*

*With Cybernetic-physical system Eastern Croatia could restore and develop their production capacities, where buyers from around the world could design, individualize, order and put into production their product through internet.*

**Keywords:** Industry 4.0., Cyber-physical system, the fourth industrial revolution, individualized products

## SAŽETAK

Četvrta industrijska revolucija također poznata kao Industrija 4.0. donosi potpunu promjenu u načinu rada. Potpunu informatiziranost cjelokupnog proizvodnog procesa u kojem strojevi međusobno i s predmetom izrade komuniciraju. Treća industrijska revolucija donijela je elektroniku i informatizaciju proizvodnog procesa, ova četvrta ga vodi još jedan korak dalje. Kibernetičko-fizički sustav (CPS) omogućava da od trenutka odabira proizvoda do trenutka kada je on gotov i spakiran za dostavu strojevi odrade sve sami. Ovakav pristup proizvodnom procesu uvelike će promijeniti dosadašnji princip proizvodnje te omogućiti krajnjim korisnicima, kupcima, da sami kreiraju svoj proizvod. U intervjuu s direktorom proizvodnje u Tvornici čarapa Miro i vlasnicom proizvodnog obrta Drvomont dobiven je uvid u mogućnosti proizvodnih pogona koji u skladu s trećom industrijskom revolucijom koriste elektroniku i informatiku za proizvodnju. U Tvornici čarapa Miro moguće je uz minimalnu količinu (10pari) naručiti dizajn, boju i veličinu prema vlastitim željama. Individualizirane čarape se dizajniraju u suradnji s glavnim dizajnerom Tvornice i preko USB-a prenose na stroj. Obrt Drvomont se bavi izradom namještaja po želji kupaca, te je u suradnji s projektantima obrta moguće dogovoriti oblik, boju, materijal i opremu svakog pojedinog proizvoda. Dizajn se prenosi na CNC obradni centar. U ovim subjektima moguće je u potpunosti individualizirati proizvod te ga učiniti unikatnim. U radu su prikazani shematski prikazi moguće upotrebe CPS-a u promatranim subjektima. Daljnjim razvojem i implementacijom Industrije 4.0. cijeli proces bi se mogao odvijati od kuće gdje bi kupci mogli sami dizajnirati proizvod i pustiti ga u proizvodnju. Ostaje samo na dostavljaču da ga dostavi na kućnu adresu. Kibernetičko-fizičkim sustavom Istočna Hrvatska mogla bi obnoviti i razviti svoje proizvodne kapacitete, gdje bi kupci iz cijeloga svijeta mogli dizajnirati, individualizirati, naručiti i pustiti u proizvodnju svoj proizvod preko interneta.

**Ključne riječi:** Industrija 4.0., Kibernetičko-fizički sustav, Četvrta industrijska revolucija, Individualizirani proizvod

## 1. Introduction

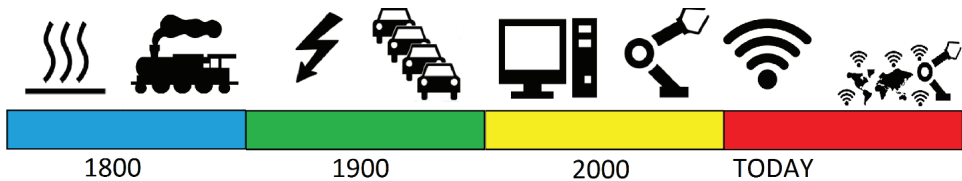
Historically, in the last two hundred years, humanity has experienced perhaps the biggest changes ever. Since the appearance of the first industrial revolution (the first appearance of the steam engine), through electricity up to network mode of doing business. The first industrial revolution according to Encyclopedia Britannica<sup>1</sup> is process of change from an agrarian and handicraft economy to one dominated by industry and machine manufacturing. Before First Industrial Revolution manufacturing was frequently done in homes, with basic machines, hand tools and producing one by one product. Industrial Revolution meant the transition to factories, powered machines and mass production. The Second Industrial Revolution according to Encyclopedia Britannica was represented by using new not hitherto utilized basic materials: lighter metals, new alloys, and synthetic products such as plastics, exploiting many natural and

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<sup>1</sup> [www.britannica.com/event/Industrial-Revolution](http://www.britannica.com/event/Industrial-Revolution) (22.03.2017)

synthetic resources, as well as new energy sources.<sup>2</sup> The third industrial revolution is the emergence of the mass use of computers and software in production. “Manufacturing is going digital.”<sup>3</sup> It is this third revolution that provides the largest contribution to development of the fourth industrial revolution, also known as the Industry 4.0. What does Industry 4.0 brings? It brings total connections between customer, manufacturers, machine and material. Communication between the machine and material, ability to make finished product, the entire production process, without human hands. We live in a world where goods can be ordered directly from the other side of the world, pay for it and get it to home address. Industry 4.0 goes one step further and replace the human in production process. Machine communicates with the material and doesn’t need a man to produce.

*Picture 1 Industrial Revolution timeline*



*Source: Made by authors*

## 2. Industry 4.0

According to Lasi, Fettke, Kemper, Feld, & Hoffmann term “Industry 4.0” is not well-known outside the German-speaking area.<sup>4</sup>

In order to better understand the concept of Industry 4.0. it must be observed through two development factors: changes in business conditions and requirements that emerge from there with the economic, political and social changes constitute one factor. Another factor is the exponential development of technology, which primarily comes from private life. Technologies such as applications, 3D printers, laptops, tablets, smartphones, Web 2.0...

The term Industry 4.0 was first used in Germany at the fair in Hanover in 2011. This refers to the fourth in a series of technological revolutions: the third or the digital revolution has brought the digitization which enabled fourth industrial revolution. It enables integration of processes and systems of different sectors of technology, revolutionizing of production, providing services, logistics and resource planning. The interaction of virtual and real worlds, communication involves a large number of sites. Industry 4.0 is merging the virtual world and the real production. Information technology in the virtual world are integrated into production processes. Systems in mechanical engineering, logistics and services communicate with each other. "Internet of Things" has brought a revolution in the entire industrial sector: The production cycles are shortened, maintenance is mostly done automatically. It also brought a new benefits to

<sup>2</sup> [www.britannica.com/event/Industrial-Revolution](http://www.britannica.com/event/Industrial-Revolution) (22.03.2017)

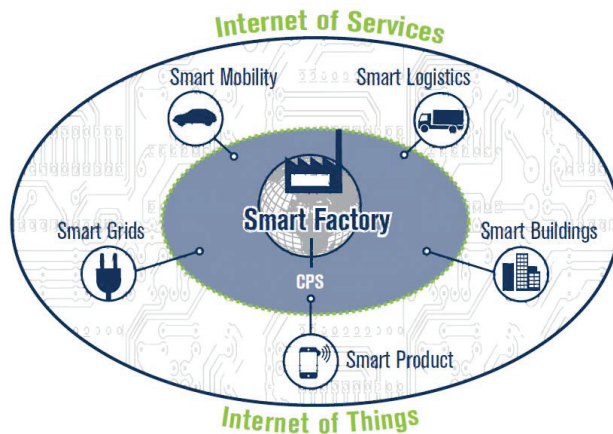
<sup>3</sup> <http://www.economist.com/node/21553017> (21.03.2017)

<sup>4</sup> Lasi et al. (2014) Lasi, H., P. Fettke, H.-G. Kemper, T. Feld and M. Hoffmann, M., 2014: Industrie 4.0: Bedarfssog und Technologiedruck als Treiber der vierten industriellen Revolution. WIRTSCHAFTSINFORMATIK, 56(4), 261–264. dostupno na [https://www.researchgate.net/profile/Peter\\_Fettke/publication/271973139\\_Industrie\\_40/links/558bf2c408ae40781c1f7bfa/Industrie-40.pdf](https://www.researchgate.net/profile/Peter_Fettke/publication/271973139_Industrie_40/links/558bf2c408ae40781c1f7bfa/Industrie-40.pdf)

customers: customer needs are included in real time, orders are automatically processed, it is possible to order and pay out of own chair and delivery is carried out on doorstep.

According to Kagermann, et al. (2013) smart factories make a key feature of Industry 4.0, which is focused on creating smart products, procedures and processes. They are able to manage complex processes, are less prone to delays and are able to produce goods more efficiently. People, machines and agents communicate with each other, such as social networks. The smart factories produce smart products that have information about where they are produced, of which type of materials, whom must be delivered. They with smart logistics, smart mobility and smart grid are the backbone of tomorrow's smart infrastructure. It should be concluded that Industry 4.0 should not be approached as a separate discipline but as an interdisciplinary mode of cooperation. As shown in the picture.

*Picture 2 Industry 4.0 and smart factories as part of the Internet of Things and Services*

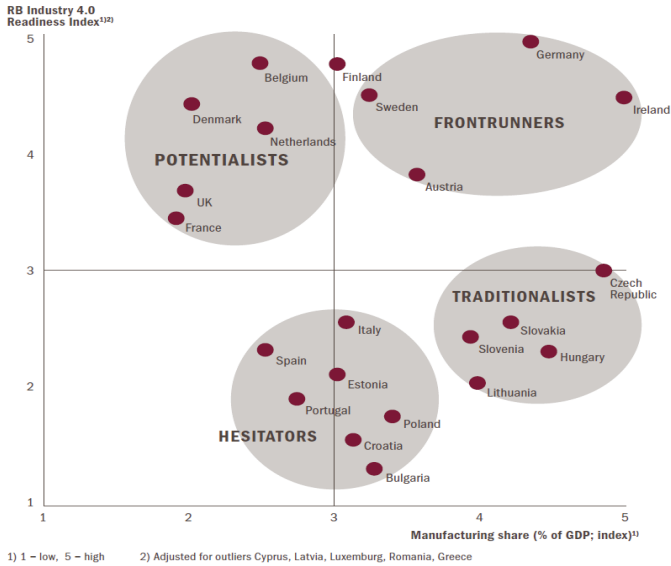


Source: [http://www.acatech.de/fileadmin/user\\_upload/Baumstruktur\\_nach\\_Website/Acatech/root/de/Material\\_fuer\\_Sonderseiten/Industrie\\_4.0/Final\\_report\\_\\_Industrie\\_4.0\\_accessible.pdf](http://www.acatech.de/fileadmin/user_upload/Baumstruktur_nach_Website/Acatech/root/de/Material_fuer_Sonderseiten/Industrie_4.0/Final_report__Industrie_4.0_accessible.pdf) (accessed 18. March.2017.)

The fourth industrial revolution also known as Industry 4.0 brings a complete change in the way of doing business. Complete computerization of the entire production process in which machines communicate with each other and with the object of work. Third Industrial Revolution brought electronics and computerization of the production process, the fourth takes it one step further.

Roland Berger GmbH produced an Industry 4.0 Readiness Index (I4RI) which graphically shows where EU countries are currently located. The countries are divided into four groups located in Frontrunners, Potentialis, Traditionalists and Hesitators. Croatia is at the very bottom and is presented in the group of Hesitators, countries who along the low RB i4i index also have mediocre percentage share of manufacturing industry in GDP.

*Picture 3 Industry 4.0 Readness Indeks (I4RI)*



Source: [www.rolandberger.com/publications/publication\\_pdf/roland\\_berger\\_tab\\_industry\\_4\\_0\\_20140403.pdf](http://www.rolandberger.com/publications/publication_pdf/roland_berger_tab_industry_4_0_20140403.pdf) (accessed 20. March.2017.)

### 3. Cyberphysical systems

“In the future, businesses will establish global networks that incorporate their machinery, warehousing systems and production facilities in the shape of CyberPhysical Systems (CPS). In the manufacturing environment, these Cyber-Physical Systems comprise smart machines, storage systems and production facilities capable of autonomously exchanging information, triggering actions and controlling each other independently. This facilitates fundamental improvements to the industrial processes involved in manufacturing, engineering, material usage and supply chain and life cycle management. The Smart Factories that are already beginning to appear employ a completely new approach to production. Smart products are uniquely identifiable, may be located at all times and know their own history, current status and alternative routes to achieving their target state. The embedded manufacturing systems are vertically networked with business processes within factories and enterprises and horizontally connected to dispersed value networks that can be managed in real time – from the moment an order is placed right through to outbound logistics. In addition, they both enable and require end-to-end engineering across the entire value chain.”<sup>5</sup>

Cybernetic-physical system (CPS) provides that from the moment of product selection to the moment when it is finished and packed for shipping, machines operate all alone. This approach to the production process will greatly change the current principle of production and allow end-users, customers to create their own product.

<sup>5</sup>Kagermann, H., W. Wahlster and J. Helbig, eds., 2013: Recommendations for implementing the strategic initiative Industrie 4.0: Final report of the Industrie 4.0 Working Group. [http://www.acatech.de/fileadmin/user\\_upload/Baumstruktur\\_nach\\_Website/Acatech/root/de/Material\\_fuer\\_Sonderseiten/Industrie\\_4.0/Final\\_report\\_Industrie\\_4.0\\_accessible.pdf](http://www.acatech.de/fileadmin/user_upload/Baumstruktur_nach_Website/Acatech/root/de/Material_fuer_Sonderseiten/Industrie_4.0/Final_report_Industrie_4.0_accessible.pdf) (accessed 20. March.2017)

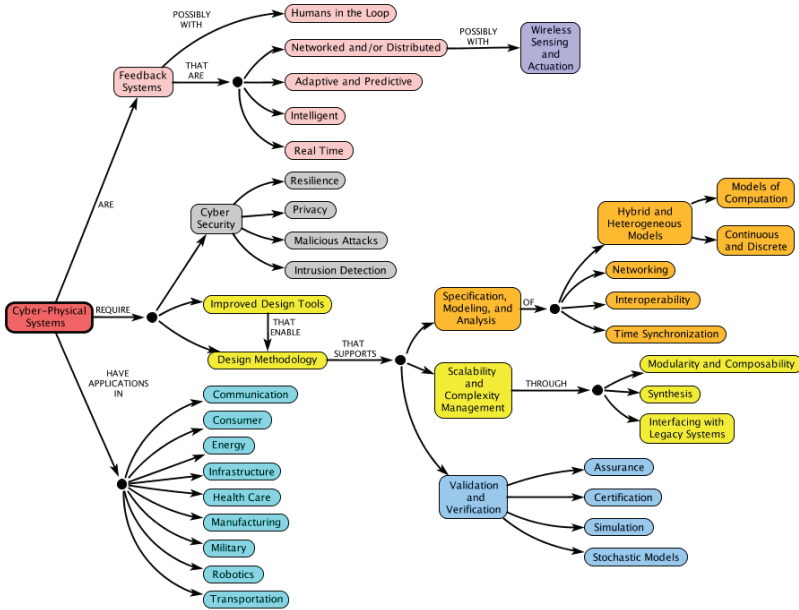
CPS can be viewed as a collection of computers that communicate with each other and manage every aspect from the customer order, production process to delivery of product or services to customer and all with the help of the Internet of things. CPS system is shown in the following picture:

*Picture 4 Cyber Physical Systems*

**Cyber-Physical Systems – a Concept Map**

[See authors and contributors.](#)

<http://CyberPhysicalSystems.org>



Source: <http://cyberphysicalsystems.org/> (accessed 20. March.2017.)

**4. Opportunities for SMEs in Croatia**

In order to determine whether entrepreneurs in Croatia are aware of new technologies and changes in the way of communicating with customers, sales channels and thus production process, an interview was conducted with the owner of the production craft Drvomont Rešetar and production director at the Socks factory Miro.

The owner of the production craft Silviija Rešetar dipl. ing. based hers answers on the technological process that are interesting for further development of her craft and carpentry profession in total. At the Xylexpo fair held in May 2012 in Milan a manufacturing plant was presented which does not need human to produce. Specifically man with a forklift brings material, the robot scans barcode on material and according to barcode determines where and what it will work with this material. The robot loads the material onto a conveyor that conveys the material to the machine that will handle this type of material, after the first machine is done, robot takes material for further processing on different type of machine or on packing. After all of materials required for the product are finished, the robot takes materials on conveyor that guides on packaging. After packaging, robot arranges packages on a pallet that worker with a forklift transports to warehouse or on delivery. Industry 4.0 allows to replace, even the worker who brings material and transports the finished, packaged products, with robot. Already here we



can see the impact of a new industry on an occupation that traditionally is performed by a man - making furniture. In Croatia profession carpenter is scarce and there is not enough work force. This approach to production would solve the problem of labor in production. With further development and computerization of the production process, it will be possible through Internet to design and order a piece of furniture. It should be mentioned that there would be possibility to order a piece that is unique, designed by the customer.

Production director in the Socks factory Miro mr. Zlatko Novak dipl. ing. points out that they already use a high proportion of automation and information technologies in their production process, and as a step towards the fulfillment of Industry 4.0 is not very large. The production process, which begins by designing samples is done on a computer, and it is very easy to master. Such design, or program is very easy to put on Internet page of Factory and thus create the possibility to create individual socks by buyers. Previous process where finished design is shifted through USB from computer to machine is very easily replaced so that machine and computer are constantly connected through wireless network. With this two-step process it is very easy to switch to fully automated production process, where workers job is to check that all of production process runs smoothly. With further investment in production it is possible to left that job to sensors and robots and achieve full process what is called the Industry 4.0. Textile industry in Croatia was once one of the basic industries. Unfortunately, homeland war, moving production to the East and the crisis took its toll. As young people less and less decide to textile professions there is a danger that in the near future there will be shortage of skilled labor. Accordingly, complete automation of the production process would be the answer to future labor shortages.

From this brief display awareness among craftsmen and small and medium entrepreneurs on trends in the development of production processes and industry is evident. We are witnesses of increasingly number of young people whom from economically reasons are leaving our country. Rich Slavonia and Baranja unfortunately is no exception, this method of production is one of possibilities that could change the economic situation of the region and help young people in the decision to stay here. Scheme of production process as in the manufacturing trade and in the factory is very simple, both business entities are already using machines operated by computers. It is necessary to connect machines with Internet so they can communicate with each other using computer system that receives orders, control machines in production and meet orders.

*Picture 5 Seven steps from order to delivery*



*Source: Made by authors*

1. Consumer orders a product on line
2. Computer receives customer orders, and orders the materials to produce
3. Delivery service delivers materials to produce
4. Production line receives materials to produce, produces product and reports to computer that the product is ready
5. Computer inform the delivery service and the customer that the product is ready
6. Delivery service takes product and delivers it to address of consumer
7. Consumer reports that he received product

This simple scheme in seven steps shows the possibilities of Industry 4.0. Such method of business operations makes it possible to produce at one end of the world for customers across the world. Business Industry 4.0 creates new jobs it actually creates new professions and now is the time to act, because this way of doing business doesn't wait for anyone.

## REFERENCES

[www.britannica.com/event/Industrial-Revolution](http://www.britannica.com/event/Industrial-Revolution) (accessed 22.March.2017)

<http://cyberphysicalsystems.org/> (accessed 20. March.2017.)

<http://www.economist.com/node/21553017> (accessed 21. March.2017)

Kagermann, H., W. Wahlster and J. Helbig, eds., 2013: Recommendations for implementing the strategic initiative Industrie 4.0: Final report of the Industrie 4.0 Working Group. [http://www.acatech.de/fileadmin/user\\_upload/Baumstruktur\\_nach\\_Website/Acatech/root/de/Material\\_fuer\\_Sonderseiten/Industrie\\_4.0/Final\\_report\\_Industrie\\_4.0\\_accessible.pdf](http://www.acatech.de/fileadmin/user_upload/Baumstruktur_nach_Website/Acatech/root/de/Material_fuer_Sonderseiten/Industrie_4.0/Final_report_Industrie_4.0_accessible.pdf) (accessed 18. March.2017.)

Lasi et al. (2014) Lasi, H., P. Fettke, H.-G. Kemper, T. Feld and M. Hoffmann, M., 2014: Industrie 4.0: Bedarfssog und Technologiedruck als Treiber der vierten industriellen Revolution. WIRTSCHAFTSINFORMATIK, 56(4), 261–264. dostupno na [https://www.researchgate.net/profile/Peter\\_Fettke/publication/271973139\\_Industrie\\_40/links/558bf2c408ae40781c1f7bfa/Industrie-40.pdf](https://www.researchgate.net/profile/Peter_Fettke/publication/271973139_Industrie_40/links/558bf2c408ae40781c1f7bfa/Industrie-40.pdf) (accessed 19. March.2017.)

[www.rolandberger.com/publications/publication\\_pdf/roland\\_berger\\_tab\\_industry\\_4\\_0\\_20140403.pdf](http://www.rolandberger.com/publications/publication_pdf/roland_berger_tab_industry_4_0_20140403.pdf) (accessed 20. March.2017.)

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**ACHIEVING A PERMANENT-LEARNING ORGANIZATION THROUGH  
STRENGTHENING BUSINESS COMPETENCES OF THE VINKOPROM  
COMPANY EMPLOYEES**

**POSTIZANJE TRAJNO UČEĆE ORGANIZACIJE KROZ JAČANJE  
POSLOVNIH KOMPETENCIJA ZAPOSLENIKA PODUZEĆA  
VINKOPROM**

**ABSTRACT**

*In the increasingly dynamic and insecure business environment the need for decentralization of decision-making and management of business units imposes the necessity for creation of permanent-learning organizations. These are such organizations that wish to continuously direct their employees to strengthen their own competences and to manage the implementation of knowledge and skills necessary for everyday interaction with buyers, consumers and increasingly demanding legislature.*

*Strengthening the intellectual and organizational capital of a company through lifelong education of an individual achieves not only the basis for company's survival on the market but also a potential for its further development. Purpose of the research is to show the formation of a permanent-learning organization through implementation of formal education in the company Vinkoprom. The goal of this paper is to show changes in structure of thinking and acting of the Vinkoprom employees, that is, the change in entrepreneurial climate by introducing formal education and strategic management in the company.*

*Research methodology is based on primary data acquired through interviews and surveys, secondary data acquired through case study method and in small part on historical data acquired from the GEM report Croatia 2012 - 2015.*

*The research will prove the hypothesis that during the implementation of formal education in an organization, which, accordingly, is only starting to become a permanent-learning one, the key employees change their minds and build new mental models. This paper can be useful to*

researchers in the area of lifelong learning, educational institutions, strategy makers, development policy makers, and to all those considering the lifelong learning an imperative for surviving on the market.

**Key words:** permanent-learning organizations, lifelong learning, formal education, intrapreneur.

## SAŽETAK

U sve dinamičnijem i nesigurnijem poslovnom okruženju potreba za decentralizacijom odlučivanja i upravljanja poslovnim jedinicama nameće nužnost stvaranja trajno učećih organizacija. To su organizacije koje trajno žele usmjeravati svoje zaposlenike na jačanje vlastitih kompetencija i upravljati implementacijom znanja i vještina potrebnih za svakodnevnu interakciju s kupcima, potrošačima i sve zahtjevnijom zakonskom regulativom.

Jačanjem intelektualnog i organizacijskog kapitala poduzeća kroz cjeloživotno obrazovanje pojedinca, postiže se osnova za opstanak poduzeća na tržištu, ali i potencijal za njegov daljnji razvoj. Svrha istraživanja je prikazati nastajanje trajno učeće organizacije kroz implementaciju formalnog obrazovanja u poduzeću Vinkoprom.

Cilj rada je prikazati promjene u strukturi razmišljanja i djelovanja zaposlenika poduzeća Vinkoprom tj. promjenu poduzetničke klime uvođenjem formalnog obrazovanja i strateškog upravljanja u poduzeću. Metodologija istraživanja temelji se na primarnim podacima dobivenim putem intervjua i anketiranjem, sekundarnim podacima prikupljenim kroz metodu slučaja te manjim dijelom povijesnim podacima dobivenim iz GEM izvješća Hrvatska 2012.- 2015. Istraživanjem će se dokazati pretpostavka kako u tijeku implementacije formalnog obrazovanja u organizaciju, koja dakle tek postaje trajno učeća, ključni zaposlenici mijenjaju svoju svijest i izgrađuju nove mentalne modele. Rad može biti koristan istraživačima u području cjeloživotnog učenja, obrazovnim institucijama, donositeljima strategija i politika razvoja, te svima koji cjeloživotno učenje smatraju imperativom opstanka na tržištu.

**Ključne riječi:** trajno učeće organizacije, cjeloživotno učenje, formalno obrazovanje, intrapoduzetnik.

## 1. Introduction

Continuously competitive and extremely volatile entrepreneurial environment of the 21<sup>st</sup> century demands development of extremely flexible, qualified and motivated workers who can follow the changes on the global market and implement them within their own companies.

Learning becomes a necessary tool to initiate changes in businesses that strive to growth and competitive advantages. Companies learn when their employees gain knowledge and first thoughts on learning organizations occurred at the beginning of the previous century.

Thoughts on companies that learn appeared long before Bob Garratt wrote a book titled *The Learning Organization* in 1986, where he stated that the learning organization is “an endless process towards possibly unachievable goal” (Kennedy, C. , 2000, quoted at Rupčić, N., 2002, p. 908). Far more significant implications on thinking and acting of generations of the 21<sup>st</sup> century managers had a book *The Fifth Discipline* by Peter M. Senge from 1991 where he described the meaning and the essence of learning companies. Senge emphasizes that the learning organization is “an organization that continuously increases its ability to create its own future” (Senge, P. M., 2003, p. 26). Constant adapting and growing in an ever-changing business environment depends on “institutional learning, which is a process where teams of managers change joint mental models of a company, the market and the competition” (de Gues, 1988, quoted at Senge, P. M., 2003, p. 22). So, the process of transition has to start from the company itself, that is, from the employees who

acquire individual knowledge and thus increase the company's intellectual capital and make it more competitive.

"Nothing is easier, and at the same time, nothing is more difficult than to redistribute a scarce production factor of today: Knowledge" (de Gues, 1998, p. 200). Knowledge becomes more and more significant a factor in the process of creating new values and moves back the material factors such as natural resources, work and capital. Purpose of the research is to show the formation of a permanent-learning organization through implementation of formal education in the company Vinkoprom d.o.o. The goal of this paper is to show changes in structure of thinking and acting of the Vinkoprom d.o.o. employees by introducing formal education and strategic management in the company. Research methodology is based on primary data acquired through interviews and surveys, and secondary data acquired and analysed through case study method.

According to defined goals, the paper proves the following hypothesis: *Companies in (post)transition countries inherited a problem of insufficient entrepreneurial culture which is a key factor in creating a permanent-learning organization.*

## 2. Theoretical Significance of Learning Organizations

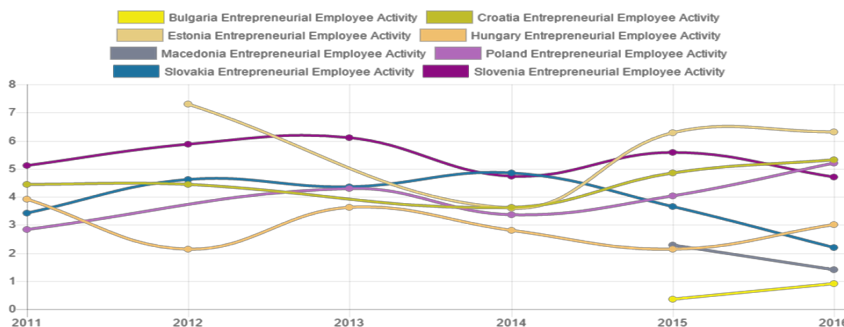
A path towards becoming a learning company includes creating new guidelines and ways to transfer knowledge. In other words, it is necessary to implement the disciplines of a learning organization. Senge outlines five disciplines of learning organizations (Senge, P. M., 2003). *Systems thinking* is a kind of an infrastructural basis for other disciplines, a synthetic display of an organization. *Personal mastery* is a very significant discipline that Senge considers a spiritual basis of a learning organization. The following is a discipline called *building shared vision* which represent an image that all employees see as the final goal or value of an organization. Unavoidable discipline is *team learning*. It has a synergic effect on the knowledge acquisition process. Learning ability of a group becomes greater than learning ability of any individual within the group (Rupčić, N., 2003, p. 918). The last discipline, mental models, are actually perceptions that are deeply ingrained in our consciousness and are influenced by our upbringing, attitudes and preferences (Senge, P. M., 2003). In most post-transitional countries mental models, that is, employees' mind-sets, are still a reflection of an inert socialist way of thinking. There is a low level of entrepreneurial culture and awareness of the necessity to create values through innovations, personal responsibility awareness, commitment, and focus on people and strengthening.

Data from the GEM report (*Global Entrepreneurship Monitor Croatia 2012 - 2015: What makes Croatia a (non-)entrepreneurial country?*) tells us that the level of entrepreneurial behaviour and attitudes on entrepreneurship in Croatia<sup>1</sup>, compared to a group of post-transitional countries, far below levels in Estonia and Slovenia, almost at Poland's level and just slightly above averages in Slovakia and Hungary. Croatia shows clearly better results only when compared to Macedonia and Bulgaria.

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<sup>1</sup>Entrepreneurial Behaviour And Attitudes, Measured via the GEM Adult Population Survey – APS, , <http://www.gemconsortium.org/data/key-aps> (downloaded on 29th March 2017)

**Figure 1** Entrepreneurial behaviour and attitudes - measured via the GEM APSSurvey



Source: <http://www.gemconsortium.org/data/key-aps> (downloaded on 29th March 2017)

Such entrepreneurial culture implies lower operative performance level of companies which is not sufficient to gain results that would turn a company into a permanent-learning organization. To do such a transformation it is necessary to build a strategic way of thinking. Wheelen and Hunger very specifically and concisely define strategic management as a set of managerial decisions and activities that define long-term performance of a company. However, they also stress that even the best strategic plans are worthless unless lower level management, key employees and other stakeholders participate in development and integration of a strategic plan (Wheelen, L. T. and Hunger, J. D., 1998, p. 3).

There is an increasingly present style in strategic management of companies where employees are encouraged to think and act as entrepreneurs with the focus on turning an idea into an added value for a company. An employee who acts innovatively, proactively and creatively, and who not only recognizes a potential value of an idea but also successfully realizes that idea within a company is called intrapreneur. Intrapreneur is a person who is a visionary, a herald of change, and a person who creates new business opportunities. Intrapreneur is a person who promotes entrepreneurial culture in an organization, willingly takes risks and at the same time has characteristics of both an entrepreneur and a manager. They are persons within companies who act independently, but can also be a part of an integrated structure and aspire to their own advancement and/or development of a company (Milovanović Morić, B., 2009).

### 3. Creating a Permanent-learning Organization – Vinkoprom d.o.o.

The company *Vinkoprom d.o.o.* is a family business founded in 1990. Basic activity of the company is wholesale and retail of consumer goods and building materials. The company grew and expanded from the initial 2 employees up to 236 employees in 2016. Company's growth from small to medium-sized business was not followed by an adequate development of the organization related to employees and management acquiring new knowledge. Furthermore, quick growth of the company did not include decentralization of decision-making and delegating responsibilities to operative level. In order to create conditions for strategic management and functioning of a permanent-learning organization, the Vinkoprom company strategy has been made.

Strategic business plan from 2015 to 2019 defines a long-term goal of the company which is achieved through 3 strategic areas: strengthening intellectual and organizational capital, increase in quality of internal processes, and CRM (Customer Relationship Management) and SRM (Supplier Relationship Management) strategies.

First strategic area, strengthening intellectual and organizational capital, is directly related to creating a permanent-learning organization.

### 3.1. Defining Education Levels of Employees of the Company Vinkoprom

The first step was to make a situational analysis of the company and to create a *knowledge shelf* with the purpose of defining an overall level of education, both formal and informal. Points were given for acquired and company-relevant knowledge for all working places in the company, based on the following criteria: minimum required qualifications, maximum required qualifications, required vocation per scientific field, and coefficients of formal education. Systematization and employees' education evaluation system determined the objective state of education coefficient in the company Vinkoprom, which led to the following conclusion: Long-term sustainability and business stability require an increase in average education coefficient for key working places, with knowledge necessary to execute operational activities in a higher quality manner.<sup>2</sup>

The second step was to create a list of initiatives<sup>3</sup>, a BalancedScorecard<sup>4</sup> table and a strategic map<sup>5</sup>, where in learning perspectives four initiatives were started: formal education, informal and non-formal education, basic computer skills course in MS Office environment, and directing the strategy towards employees.

The third step was to create and implement the management plan for the *Formal Education* project which will contribute to creation of a permanent-learning organization.

### 3.2. Implementation of the *Formal Education Plan*

*Formal Education* project has 3 life cycle phases: I. Planning activities and defining criteria, II. Analysis of the market offerings and creating a list of studies attendees, and III. Cohesion between the organization and the educational institution.

**In the first phase** criteria for selecting potential students are defined: voluntary participation, four- or three-year secondary education and minimum of two years working in Vinkoprom. Furthermore, the criteria for selection of the educational institution are defined. It is defined that it should be a business school of economics (management, tourism management, business economy, and finances), with a minimum of 3 years on the market, annual tuition fee not more than HRK 25,000 per attendee, positive credit rating, and all necessary permits to conduct educational programs.

**In the second phase of the project** activities have been carried out involving collection and processing of data regarding the state of formal education within the organization (table 1), as well as primary selection of educational institutions. After defining the criteria for selection of the educational institution, the market was researched and 6 educational institutions meeting the defined criteria were selected: Zagreb School of Business, Libertas Business School, N. Š. Zrinski Business School, Business School Krapina, University of Applied Sciences Baltazar Zaprešić, and Effectus Business School.

**The third phase of the project cycle** started from creation of the internal curriculum and gathering official offers from potential educational institutions. After initial talks where all requirements and conditions of mutual cooperation were laid out, 3 written and 2 verbal offers were received. University of Applied Sciences Baltazar Zaprešić has given up during the further talks due to inability to hold classes in Vinkovci. After presenting the plan for whole studies, Business School Krapina has also given up because they were not able to acquire all necessary licenses to hold

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<sup>2</sup>The lowest individual coefficient in the company was 0.9, while the highest individual coefficient was 1.73. For 25 employees in key working places the average education coefficient was 1.30 which was at the same time the minimum required coefficient of formal education, so there is a possibility to increase the average education coefficient of the company employees by 0.45 which is a great potential for advancement towards fulfilment of the strategic plan's goal.

<sup>3</sup>Internal document of the company Vinkoprom

<sup>4</sup>Model designed by Robert Kaplan and David Norton in 1990 in order to identify intangible company's values, describe them and turn them into real values for all company's stakeholders, thus making easier the implementation of a business strategy

<sup>5</sup>Internal document of the company Vinkoprom

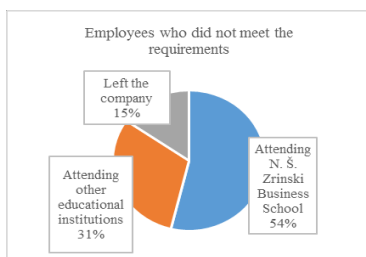


classes outside of its location. Out of 3 remaining institutions Nikola Šubić Zrinski Business School has been selected and the contract has been signed on formal education of the Vinkoprom company employees.

#### 4. Results

Out of total number of employees (236), 27 of them were on key management positions. Job systematization was done for them and the conclusion was that 13 of them did not meet the requirements for their jobs, so they were offered the possibility to continue education at Nikola Šubić Zrinski Business School. Out of them, 7 employees (54%) accepted the education in the aforementioned institution, while 4 of them (31%) decided to attend another educational institution. Two employees (15%) left the organization.

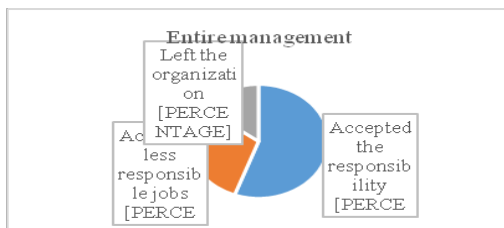
**Figure 2** Data on education of management at the company Vinkoprom d.o.o., in February 2016;



Source: The authors, based on internal data of the company Vinkoprom d.o.o.

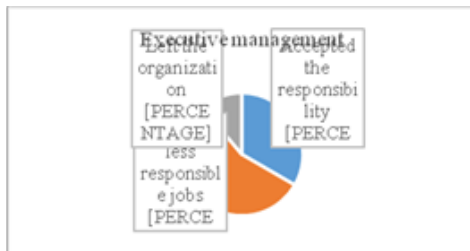
Executive Director emphasized during the interview that risks have been foreseen during the making of the Strategic Business Plan from 2015 to 2019 and resistance to changes within the organization and inertness of employees have been expected. Initial resistance was strong but changes were gradually accepted and employees became aware of the necessity of their further personal development. It was a surprise that employees who worked in executive management before the organizational changes were not ready to accept new responsibilities that were expected of them, that is, responsibility to act motivated, proactive, creative, and ready to accept risks. This led to discovery of hidden potentials in certain number of employees who possessed the required characteristics and saw the work on personal up-building as a great opportunity.

**Figure 3** Changes in management of the company Vinkoprom d.o.o. caused by not accepting the changes - entire management



Source: The authors, based on internal data of the company Vinkoprom d.o.o.

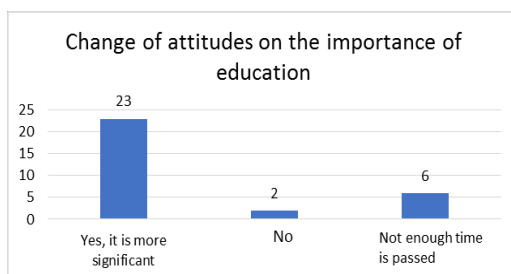
**Figure 4** Changes in management of the company Vinkoprom d.o.o. caused by not accepting the changes - executive management



Source: The authors, based on internal data of the company Vinkoprom d.o.o.

Employees who worked on key positions, 27 of them, at the beginning resisted to changes so 15 of them (55%) accepted the new requirements for their positions, 8 employees (30%) requested to be transferred to less responsible positions, while 4 employees (15%) left the company<sup>6</sup> (chart 2). Data on 9 employees who were in the executive management before the implementation of the new strategy are significant, since only 3 employees (33%) accepted the new requirements that were displayed to them, 5 employees (56%) were not ready to accept the responsibility so they requested to be transferred to less responsible positions, and 1 employee (11%) left the organization (chart 3). Refusing to accept the responsibility led to other employees within the organization who saw the changes as positive and necessary taking their positions. The owner and the Executive Director emphasize that under the influence of systematic thinking employees' mind-sets are changing and the level of entrepreneurial culture in the company is raising. In order to determine whether there has been the change in minds of the company's management a year after changes have been initiated, we conducted a survey among key employees whose number today is 31.<sup>7</sup>

**Figure 5** Change of attitudes on the importance of education a year after implementation of formal education



Source: The authors, based on a survey conducted among the management of the company Vinkoprom d.o.o.

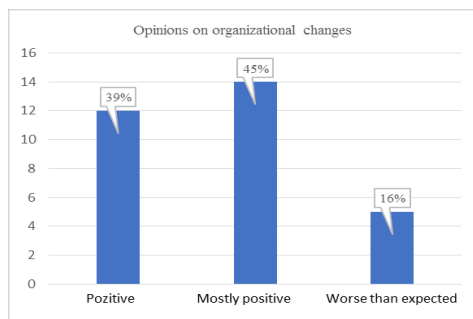
Out of 31 employees on key positions all of them (100% employees) consider education important for their personal development. 27 of them recognized lifelong education as a personal opportunity, while 4 of them think they participate in lifelong education in order to keep their jobs but they also see it as an opportunity for personal development. When asked whether they have changed their mind on the importance of education in the past year 23 employees or 74% of them answered

<sup>6</sup>For employees who left the organization it cannot be confirmed if they have left the organization due to the announced changes or workforce fluctuation, so they have not been included in the survey.

<sup>7</sup>The survey excluded the company's top management, Executive Director and Management Board

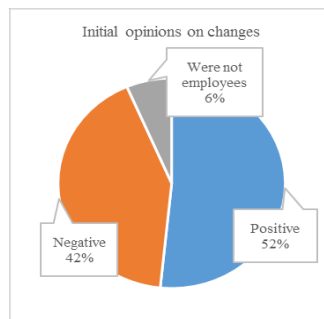
affirmatively, 2 employees (6%) still see no benefits from the education, while 6 of them or 20% think the period that passed was too short to see some changes (chart 4).

**Figure 6** *Employees' opinions on organizational Changes after one year, March 2017;2016;*



Source: The authors, based on a survey conducted among the management of the company Vinkoprom

**Figure 7** *Initial attitudes on changes,*



Source: The authors, based on a survey conducted among the management of the company Vinkoprom

26 Vinkoprom employees see organizational changes with the purpose of education as positive (39%) or mostly positive (45%), and 5 employees (16%) consider the changes worse than they have expected (Chart 5). So, overall 84% of employees consider the changes positive or mostly positive, while a year ago, when they have first been informed of the changes, only 52% of employees considered them positive (Chart 6).

Executive Director states that the fear of changes was rather high when the new Company's Strategic Plan from 2015 to 2019 was being presented. A list of 20 initiatives was created within 3 strategic areas. Immediately after the presentation 6 initiatives were started which were led by employees on key positions or they participated in as team members. In order to strengthen the employees, internal education was started in areas of project management, operative management, management accounting and marketing management. The goal was, except acquiring new knowledge, to relieve employees of the fear of changes, help them recognize and develop their hidden talents, and become more proactive in their work. After the carried out education, the company introduced a new system of measuring business efficiency, new organizational structure, and stimulation of achieved business results, which additionally helped in changing the employees' minds.

The management of the company Vinkoprom was also surveyed, and their attitudes are visible in Table 1.

*Table 1 Attitudes of the management of the company Vinkoprom during the implementation of formal education, in March 2017*

| Claim:   | 1- I completely disagree | 2 – I mostly disagree | 3 - I neither agree nor disagree | 4 – I mostly agree | 5 - I completely agree | The average score |
|--|--------------------------|-----------------------|----------------------------------|--------------------|------------------------|-------------------|
| The fear of changes was high during your decision on further education           | 19                       | 4                     | 6                                | 1                  | 1                      | <b>1.74</b>       |
| Experience is more significant than formal education                             | 0                        | 4                     | 13                               | 9                  | 5                      | <b>3.48</b>       |
| I was meeting the position's requirements even before the organizational changes | 2                        | 2                     | 9                                | 10                 | 8                      | <b>3.65</b>       |
| I believe the organizational changes were not necessary                          | 13                       | 3                     | 9                                | 5                  | 1                      | <b>2.29</b>       |

*Source: The authors, based on a survey conducted among the management of the company Vinkoprom d.o.o., in March 2017*

Already after one year of creating a permanent-learning organization one can see a shift in the direction of creating a new entrepreneurial culture led by aspiration for personal advancement, and consequently development of the company in general.

## 5. Conclusion

Quick growth of the company Vinkoprom from small to medium-sized business was neither followed by decentralization of the company's management and delegation of responsibilities to lower levels nor by adequate development of employees' competences, so the need occurred to implement new knowledge through creation of a permanent-learning organization.

The company has recognized that it should increase intrinsic motivation of employees for new knowledge and increase their satisfaction, and on the other hand it should exclude the resistance of attendees to further education. These were prerequisites that needed to be fulfilled in order to implement the project of formal education.

Through systematic work on the changes, continuous risk management during the implementation of these changes and careful selection of partners for formal education who can fulfil all the company's requirements, as well as everyday work on making employees aware of the importance of the undergoing changes, the company has succeeded in changing mental models of the majority of employees, and it keeps working on continuous changes in awareness and creation of joint vision for the whole company. Company's employees are no longer just persons aspiring to job security, but they develop their ambitions and innovativeness, and thus become intrapreneurs. After initial resistance, employees recognized importance of personal up-building and they readily participate in their own development.

By increasing the level of specific knowledge and strengthening capacities of employees on key positions, the company Vinkoprom d.o.o. strengthens its intellectual capital and is more ready to face changes in its environment.

This paper can serve as a basis for further research or implementation in other companies which would result in data for comparative analysis of the process of creating permanent-learning organizations, and thus also for further recommendations in this area.

## REFERENCES

- deGeus, Arie P. (1998): *The Living Company: A Recipe for Success in the New Economy*. The Washington Quarterly, pp. 198-205;  
<http://www.ariedegeus.com/usr/library/documents/main/washingtonquarterly.pdf>(accessed on 23<sup>rd</sup> March 2017)
- deGues, Arie P. (1988): *Planning as Learning*. Quoted at: Senge, P. M. (2003): *Peta disciplina-principi i praksa učeće organizacije*. Mozaik knjiga;
- Entrepreneurial Behaviour and Attitudes, Measured via the GEM Adult Population Survey – APS*. <http://www.gemconsortium.org/data/key-aps> (accessed on 29<sup>th</sup> March 2017);
- Kennedy, C.(2000), Quoted at: Rupčić, N. (2002): *Poduzeće koje uči - formula za 21. stoljeće*, Ekonomski pregled, 53 (9-10), pp. 903-920;
- Milovanović, M.B. (2009): *Sustav poticanja kao factor razvoja korporativnog poduzetništva*, Proceedings of the Faculty of Economics in Zagreb, year 7, no. 1;
- Plan upravljanja projektom – Formalno obrazovanje u poduzeću Vinkoprom* (2015). Internal document;
- Project Charter for the project *Formal Education in the Company Vinkoprom* (2015);
- Rupčić, N. (2002): *Poduzeće koje uči- formula za 21. stoljeće*. Ekonomski pregled, 53 (9-10) pp. 903-920;
- Senge, P. M. (2003): *Peta disciplina- principi i praksa učeća organizacije*. Mozaik knjiga;
- Strategic Business Plan of the Company Vinkoprom from 2015 to 2019*;
- Wheelen, L. T. and Hunger, J. D. (1998): *Strategic Management and Business Policy*. Addison - Wesley, in Reading, Massachusetts;

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## **THE STUDY OF INNOVATION POLICY INSTRUMENTS IN THE BASE OF INTERNATIONAL EXPERIENCE**

### **STUDIJA INSTRUMENTATA INOVACIJSKE POLITIKE NA TEMELJU MEĐUNARODNIH ISKUSTAVA**

#### **ABSTRACT**

*One of the most consistent findings in macroeconomics is the link of innovation and economic growth. Innovation is important at all stages of development; especially the creation and diffusion of technologies are important for economic growth. In order to support innovation Governments make an intervention by Public policy, objectives and instruments. Properly selected innovative instruments play a key role in innovation by seeking coherence and balance in the set of policies that affect innovative entrepreneurship.*

*The aim of this article is to study the experience of Israel innovative policy and its instruments in order to find ways to locate it in developing countries especially in Armenia. The choice of this economy is based not only on their innovative performance but also similarities to Armenia and Croatia in some dimensions such as population, territorial size, geographical position and history. This paper also undertakes comprehensive study of Armenia and Croatia innovation policy parallels because both countries have the potential of developing innovation sectors but still haven't reached considerable success in it.*

*The major result of this article is revealing the best instruments which are applied in one of the top innovative countries in Israel and which of them can be adopted in developing countries that possess the potential to create new technologies but still do not use their potential appropriately such as Armenia and Croatia.*

**Key words:** Innovation, Policy instruments, Economic growth, Technology, Developing countries.

#### **SAŽETAK**

*Jedan od najkonzistentnijih nalaza u makroekonomiji je povezanost inovacije i ekonomskog rasta. Inovacija je važna u svim fazama razvoja; naročito su stvaranje i širenje tehnologija važni*

*za ekonomski rast. Kako bi potaknule inovacije, vlade interveniraju javnim politikama, ciljevima i instrumentima. Ispravno odabrani inovativni instrumenti igraju ključnu ulogu u inovaciji traženjem koherentnosti i ravnoteže u skupu politika koje utječu na inovativno poduzetništvo.*

*Cilj ovoga rada je proučiti iskustva izraelske inovativne politike i njenih instrumenata kako bi pronašli načine kako ih locirati u zemljama u razvoju, posebno u Armeniji. Izbor ovog gospodarstva temeljen je ne samo na njegovoj inovativnoj izvedbi nego i na sličnostima Armenije i Hrvatske u određenim dimenzijama kao što su broj stanovnika, veličina teritorija, geografski položaj i povijest. Ovaj rad također provodi iscrpnu studiju sličnosti inovativnih politika Armenije i Hrvatske jer obje zemlje imaju potencijal razvoja inovacijskih sektora ali još nisu postigle značajniji uspjeh u tome.*

*Glavni rezultat ovoga rada je otkrivanje najboljih instrumenata koji su primijenjeni u jednoj od najinovativnijih država, Izraelu, te koji od njih se mogu usvojiti u zemljama u razvoju koje posjeduju potencijal za stvaranje novih tehnologija ali još ne koriste primjereno svoj potencijal, poput Armenije i Hrvatske.*

***Ključne riječi:*** *inovacija, instrumenti politike, ekonomski rast, tehnologija, zemlje u razvoju.*

## **1. Introduction**

This article studies the innovative policy and instruments of Israel as one of the most innovative economies in the world in order to find ways to locate it in developing countries especially in Armenia and Croatia. The choice of Israel is based not only on its innovative performance but also similarities to Armenia and Croatia in some dimensions such as population, territorial size, geographical position and history. There is no doubt smart policies played a key role in spurring innovation (Ilan Moss, Q2 2011). The countries which achieved success in the field of innovation constantly carried out purposeful innovative policy. Israel has started to apply different kinds of innovation instruments since 1970s, and in this article is presented almost all most popular policies that has committed by Israel till now. The article also studies innovative performance parallels between Armenia and Croatia.

## **2. Israel's innovation realm**

In recent years Israel's innovation "ecosystem" has drawn the attention of so many. This is due to the fact that Israeli governments have pursuing the policies to foster innovation for decades. Gross domestic expenditures on R&D (GERD) in Israeli GDP were 4.3% in 2016 (UNESCO Innovation Data). It has always been high and continues to grow steadily. GERD percentage in Israeli GDP shows the Graph 1(The Innovation Policy Platform statistics).



*Graph 1 The Innovation Policy Platform statistics*



*Source: UNESCO Innovation Data*

Israel was the world's second-most GERD-intensive country at 4.11% of GDP in 2014. In order to maintain and increase Israel's global leadership in the field of innovations the government has established the Israel Innovation Authority. This is the most influential but not the only one innovation policy tool in Israel. There are many other instruments which are as vital as Israel Innovation Authority. About the latter and the other instruments will be spoken below.

### **2.1. Israel's innovation policy instruments**

Israel's Innovation policy was lunched since 1970s when Israel Innovation Authority, formerly known as the *Office of the Chief Scientist (OCS)* in the Ministry of Economy, was established. OCS is an independent and impartial public entity which operates for the benefit of the innovation ecosystem and Israel economy as a whole. The OCS vision is to create economic prosperity through innovation. Its role is to nurture and develop Israeli innovation recourses while creating and strengthening the infrastructure and framework needed to support the entire knowledge industry. CSO takes advice the Governments and Knesset regarding innovation policy in Israel and analyzes the dynamic changes occur in innovation environments both in Israel and abroad. Besides that CSO creates cooperation with counterpart agencies to promote technological innovation in the Israel industry and economy. The core strategy of CSO towards encouraging private investments in R&D is reducing companies' and investors' risks by offering grants. But in this way the government wishes to reduce the risk, not just subsidize R&D. That is why the recipients of most OCS funds are obliged to pay back the grants they received in forms of royalties if their project succeeds. OCS has a number of innovation divisions each focused on a specific target audience. The divisions are (Israel Innovation Authority official page)

- Startup division

- Growth division
- Technological infrastructure division
- Advanced manufacturing division
- International collaboration division
- Societal Challenges division

Each of its divisions has its programs designed for different kinds of entrepreneurs. But as it is impossible to present in detail all divisions and all programs in one article, we will only issue the most important and popular programs.

**Startup division** itself includes the following programs.

- Tnufa Incentive Program
- Incubators Incentive Program
- Innovation Visas for Foreign Entrepreneurs
- Young Entrepreneurship Incentive Program
- Renewable Energy Technology Center
- Angels law

***Tnufa*** incentive program is for fledgling entrepreneurs who are interested in formulating and validating an innovative technological concept and in reaching the R&D stage, where they can raise funding for further development and commercialization. By this program new entrepreneurs and startups get the conditional grant provided as part of the Tnufa incentive program is up to 85% of the approved budget, with a maximum grant of NIS 200,000 for a period of up to two years. The grant funds are used for building an initial prototype, intellectual property protection and initial business development. Tnufa offers favorable conditions for entrepreneurs.

**Incubators Incentive Program** is for those who are interested in establishing a startup company and provide them with administrative, technological and business support. This program intended to invest in new startup companies and provide them with administrative, technological and business support. It offers the entrepreneurs the following conditional grants.

-The conditional grant provided 85% of approved budget, with a budget limit of 3,500,000 NIS for a period of up to two years (depending on project type and geographical location of the incubator)

-The conditional grant provided as part of the biotechnological incubator is 85% of approved budget, with a budget limit of 8,100,000 NIS for a period of up to three years

-Supplementary investment financing of 15 percent of the approved budget by the incubator, which completes by 100 % of the total budget.

Besides the above mentioned grants this program also offers comprehensive assistance including physical space and infrastructure, administrative services, technological and business guidance, legal advice and access to partners, additional investors and potential customers.

**The Renewable Energy Technology Center** supports technological ventures and R&D projects starting from the stages of applied academic research and early stage entrepreneurship. The center enables testing and trials for products undergoing development and demonstration. This program is for companies and entrepreneurs who wish to carry out projects that require technological R&D in the renewable energy and energy efficiency fields, the center supports projects in relevant technological fields, such as solar energy, wind energy, geothermal energy, alternative fuels, energy efficiency, smart grid, energy storage, and more. The incentive program is also available for early stage companies and entrepreneurs interested in developing technological projects in the renewable energy fields, as well as for researchers wishing to carry out applied research in these areas, and companies that want to conduct experiments in the testing areas operated by the Center. The participants receive professional and technical support from the Center's staff for the completion of the project. The financial support depends on the sub-program in which the operation is carried out and fluctuating between 60-85% of the approved R&D expenditures.

**Angels law:** As Investments in R&D-intensive companies in the seed stage of R&D activities carry a high risk to investors and sometimes are lost as a result. So to increase the financing sources of these companies by enlarging the volume of investment in them, the individual investors (angels) are given the option to deduct the investment amount from their current expenses for tax purposes. In order to do so, the target company that wants a deduction of the investment in its shares to be accepted as an expense must obtain approval from the Authority for its R&D expenditures. This law was substantially amended in late 2015 and now provides investors in Israeli R&D-intensive companies a higher degree of certainty.

**The Growth Division** (Israel Innovation Authority official page) operates a wide range of incentive programs that promote technological innovation of mature and growth companies. This division contributes to the promotion and preservation of competitiveness and technological leadership of companies, as well as the increase of their growth rates and potential. Its audiences are Hi-tech companies in sales or pre-sale growth stages, and mature hi-tech companies that utilize growth channels based on technological innovation and/or seek assistance in funding innovative R&D. The Growth Division also has its programs and funds, which are

- R & D Fund – Support of Competitive Research and Development
- Greenhouse Gas Emissions Reduction
- Generic R&D Arrangement for Large Companies
- Business R&D in Agriculture
- Encouraging Investments in the Field of Alternative Fuels for Transportation
- Encouragement of R&D for Space Technology
- R&D Centers of Large Israeli Companies in Israel's Periphery
- KIDMA 2.0 – Promoting Israeli Industry in the Field of Cyber Security

**R & D Fund** – Support of Competitive Research and Development. This is the main program of the Growth Division and designed for industrial R&D support. It offers the greatest financial incentives for R&D activities from the Israeli government, provides

commercial companies in all areas with support for the development processes of new products or for the upgrade of existing technology. The support is offered to all businesses in Israel and all their branches, at all stages of R&D. The Fund offers a conditional grant of 20-50% of the approved R&D expenditures.

**Generic R&D Arrangement for Large Companies** -this incentive program allows large companies to focus on long-term creation of new knowledge and technological infrastructure, used for the development or production of future innovative products. The R&D plans under the arrangement are exempt from royalties (full grants). R&D projects submitted to this incentive program should include a long-term R&D plan or collaboration with another Israeli company. This program is for large Israeli companies with revenues of more than USD 100 million, with total R&D expenditures that are more than USD 20 million, or alternatively, Israeli companies that employ at least 200 employees directly in R&D. A grant of up to 50% of the approved R&D expenditures for long-term R&D plans or for an R&D project executed in cooperation with another Israeli company.

**Business R&D in Agriculture**-This program is designed to encourage innovations in agricultural sphere, to incent the development of agricultural products intended for sale and export. The beneficiaries for this program are Israeli business entities engaged in the field of agriculture, including agricultural companies, and various agricultural institutions, engaged in fields such as species enhancement, seeds, livestock improvement and more.

Conditional grant of 20% to 50% of the approved R&D expenditures for the development of agricultural equipment or innovative business agricultural technology.

**Encouragement of R&D for Space Technology**- this incentive program is a joint initiative of the Authority and the Israel Space Agency of the Ministry of Science, Technology and Space.

This program aimed to encourage R&D for finding solutions in the fields of space technology, while strengthening the knowledge and the technological development capacity of Israeli industry. To reduce the knowledge gap between Israel and the global market and improve the competitiveness of Israeli industry, despite the existing challenges, such as significant technological risk and high development costs, limited production quantities, and expensive systems. This program is designed to help companies that develop products in the field of space technology intended for installation in satellites or ground stations for management of satellite operations.

**KIDMA 2.0** – this program aimed at providing benefits for the advancement of knowledge centers, creation of technological solutions in the field of cyber security, and encouragement of R&D activities in Israel (Israel Innovation Authority official page).

**The Technological Infrastructure Division** In order to produce advanced technologies and innovative products this division focuses on collaboration between industry and academia.. The incentive programs offered by this division promote cooperation, exchange of knowledge and experience, and development of generic groundbreaking knowledge by an integrated group of researchers from academia and industry. These incentive programs seek to strengthen the long-term technological advantages of Israeli industry in the face of fierce international competition. This division role is to promote university researchers who are interested in transforming their discoveries into products and incent academic research institutions who are looking for new and practical research directions for the industry.

Technological Infrastructure Division Incentive Programs are

- MAGNET Consortiums
- MAGNETON Incentive Program

- NOFAR Incentive Program
- Biotechnology – TZATAM Incentive Program
- The Advanced Technologies Users Association
- Biotechnology – MIDGAM Bank (Tissue Bank)
- Industrial Research Institutes
- KAMIN – Promoting Applied Research in Academia
- MEIMAD – Leveraging of Military, Defense and Commercial R&D of Dual Use Technologies

**MAGNET** Consortiums and **MAGNETON** Incentive Program are one of the core innovative programs launched in 1994 (OECD, Israel, Grants and Subsidiaries). These are the main and the most popular programs designed by Israeli authority in order to link academia and the industry. The **MAGNET** incentive focuses on consortiums of industrial companies and research institutions that collaborate to develop innovative technologies. The consortiums enable long-term R&D and create a supportive work environment. Since the incentive program specializes in the development of infrastructural technology, it allows distribution of knowledge and cooperation between companies operating in the same field, which may be difficult to achieve otherwise. The beneficiaries for this program manufacturing companies who developing competitive products and trying to develop innovative technologies, and Israeli academic research groups engaged in scientific or technological research. The program provides beneficiaries with grants through the consortium is up to 66% of the approved budget for an industrial company and 100% for a research institution (80% is given as a grant by a program and 20% is given by the industrial companies in the consortium). The operating period is three to five years, in order to facilitate a long-term R&D process.

**KAMIN**- this program serves as a bridge between basic and applied research and is focused on the stage of transformation and realization of basic research achievements into technologies with commercial application. The beneficiaries of this program are research groups from Israeli universities, colleges, research institutes and medical centers that seek to conduct applied research, building upon the basic research. The research must be innovative and original in terms of industrial application; its results should be applicable to industries in Israel and potentially have high added value for the entire economy. For beneficiaries the program provides conditional grant of 85%-90% of the approved budget, up to a maximum amount of NIS 400,000. The support is provided for a period of one or two years, with the possibility to extend this period in exceptional cases with a reduced grant of 66% of the approved budget. The grant recipients are exempt from repayment of royalties.

**MEIMAD**-this is a joint venture of the Authority, Ministry of Finance and the Administration for the Development of Weapons and Technological Infrastructure of the Ministry of Defense. This incentive program supports the development of creative solutions for military and commercial markets. This program is for Israeli small and medium companies (up to USD 50 million in sales per year) and university research institutes and research centers.

**The Advanced Manufacturing Division's** role is to promoting the implementation of R&D and innovation processes in companies in the manufacturing sector, in order to strengthen their competitiveness in the global arena and improve productivity across a variety of industrial sectors. The incentive programs offered by this division boost manufacturing-oriented industries and

encourage the owners of mainly small and medium-sized factories and plants to develop innovative products, technologies and manufacturing processes to realize these goals.

This division deals with Israeli industrial enterprises whose main activity is in its essence manufacturing, and that operate in the low- and medium-low-technology sectors and Israeli industrial enterprises that have at least one active production line, as well as distinctive characteristics of a manufacturing-oriented industrial company – high rate of production operations, low rate of R&D activity, low level of R&D infrastructure, lack of significant intellectual property.

**The Societal Challenges Division** focuses on improving the effectiveness and quality of public sector services, as well as enhancing social welfare and quality of life through technological innovation. This division's role is to identify these needs at the national level and to mediate between them and the Israeli entrepreneurial community by encouraging and creating demand for technological solutions. This division deals with companies and non-profit organizations interested in developing technological solutions for populations with special needs and entrepreneurs interested in developing innovative products and services that will address public sector challenges.

### 3. Armenian and Croatian parallels in the field of innovation

Research and development expenditure is low in Armenia, averaging of 0.24% of GDP in 2016. It is fluctuating between 0.23-0.27% of GDP during period of 2000-2016. In Croatia R&D expenditure is also low it comprises 0.8 % of GDP in 2016. Although it three times exceeds the same indicator of Armenia, it still remains low in comparison with 2% in European Union and 2.4% in OECD area.

Scientific and innovation activities in Armenia before independence followed the traditional Soviet model. At that time science and technology in Armenia were closely integrated and were part of large scale value chains of this market. After independence till 2000 Armenia did not have clear vision and policy as to the role of innovation in national economy. Only after in the mid-2000s the policy focuses shifted to science and innovation, and a number of important policy initiatives were launched. Since 2000s a number of legislative acts-laws, programs and resolutions were adopted and a range of high level policy decisions were taken. The main public bodies tasked with specific functions in facilitating and supporting innovation process are National Academy of Science, Ministry of Education and Science, Ministry of Economic Development and Investments, and others. In 2011 the Government adopted the Concept paper on the Initial Strategy for Formation of Innovation Economy and the Strategy of Export-led Industrial Policy. In order to implement these policy programs implemented agencies is delegated which are the Enterprise Incubator Foundation, the Armenian Development Agency, the National Center of Innovation and Entrepreneurship and other agencies. But these innovation support institutions have few functioning. Early stage financing institutions are practically non-existed in Armenia. So, because of the lack of innovation intermediaries business innovation and innovative entrepreneurship is limited. Besides that, there are not existed cooperative programs between academy and industry or they are very few. So, in Armenia industry and science linkages are very weak. In Croatia university-industry collaboration stands at about 50% of the EU 27 average. Croatian companies also are less likely to engage in innovation than their counterparts in EU, even if they do, they devote few resources to it (OECD reviews of Innovation Policy Croatia, p 42). So, Armenia and Croatia have similarities in this field and some innovative policy instruments which are presented in this paper can be localized and adopted by both of countries.

#### 4. Conclusion

The study of Israel innovation policy shows that the latter has support programs for innovative enterprise which are in different stages of development. Support programs include financial, as well as professional and technical support. Although these programs have been implemented almost a half century and have given their tangible results, they have not been stopped, moreover, new programs have been processed. Thus, Israel constantly keeps its attention on this area.

The study of Israel innovation policy instruments also proves that the field of innovation should always be in the center of the Government attention. The Government with its policy should be the intermediary who making bridges between universities, research institutions and industry. As the case of Israel where the special institute for innovation-Israel Innovation Authority has launched MAGNET program in order to link academia and industry. This program promotes the creation of consortiums between research institutes and industrial companies in order to develop innovative technologies. So, the countries that are adopted the formation of Innovation Economy could use such kind of instrument like MAGNET in Israel. In regarding the issue of financing another Israeli mechanism can implemented. The risk reducing mechanism which uses the Israeli Authority by cofounding private investments is mostly obliged to pay back in the forms of royalties when the project succeeds. So, this mechanism allows the Authority to have funds which are mostly “renewable”. This mechanism also could be implemented by Armenia and Croatia.

#### REFERENCES

Ilan Moss. (2011): **Start-up nation: An innovation story**, OECD observer N285, Q2

*UNESCO Innovation Data* <http://uis.unesco.org/en/topic/innovation-data>

*The Innovation Policy Platform statistics*

[https://www.innovationpolicyplatform.org/content/statistics-ipp?l=G\\_XGDP;v3;s;;ARM](https://www.innovationpolicyplatform.org/content/statistics-ipp?l=G_XGDP;v3;s;;ARM)

*Israel Innovation Authority official page* <http://www.matimop.org.il/>

*OECD, Israel, Grants and Subsidiaries* [http://qdd.oecd.org/DATA/STIPSurvey/ISR.C1-1-2-1+C1-1-2-2..STIO\\_2014](http://qdd.oecd.org/DATA/STIPSurvey/ISR.C1-1-2-1+C1-1-2-2..STIO_2014)

*OECD reviews of Innovation Policy Croatia, 2013* [http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-reviews-of-innovation-policy-croatia-2013\\_9789264204362-en#.WPimc\\_197IU#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-reviews-of-innovation-policy-croatia-2013_9789264204362-en#.WPimc_197IU#page1)



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## **ECONOMIC BENEFITS OF MODERN MARKETING AND ITS COMMUNICATION STRATEGIES ACROSS SOCIAL MEDIA**

### **EKONOMSKE KORISTI MODERNOG MARKETINGA I NJEGOVIH KOMUNIKACIJSKIH STRATEGIJA PREKO DRUŠTVENIH MEDIJA**

#### ***ABSTRACT***

*Social media are becoming one of the essential parts of everyday lives and economic activities of large percentage of people worldwide. Therefore, social media has entered almost every aspect of people's daily lives by using enormous economic benefits of Internet and its most visible part i.e. World Wide Web that already made data, information and communication available to people in a matter of seconds.*

*This is considerably emphasised when it comes to the power of social media in marketing, both the traditional one; where advertisements are inevitable and surrounding consumers on every step, and the modern one (often called digital marketing and/or online marketing) which strives to implement new ways of displaying advertisements. Thus, all social media have deeply changed the way marketing functions and because of them the completely new discipline of marketing was subsequently coined i.e. social media marketing, with communication strategies being one of its most significant parts. Based on the premise that, in order to deepen relationships with and to enhance exposure to, potentially interested people, social media marketing and its communication strategies utilise the principle of networking within social media, authors have decided to conduct the research in order to determine economic benefits that can be expected from their timely and effective implementation.*

*Purpose of this research is to find examples of economic benefits that modern marketing can achieve across a variety of social media by communication strategies that have potential to be viable, as well as to analyse and synthesise research results on the topic of this paper that was made and conducted by its authors. With regards to used approach, authors have combined these scientific methods: induction and deduction, analysis and synthesis, abstraction and concretization, generalization and specialization, classification, description, compilation, comparison, statistical, mathematical, historical, empirical and survey. Finally, main results and implications of this*

*paper are presented as carefully composed and thoroughly elaborated theoretical parts in conjunction with the aforementioned survey that is actually completely original authors' contribution to the worldwide academic research in related scientific disciplines.*

**Key words:** *economic benefits, marketing, communication strategies, social media, Osijek, Rijeka*

## SAŽETAK

*Društveni mediji postaju jedan od esencijalnih dijelova svakodnevnih života i ekonomskih aktivnosti velikog postotka ljudi diljem svijeta. Stoga, društveni mediji su ušli u gotovo svaki aspekt ljudskih života koji pritom rabe ogromne ekonomske koristi koje pruža Internet i njegov najvidljiviji dio, odnosno tzv. World Wide Web koji je već učinio podatke, informacije i komunikacije dostupne ljudima u nekoliko sekundi.*

*Ovo je značajno naglašeno kada je u pitanju aktualna moć društvenih medija u marketingu, kako u onom tradicionalnom; gdje su oglasi neizostavni i okružuju kupce na svakom koraku, tako i onom modernom (često zvanom digitalni marketing ili internetski marketing) koji nastoji implementirati nove načine prikazivanja oglasa. Tako su svi društveni mediji iz korijena promijenili način na koji marketing funkcionira i zbog njih je potpuno nova disciplina u marketingu naknadno razvijena, odnosno marketing na društvenim medijima, s komunikacijskim strategijama kao jednim od njegovih najznačajnijih dijelova. Bazirano na pretpostavci da, kako bi probudio odnose s i povećao izloženost, potencijalno zainteresiranim ljudima, marketing na društvenim mrežama i njegove komunikacijske strategije, koriste princip umrežavanja na društvenim mrežama, autori su odlučili provesti istraživanje kako bi utvrdili koje se ekonomske koristi mogu očekivati ukoliko se provede pravovremena i efektivna implementacija navedenog.*

*Svrha istraživanja ovog znanstvenog rada je promaći primjere ekonomskih koristi koje marketing na društvenim medijima može ostvariti preko raznolikih društvenih medija putem komunikacijskih strategija koje imaju potencijal biti održive kao i analizirati i sintetizirati rezultate istraživanja na temu rada koje je osmišljeno i provedeno od stanje njegovih autora. Vezano za korišteni pristup, autori su odabrali kombinirati sljedeće znanstvene metode: indukcija i dedukcija, analiza i sinteza, generalizacija i specijalizacija, klasificiranje, opisivanje, kompiliranje, uspoređivanje, statistička, matematička, povijesna, empirijska i anketiranje. U konačnici, glavni rezultati i implikacije ovog rada su izloženi kao pažljivo sastavljeni i temeljito elaborirani teoretski dijelovi u vezi s ranije spomenutom anketom koja je zapravo potpuno originalan doprinos autora akademskim istraživanjima koja se širom svijeta provode u povezanim znanstvenim disciplinama.*

**Ključne riječi:** *ekonomske koristi, marketing, komunikacijske strategije, društveni mediji, Osijek, Rijeka*

## 1. Introduction

Probably, a considerably large number of people worldwide, including numerous regular Internet users, can hardly remember the time before the foundation of social media. While it is not true that social media have brought something that did not exist previously, it is true that they have integrated a number of different concepts what, sequentially, led to new dynamics of power on the Internet. This especially applies to the way modern (often called digital and/or online) marketing functions at the level

of social media and which communication strategies it had to develop in order to obtain economic benefits for the interested parties. Hence, this paper was written and the associated survey was conducted in order to study, identify, explain and anticipate various economic benefits of social media.

In this specific heading regarding attributes of social media, authors have chronologically, scientifically and factually researched their 2 most distinguishable attributes. Those two attributes are: 1) milestone years in their history and 2) their common key characteristics.

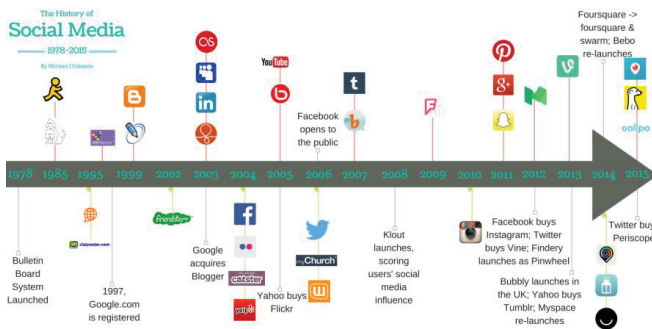
### 1.1. Milestone Years in the History of Social Media

Throughout the years, especially in the last 5 to 10 years, incredibly much has been said, written, commented, etc. on the topic of social media that extremely quickly went from *next big thing* status to *superstar* status. Despite all their former and current imperfections, people have embraced them with even more goodwill and benevolence than they have had in early 1980s for first operating systems with graphical user interface.

However, what people tend to neglect, belittle and forget is actually one of the most fundamental scientific methods i.e. historical one. While the number of unreliable witnesses of modern times often ask themselves: “How did we get here?”, scientists (mainly ones who are not in the mainstream) regularly have logical, chronological and direct answers. The same goes for the history of social media, in which it was possible to isolate a number of major occurrences.

For that purpose, authors have decided to use the timeline by Miriam J Johnson, PhD who created it for her website. Both captivatingly and complimentary, in her timeline she included the years and the occurrences since the year 1978 i.e. long before term *social media* was coined and exploited. Moreover, the end of her timeline was actually in the year 2015, but that is perfectly alright because all of the major occurrences that authors take into consideration in this paper are very clearly visible because they are adequately represented by the logos of the their companies.

*Figure 1 The History of Social Media 1978-2015 by Miriam J Johnson*











Source: Johnson, 2013

Yet, as it can be perceived from the timeline above, all currently major social media have been founded in the previous 15 years. Since there are precisely 8 examples of social media, which were included both within the timeline above and in the survey that was jointly conducted by the authors (elaborated later in this paper), it was decided to create the table based on accurate,

comparable and comprehensive data. Thus, Table 1 below includes these 3 columns i.e. name, logo and founding date for 8 social media explicated above.

*Table 1 Social media names, logos and founding dates*

| NAME      | LOGO  | FOUNDING DATE                          |
|-----------|---|--|
| LinkedIn  |  | 28.12.2002 (Stashin, 2014)             |
| Facebook  |  | 04.02.2004 (Facebook, 2015)            |
| Twitter   |  | 21.03.2006 (Twitter, 2015)             |
| Tumblr    |  | 19.02.2007 (Shedden, 2015)             |
| Pinterest |  | 01.03.2010 (Social Media Portal, 2010) |
| Instagram |  | 06.10.2010 (Instagram Press, 2017)     |
| Google+   |  | 28.06.2011 (Powers, 2016)              |
| Snapchat  |  | 01.09.2011 (Snap Inc., 2012)           |

*Source: Created by authors*

As it can be seen in the table above, these 8 social media were sorted by their founding dates. In that specific regard, green founding dates match timeline above, yellow founding date slightly differs from timeline above i.e. LinkedIn's founding date was actually 28.12.2002, but it is marked as 2003 on timeline, red founding date considerably differs from timeline above i.e. Pinterest's founding date was actually 01.03.2010, but it is marked as 2011 on timeline. Moreover, it can be observed that some of the social media mentioned above have definitely been the trendsetters, while others managed to find their niche that enabled them to grasp the opportunities which tidal wave of social media has enabled them. In the final line, it can be observed that there were the years when more than one social medium was founded, but this table clearly shows which social medium was more eager and more capable to reach both the market and the target audience.

## 1.2. Common Key Characteristics of Social Media

Although social media have gradually and continually evolved as distinct software group over the period of 15 years, there is a pertinent question whether they even share certain common key characteristics after all this time. Regarding this subject, what should be included in the equation is that 15 years in the computer world should be multiplied by  $x$  (with  $x$  being at least 2 to 3) to calculate the progress on the timeline of some other worlds i.e. areas of human activity.

Even supposing that this specific part of the research was going to be easy, quick and trivial one would be seriously wrong premise. Hence, after long, extensive and systematic search authors have managed to find 2 theoreticians who have succeeded to list and identify common key characteristics of social media.

On the first hand, British media author and consultant Mayfield has listed 5 characteristics in his ebook, which are all or almost all, shared by different social media (Mayfield, 2008, 5).

- 1) Participation
  - encourages contributions from everyone who is interested
  - encourages feedback from everyone who is interested
  - blurs the line between media and audience
- 2) Openness
  - open to feedback
  - open to participation

- encourages voting
  - encourages comments
  - encourages sharing of information
  - rarely any barriers to accessing content
  - rarely any barriers to making use of content
  - password-protected content is frowned on
- 3) Conversation
    - traditional media → “broadcast” (to an audience)
    - social media → two-way conversation
  - 4) Community
    - forms quickly
    - communicates effectively
    - shares common interests (e.g. photos, politics, TV shows)
  - 5) Connectedness
    - thrives on their connectedness
    - makes use of links to other sites
    - makes use of links to other resources
    - makes use of links to other people

Remarkably, all 5 characteristics in conjunction with a total of 20 subcharacteristics (that were discerned by the authors of this paper) really do empirically apply to all of the previously listed social media to the large degree. In addition, characteristics that were listed by Mayfield are even more notable if it is taken into account that his ebook was published on 01.08.2008 i.e. when only 4 out of 8 (50%) of the previously listed social media were already founded.

On the second hand, Indian media professional Saxena has identified 7 key characteristics of social media that further explain what social media should provide and enable to their users (Saxena, 2013).

- 1) Web space
  - (social media) website should provide the users free web space
  - free web space to upload content
- 2) Web address
  - users are given a unique web address
  - unique web address becomes users’ web identity
  - users can post all their content on this web address
  - users can share all their content on this web address
- 3) Build profiles
  - users are asked to enter personal details (name, address, etc.)
  - (social media) site mines the personal data to connect persons
- 4) Connect with friends
  - users are encouraged to post personal & professional updates
  - site becomes platform to connect friends & relatives
- 5) Upload content in real time
  - users are provided the tools to post content in real time
  - content: text, images, audio, video or symbolic ((dis)likes)
  - last post comes first
  - last post gives freshness to the site
- 6) Enable conversations

- members have rights to comment posts by friends & relatives
  - conversations are a great social connection
- 7) Posts have time stamp
- all posts are time stamped
  - time stamps are making it easy to follow posts

Significantly, these additional 7 characteristics in conjunction with a total of 18 subcharacteristics (that were also discerned by the authors of this paper) are extensively and fully utilized in all of the previously listed social media to the maximum degree. In addition, all of these characteristics that were identified by Saxena are particularly noteworthy, especially when it is taken into consideration that the specific text containing these statements was published on 11.08.2013 i.e. when 8 out of 8 (100%) of the previously listed social media were already founded.

Succinctly, 6 conclusions that authors of this paper have drawn from the part of research regarding common key characteristics of social media are:

- 1) It is very difficult to find methodical and comprehensive common key characteristics of social media, especially ones that are summarized by the same author(s).
- 2) Even when they are summarized by the same author(s), common key characteristics are primarily biased and leaning in favour of particular social medium or social media.
- 3) Even when they are summarized by the same author(s), common key characteristics are predominantly focused on characteristics of one or of few similar social media or on characteristics that were dominant and/or wondrous in specific years from their foundation to today.
- 4) Firstly, all 5 characteristics that were listed by Mayfield, clearly convey the essence of what social media should provide, enable and promote as their key parts in order to function properly and to expand.
- 5) Secondly, all 7 characteristics that were identified by Saxena, accurately represent the core of what should be incorporated, supplied and presented by social media as its main functionalities so that they can attract new users, keep existing users and provide users with all the novelties that they expect and with all the novelties that will enable social media (as whole group) to remain operative, collective, contemporary, attractive and customizable.
- 6) By considering all characteristics and all subcharacteristics of social media, there are definitely channels, features and spaces that can be utilised as commercial outlets through which communication strategies of modern marketing are able to derive economic benefits that are regularly expected by businesses as well as their customers and stakeholders.

Those 6 conclusions are essential to understand scope of the term *social media* and why they have become widespread, attractive, economically interesting, used by modern marketing and multi-purposeful.

## **2. Viable communication strategies that modern marketing uses across social media**

Over the course of time, i.e. in the previous 10-15 years, there have been innumerable examples of more or less viable communication strategies across social media that were created and utilized by scientists, experts, promoters and supporters of modern marketing. Quite expectedly, social media and their development have deeply changed the way marketing function, especially modern one.

Consequently, completely new discipline of modern marketing was coined i.e. social media marketing.

Since communication strategies (and all related actions) are regularly considered to be one of its most significant parts, there is the premise that, in order to deepen its relationships with as well as to enhance its exposure to, all potentially interested people and companies, social media marketing and its communication strategies utilise the principle of networking within social media.

Since it was impossible to elaborate all viable communication strategies that were used across social media in the previous 10-15 years in conference paper format, authors have chosen to briefly elaborate two social media related communication strategies that were recently (since mid 2015) published by two carefully chosen renowned theoreticians who are also well-known for their practical contributions.

Firstly, there is the approach by British/American author Patel who has identified and presented 8 very concrete steps of “social media strategy that works” in his article dating from mid June 2015 (Patel, 2015).

- 1) Dive inside audience’s minds
  - demographics
  - psychographics
- 2) Choose most effective channels, and double down
  - choose social media and narrow down based on audience’s age
  - match demographics of audience and of social media
- 3) Build a content bank of value
  - deliver value to audience
  - more value equals faster growth of presence
  - be consistently active in publishing content
  - build up content bank that audience will love
  - cannot share just personal content
- 4) Get followers or get ignored
  - followers of shared content
  - audience seeing, reading, and re-sharing content = building relationships, trust and significant traffic
  - following as much of specific audience as possible means decent percentage of audience will follow back
  - strategies to get first followers on various social media
- 5) Diminishing returns and the optimal frequency to post
  - when too much content is being shared, audience thinks that someone is spammer and unfollows them
  - when too much content is being shared, point of diminishing returns is hit
  - test frequency of posting to optimize it for specific business
  - share more or less depending on the audience
- 6) How to automate for success
  - find out the best time to post
  - use tools to schedule posts
  - automate posts on each social media
- 7) Drive more traffic for social media posts than ever before
  - share one of personal posts every 4-10 posts
  - personal posts depend on the channel that is being focused on



- there is not enough of personal content to share if it is shared only once i.e. when someone first publishes it
  - share old posts as well as new posts
  - maintain ratio of promotional to non-promotional shares
  - do not duplicate post descriptions
  - types of users on social media: audience and influencers
  - get influencers to expose someone to their audiences
- 8) Track results or fail
- track results to see what is or is not working and to improve strategy
  - see which posts are attracting the most clicks and engagement
  - get stats such as clicks, impressions and shares
  - understand which posts do well on main social channels
  - make sure that traffic is effectively being pushed to personal website
  - sometimes, someone's followers (or their friends) will come to a post on their site and share it
  - look at the overall traffic
  - find out where that traffic is coming from by adding a secondary dimension
  - look at the posts that sent the most traffic (that are not personal) and build relationships with whomever posted them

Secondly, there is the modus operandi that was suggested by Norwegian/American author Rognerud who has created his very own 5 steps for "creating social media strategy" that he published and popularised in early September 2016 at the website of his company named ChaosMap (Rognerud, 2016).

1) Start by Choosing the Right Platform (Audience)

- select the right audience for specific business
- audience should be selected based on research
- social media needs to be content friendly so that someone can upload images, blog articles or white papers
- photos are more likely to be shared on some social media
- certain social media have powerful advertising platform
- snippets, links, blogs and articles are easier to share on particular social media
- consider the locations where specific audience hangs out

2) Create Social Media Objectives

- decide on objectives
- clear objectives are needed
- objectives will help someone determine if their marketing plan is a success or a failure
- metrics must be determined that will let someone know if they have gained return on investment
- focus on how website is generating leads, web referrals and conversion rates
- the ultimate objective is always to boost profitability

3) Design a Content Plan

- content plan is needed for long-term success
- articles about someone's business, products, events and related topics will help to draw readers to their website
- audience loves fresh content
- someone should post at least once a week
- someone should consider implementing a daily content goal

- someone should refer back to their content calendar
- someone's content plan should include the target audience, the frequency of their posts and the types of content that they plan on posting
- someone should determine who will create the content
- someone should determine how the content will be promoted
- someone should set up a daily or weekly plan of blogs and social media posts that they plan on releasing
- someone should consider the types of keywords that they use

#### 4) Build a Diverse Content Strategy

- videos have become a crucial part of social media success
- create blog content and images that get placed on social media profiles
- picture can convey message much faster than content
- by diversifying content, someone can ensure that their business can reach out to every type of consumer

#### 5) Test and Adjust Marketing Plan

- adjustments will always be needed to social media marketing plan
- before someone puts social media plan into action, they should decide on the metrics that they will have to use to determine how successful their approach was
- tracking things like the number of clicks from a link, visitors to the blog, leads generated and website traffic will help someone determine if their social media marketing plan needs to change
- every business is different, so someone may need a unique blend of social media platforms or content to become successful

When cognitions and proposals by those theoreticians are summarized, both of them in conjunction definitely prove that viable communication strategies across social media which are promoted by modern marketing are predominantly relying on and directed towards 2 most important factors. Those 2 decisive and key factors are: audiences/channels and contents/posts.

As for other theoreticians, whose works on this topic and related topics were examined over the years by the authors of this paper, there are certainly some findings that can be summarized and deducted from all of them. Concisely, various background workings of all social media, which are constantly and eventually fuelled by ever-evolving communication strategies of modern marketing, all include and/or evaluate the importance of audiences/channels and contents/posts (not necessarily under those same names).

Finally, communication strategies can be presented in the form of text, steps, checklists, guidelines, tables, etc., but it is actually question of matter (not question of form). In that regard, matter must include essential fundamentals, that are related to audiences/channels and contents/posts, plus the additions that complete communication strategy, especially the one that is viable, includes and elaborates.

### **3. Expected economic benefits that modern marketing can derive from its viable communication strategies across social media**

On the subject of expected economic benefits, the first and the foremost benefit is profit i.e. revenue itself. A propos, Ford once said: "A business that makes nothing but money is a poor business."

(Ford, 1965). Indeed, that also applies to today's businesses, which should, if they sensibly decide to use benefits of modern marketing including social media and linked communication strategies, earnestly and continually endeavour to achieve far greater economic benefits than profit e. g. return on investment, added value, faster deliveries, optimized production, effective customer experience management, higher wages, business expansion, fruitful collaborations, etc.

Various economic benefits of, ultimately, social media are relatively recent theme, both in research and in practice, especially because they mainly rely on data and/or information as main economic resource (in contrast to certain economic benefits that, even now, mainly rely on land, labour and capital as main economic resources). For that reason, authors of this paper decided to carefully choose and quote those authors who have already indentified, utilized and systematized economic benefits in their works.

In the first place, there is the representation of those benefits by Spanish theoreticians Soler Labajos and Jiménez-Zarco who essentially define them as “cost reductions created by using social media“ (Rao, 2017)

- better customer service
- more economical methods to investigate markets
- designs obtained through co-creation
- obtaining free content generated by users

In the second place, there is the vision of those benefits by McCormick who is currently working as senior content marketing specialist at Propel Marketing, American marketing consulting firm and she declares that social media can help businesses in many different ways, including economically, related to (McCormick, 2016):

- promotion
- purchase
- low cost leads

In the third place, there are indicative results of survey on wider economic benefits of online platforms that was made by British consulting firm named Oxera (Oxera, 2015):

*Note 1 regarding Oxera's survey: online platforms = social media*

*Note 2 regarding Oxera's survey: wider economic benefits = economic benefits*

- increased productivity
- greater transparency of the labour market
- (social) media pluralism
- more online platforms to find diverse information
- search for employment opportunities
- search for hobbies
- search for (personal and business) interests
- search for news
- search for current affairs
- increased competition
- consumers who perceive one benefit from (online) platforms were also more likely to perceive their other benefits
- consumers who find that online platforms improve access to information or products, services and content are more likely to find that they also benefit from lower prices or increased revenue opportunities

- consumers who think that online platforms increase choice are more likely to perceive improved convenience

What can be evidently seen from the 3 instances above (and from numerous others, which authors of this paper have seen over the years) is that there are certain conclusions that can be drawn from them. Briefly, those conclusions are: 1) there is number of much greater economic benefits of social media that have positive far-reaching and long-run consequences that are beyond just making profit, 2) there is still no consensus, even on the major economic benefits, that can be expected from social media and 3) it is still impossible to uniformly transfer 1 unit in social media to 1 unit in economic benefits (e.g. 1 click, 1 share, 1 like to 1 percent of ROI, 1 unit of added value, 1 minute faster deliveries).

#### **4. Preliminary results of survey into attitudes of social media users**

In this part of the paper preliminary results of authors' survey into attitudes of social media users are systematically presented and elaborated. Accordingly, aims of aforementioned survey were to conduct preliminary research into multitudinous attitudes that users of different social media can have towards them and to produce recommendations (based on those attitudes) that can eventually lead to economic benefits if they were to be used across social media by modern marketing practitioners. As regards structure of this survey, it is comprised of a total of 16 questions with questions having between 2 and 9 possible answers, what enabled authors to minutely ascribe surveyed social media users based on their multitudinous attitudes that they have had in their surveys.

Fact which makes aforementioned survey even more attractive for Symposium Economy of Eastern Croatia is that its targeted subjects were 2 independent and different groups, with the first one being surveyed by Osijek-based authors and the second one being surveyed by Rijeka-based author. That way, authors were able to form both regional layer of research (survey group located in Eastern Croatia) and national layer of research (survey respondents originating from the whole Croatia). In this preliminary survey, respondents were primarily young adults aged from 18 to 24 and adults from 24 to 35.

Alas, primarily because of the condensed conference paper format, authors of this paper have decided to present all 16 (15+1) questions from the survey, but to elaborate only the most relevant answers and/or the most comparable answers. In that regard, elaborated answers were selected based on these criteria: 1) the most relevant answers are those that are vital to understand the whole context of the question, and 2) the most comparable answers (2 to 3 per question) are answers that differ up to +/- 15 % points. Thus, Table 2 below was created to display those preliminary survey results. In all survey questions values for Osijek based group are in the left column and values for Rijeka based group are in the right column.

**Table 2 Preliminary survey results for both survey groups**

**Q0: Sample sizes by groups**

|             |     |     |
|-------------|-----|-----|
| Sample size | 302 | 147 |
|-------------|-----|-----|

**Q1: Gender**

|        |        |        |
|--------|--------|--------|
| Male   | 22,85% | 28,02% |
| Female | 77,15% | 71,98% |

**Q2: Age group**

|       |        |        |
|-------|--------|--------|
| 18-24 | 30,46% | 99,55% |
| 25-35 | 57,28% | 0,00%  |

**Q3: Status**

|          |        |         |
|----------|--------|---------|
| Student  | 30,13% | 100,00% |
| Employed | 56,95% | 0,00%   |

**Q4: Devices that are used to access Internet**

|                 |        |        |
|-----------------|--------|--------|
| Laptop computer | 62,58% | 75,60% |
| Smartphone      | 87,75% | 85,96% |

**Q5: Social media that you are active on**

|           |        |        |
|-----------|--------|--------|
| Facebook  | 99,67% | 95,93% |
| Instagram | 65,89% | 76,92% |
| Pinterest | 24,83% | 10,86% |
| Google+   | 20,86% | 14,50% |

**Q6: Posting content on social media, by frequency**

|              |        |        |
|--------------|--------|--------|
| Once a month | 30,13% | 43,02% |
| Once a week  | 32,78% | 33,48% |
| Once a day   | 14,57% | 4,98%  |

**Q7: Posting content on social media, by type**

|                        |        |        |
|------------------------|--------|--------|
| Text                   | 23,84% | 10,42% |
| Image with description | 77,81% | 83,71% |

**Q8: Hours daily spent on searching Internet without social media by using laptop computer or desktop computer**

|                  |        |        |
|------------------|--------|--------|
| Less than 1 hour | 36,75% | 34,84% |
| 1-2 hours        | 25,50% | 30,76% |

**Q9: Hours daily spent on searching Internet without social media by using smartphone or tablet**

|                  |        |        |
|------------------|--------|--------|
| Less than 1 hour | 43,38% | 47,49% |
| 1-2 hours        | 33,77% | 28,51% |

**Q10: Hours daily spent on social media by using laptop computer or desktop computer**

|                  |        |        |
|------------------|--------|--------|
| Less than 1 hour | 40,73% | 38,87% |
| 1-2 hours        | 25,83% | 22,19% |

**Q11: Hours daily spent on social media by using smartphone or tablet**

|           |        |        |
|-----------|--------|--------|
| 1-2 hours | 29,80% | 23,54% |
| 3-4 hours | 21,85% | 32,59% |

**Q12: Social media that you are the most active on**

|           |        |        |
|-----------|--------|--------|
| Facebook  | 79,80% | 62,47% |
| Instagram | 15,23% | 49,75% |

**Q13: Reasons for activities on social media**

|               |        |        |
|---------------|--------|--------|
| Communication | 74,17% | 72,41% |
| Entertainment | 37,42% | 43,88% |
| Learning      | 15,23% | 16,28% |

**Q14: Hours in a day when you are the most active on social media**

|             |        |        |
|-------------|--------|--------|
| 16:00-19:00 | 20,20% | 24,42% |
| 19:00-22:00 | 51,66% | 47,52% |
| 22:00-01:00 | 22,19% | 30,75% |

**Q15: Involvement in posts by famous brands and people on social media**

|        |        |        |
|--------|--------|--------|
| Never  | 47,68% | 48,42% |
| Rarely | 47,02% | 47,96% |

Source: Created by authors

Since all those (and other unseen) answers are actually respondents' attitudes towards social media, authors have preliminary analyzed and synthesised them in order to compile list of recommendations. Moreover, numerical values above and recommendations from the list below, could even be really used by modern marketing practitioners if they were to develop communication strategies across social media that would encompass two surveyed (or similar and/or comparable) groups with the aim to obtain economic benefits based on those 2 distinct sets of research findings.

- focus on females, but try to attract more males
- age focus should be young adults 18-24 and adults 24-35, but beware: preferences can change going from students to employed
- count on their Internet access via smartphones over tablets and via laptops over desktops
- while Facebook is convincingly preferred social medium, some other social media can also be used to reach them
- it can be expected that they will primarily post once a week
- it can be expected that their posts on certain subject will be either text or image with description
- their Internet search without social media is much shorter, despite of device, i.e. mostly 1 hour daily
- time that they spend on social media was longer and using smartphones extends it to 3-4 hours daily
- expectedly, Facebook is social medium they are the most active on, with Instagram coming second

- they can be most easily reached with activities including communication, entertainment and learning
- they are the most active on social media mostly in their leisure time, especially 19:00-22:00
- interestingly, they never or (just) rarely become involved in posts by famous brands and people

Summarily, even more detailed analysis as well as synthesis of this survey has the huge potential to yield economic benefits, beyond 2 groups that were included in the aforementioned survey.

In that sense, it could even contribute to the creation of viable and long-term social media communication strategies which would potentially consequently result with concrete and measurable economic benefits that would also depend on type of business that would try to implement them.

## 5. Conclusion

Over the course of cca 15 years social media have become one of the most visited, used and researched parts of Internet. What is more, those businesses which were inclined towards modern marketing have recognized them as the platforms for doing business and for developing communication strategies.

Firstly, it was necessary to factually and accurately determine when did social media appear on the Internet and what are the characteristics they have in common. That was imperative because, with proper introduction to social media and by clarifying all potentially unambiguous facts, authors have managed to define both the outline and the timeline that were essential to put the whole research in true perspective.

Secondly, it was crucial to research into and to knowingly consider significant steps that can make certain communication strategy across social media more viable or less viable. Even though there is no such thing as *one size fits all* when it comes to communication strategies, there is evidently a growing number of theoreticians and practitioners who willingly share their knowledge and experience so that those who are interested in this matter can solely compose *custom made*, but viable communication strategy. That is essential for modern marketing because it constantly seeks new ways to gain from social media.

Thirdly, it was vital to consider which economic benefits a business can expect from social media and related mechanisms. Once again, there is no unified answer to this multilemma. Every business is different, but theoreticians and practitioners agree that economic benefits should have a purpose that is beyond making profit and that transcends into something much more essential for its long-term success.

Fourthly, authors of this paper have decided to conduct the survey in order to clearly determine whether there are some potential economic benefits that can be obtained from the research into attitudes of social media users. Indeed, if these numerical survey data were analyzed and synthesized properly, a large number of applicable, quality and specific recommendations can be drawn from them.

Conclusively, combination, of solid theoretical foundations and survey data on the various attitudes of social media users, has proven to be the key to viable communication strategies across social media. Moreover, it is also vital to consider factors behind communication strategies for each targeted group of social media users since diverse audiences/channels consequently require

customized contents/posts. To sum up, because of condensed, yet relevant pieces of information on these and related subjects this paper can serve as the excellent reference point for all practitioners and theoreticians might be interested in them.

## REFERENCES

- Instagram Press (2017): *Our Story*, [instagram-press.com/our-story](http://instagram-press.com/our-story), (accessed 22 January 2017)
- Johnson, M. J. (2013): *The History of Social Media 1978-2015*, [www.booksaresocial.com/...social-media-timeline](http://www.booksaresocial.com/...social-media-timeline), (accessed 22 January 2017)
- Facebook (2016): *About*, [www.facebook.com/pg/facebook/about](http://www.facebook.com/pg/facebook/about), (accessed 22 January 2017)
- Ford, H. (1965): *Unknown article*, News Journal, Mansfield
- Mayfield, A. (2008): *What is social media*, iCrossing, New York
- McCormick, K. (2016): *Benefits of Social Media for Business*, [propelmarketing.com/blog/2016/...benefits-social-media-business](http://propelmarketing.com/blog/2016/...benefits-social-media-business), (accessed 16 February 2017)
- Oxera (2015): *Benefits of online platforms*, Oxera Consulting LLP, Oxford
- Patel, N. (2015): *Stop Guessing: Here's a Social Media Strategy That Works*, [www.quicksprout.com/2015/06/15/stop-guessing-heres-a-social-media-strategy-that-works](http://www.quicksprout.com/2015/06/15/stop-guessing-heres-a-social-media-strategy-that-works), (accessed 26 January 2017)
- Powers, J. (2016): *June 28, 2011: Google+ Beta Announced*, [www.techpodcasts.com/...dayintechhistory/.../141114/june-28-2011-google-plus-google-beta-announced](http://www.techpodcasts.com/...dayintechhistory/.../141114/june-28-2011-google-plus-google-beta-announced), (accessed 22 January 2017)
- Rao Raghavendra, N. (2017): *Social Media Listening and Monitoring for Business Applications*, IGI Global, Hershey, 2017
- Rognerud, J. (2016): *How To Create A Social Media Strategy In 5 Steps*, [chaosmap.com/blog/...create-social-media-strategy](http://chaosmap.com/blog/...create-social-media-strategy), (accessed 29 January 2017)
- Saxena, S. (2013): *7 key characteristics of Social Media*, [www.easymedia.in/7-key-characteristics-of-social-media](http://www.easymedia.in/7-key-characteristics-of-social-media), (accessed 22 January 2017)
- Shedden, D. (2015): *David Karp and Marco Arment launched Tumblr in 2007*, [www.poynter.org/2015/today-in-media-history-david-karp-and-marco-arment-launched-tumblr-in-2007](http://www.poynter.org/2015/today-in-media-history-david-karp-and-marco-arment-launched-tumblr-in-2007), (accessed 22 January 2017)
- Snap Inc (2012); *Let's chat*, [www.snap.com/en-US/news/page/7](http://www.snap.com/en-US/news/page/7), (accessed 22 January 2017)
- Social Media Portal (2010): *Pinterest*, [www.socialmediaportal.com/Landscape/Pinterest.aspx](http://www.socialmediaportal.com/Landscape/Pinterest.aspx), (accessed 22 January 2017)



Stashin, E. (2016): *LinkedIn: A Short Historical Review*, [www.tiki-toki.com/timeline/entry/...347471/LinkedIn-A-Short-Historical-Review](http://www.tiki-toki.com/timeline/entry/...347471/LinkedIn-A-Short-Historical-Review), (accessed 22 January 2017)

Twitter (2015): *Milestones - About Twitter*, [about.twitter.com/company/press/milestones](http://about.twitter.com/company/press/milestones), (accessed 22 January 2017)

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**THE PENSION INSURANCE SYSTEM IN CROATIA – SCENARIO OF  
THE FUTURE DEVELOPMENT**

**SUSTAV MIROVINSKOG OSIGURANJA U REPUBLICI HRVATSKOJ –  
SCENARIJ BUDUĆEG RAZVOJA**

**ABSTRACT**

*The pension insurance system and its continued development depend, significantly, on the economic and demographic indicators of each country. The first forms of pension insurance in Croatia were based on the so-called: old-age insurance, while the formal forms were developed in the 19th century. The crisis of the pension system, which was present at the end of the period of socialism, deepened even after Croatian independence. Therefore, at the end of the nineties began the reform of pension insurance, which was completed in 2002.*

*The reform of the pension system in Croatia was conducted in two phases. In the first phase, which began in 1999, the goal was to streamline the existing pension system of intergenerational solidarity and to make it sustainable. After the first phase, in 2002 the second phase conducted reform of the pension insurance, which designed the second and the third pillar and, also, established capitalized pension savings. In accordance with the reforms, today's pension system of our country is based on a mixed financing model, in which instead of one, there is a system with multiple pension pillars. But despite the reforms, this system, even today has some difficulties that hinder the efficient functioning.*

*Since the future trends in the pension system are largely determined by demographic and economic indicators as well as regulations governing the pension system, the goal of this paper is to present a scenario of pension insurance development in Croatia from 2016 to 2060, made on the basis of available development projections of demographic, administrative and economic indicators. Within the framework of scenarios, the authors analyze the movement of certain variables of pension insurance which are important for the sustainability of the whole system. By observing the individual strengths and weaknesses in the development of pension insurance on*

*the basis of the created scenarios, the authors offer suggestions for the implementation of additional measures and activities within the system in order to improve the economic and social effects of the pension system and facilitate its long-term sustainability. Thereby using a set of scientific research methods (methods of analysis, comparison, induction, deduction, description and classification, etc.) as well as certain statistical and mathematical methods that are used for the analysis of certain variables.*

**Key words:** *pension system, Croatia, the scenario of the future development, demographic and economic indicators, sustainability.*

## SAŽETAK

*Sustav mirovinskog osiguranja i njegov kontinuirani razvoj značajno ovisi o gospodarskim i demografskim pokazateljima svake zemlje. Prvi oblici mirovinskog osiguranja u Hrvatskoj temeljili su se na neformalnim oblicima tzv. starosnog osiguranja, dok su se formalni oblici razvili u 19. st. Kriza mirovinskog sustava, koja je bila prisutna na kraju razdoblja socijalizma, produbljena je i nakon stjecanja neovisnosti Hrvatske. Upravo zbog, toga krajem devedesetih, započela je reforma mirovinskog osiguranja, koja je dovršena 2002. godine.*

*Reforma mirovinskog sustava u Hrvatskoj provedena je u dvije faze. U prvoj fazi, koja je započela 1999. godine, cilj je bio racionalizirati postojeći mirovinski sustav međugeneracijske solidarnosti i učiniti ga održivim. Nakon prve, 2002. godine provedena je druga reforma mirovinskog osiguranja kojom je konstruiran drugi i treći mirovinski stup i uspostavljena je kapitalizirana mirovinska štednja. Sukladno provedenim reformama, današnji mirovinski sustav naše zemlje temelji se na mješovitom modelu financiranja u kojemu umjesto s jednim, postoji sustav s više mirovinskih stupova. No, unatoč reformi ovaj sustav i danas ima značajnih poteškoća koje mu otežavaju učinkovito funkcioniranje.*

*Budući su kretanja u mirovinskom sustavu uglavnom determinirana demografskim i gospodarskim pokazateljima i propisima koji reguliraju mirovinski sustav, cilj ovoga rada je prikazati scenarij razvoja mirovinskog osiguranja u Hrvatskoj u razdoblju od 2016. godine do 2060. godine izrađen temeljem dostupnih projekcija razvoja demografskih, administrativnih i gospodarskih pokazatelja. U okviru izrađenog scenarija autori analiziraju kretanja pojedinih varijabli mirovinskog osiguranja važnih za održivost čitavog sustava. Uočavanjem pojedinih prednosti i nedostatka u razvoju mirovinskog osiguranja temeljem izrađenog scenarija, autori daju prijedloge za provedbu dodatnih mjera i aktivnosti unutar sustava kako bi se poboljšali ekonomski i socijalni učinci mirovinskog osiguranja i omogućila njegova dugoročna održivost. Pri tome koriste niz znanstvenih metoda istraživanja (metode analize, komparacije, indukcije, dedukcije, deskripcije i klasifikacije itd.) kao i pojedine statističko-matematičke metode korištene za analizu određenih varijabli.*

**Ključne riječi:** *Mirovinski sustav, Hrvatska, scenarij budućeg razvoja, demografski i gospodarski pokazatelji, održivost.*

## 1. Introduction

The pension system is an essential element in the social security of every individual or a society. This system is "a set of legal norms, financial and institutional arrangements governing the insurance against the risk of old age and disability" (Puljiz, 2005, 171).

Because the pension system provides the most significant social risks that can happen to anyone, the importance of its stability is of great importance for the population of a country (Vretenar

Cobović; Cobović, 2016, 841). In addition, this system is necessary for the balanced functioning of the whole society and maintain its social cohesion, and connecting individuals and groups within society as a whole.

## **2. The development of pension insurance in the Republic of Croatia**

The first forms of pension insurance in Croatia were based on the so-called informal: old age security headed by the agricultural cooperatives home. The basis for creating a family home cooperatives started with the foundation of Posavje region in 1702 in Slavonia (Puljiz, 2008, 73). The authorities granted the land to cooperative members with the obligation to perform military service. The impact of agriculture within these cooperatives was significant, but its main function was the production of plant and animal products for meeting the eating needs of its members, and at the same time everyday financial assistance on the basis of the revenue generated from sales.

The development of formal forms of the pension system in our area is visible in the pensions of soldiers and civil servants and guild coffers that emerged in the 19th century. The legal definition of this system was introduced in 1922 in Yugoslavia when it adopted on the Insurance Law of workers that regulated the pension of insured workers. Other forms of social security have been systematically introduced after the Second World War and they gradually decentralized pension system which was then passed to the jurisdiction of the former Republics. The crisis of the pension system, which was present at the end of the socialism period, deepened even after Croatian independence and during the Homeland war. This is the reason why, at the end of the nineties, began the reform of the Croatian pension insurance system, which was completed in 2002.

### **2.1. The Croatian pension reform**

Because of the public pension system crisis, based on intergenerational solidarity, Croatia has implemented significant reforms of this system, trying to adapt to the changed economic and social conditions. The causes of the crisis in pension systems were multiple but its most common cause was the increase proportion of the elderly population in the total population and declining birth rates, due to which there was a generational imbalance.

In addition to the demographic changes in Croatia, the crisis of the pension system was significantly affected by increased unemployment and changes in the work structure. This resulted in a reduced inflow of contributions and a growing deficit in the pension fund, which was financed by the state. Due to the difficult situation of the Croatian pension system, in the mid-nineties began the preparation of Croatian pension reform in which a crucial role was held by the World Bank, proposing a pension system in which the burden of pension financing is trying to convey to the insured and to reduce cost pressures on pension funds to the Public Finance (Puljiz, 2007, 180).

In the first pension reform that began in early 1999, the goal was to streamline and make sustainable existing pension system of intergenerational solidarity. A so-called parametric pension reform was set, according to the Pension Insurance Act of 1998, which Croatia tried to reduce pension costs and adapt them to economic opportunities.

The changes made in the Croatian pension system soon provided better financial sustainability of the pension system. But, despite the positive trends, parametric pension reform led to a relative decline of pensions for retired insured after 1999, which required further reform of the entire pension system in our country.

After the first, in 2002 a second reform of the pension insurance was conducted, by which started the construction of the second and third pension pillar and established the system of defined

contribution and capitalized pension funds, which should in accordance with the purpose contribute to an increase in domestic savings, strengthening of capital markets and overall economic growth. This reform has brought a significant change in the structure of the pension system, which is used until this day.

## **2.2. The Croatian pension system structure**

In accordance with the reforms, the today's pension system of our country is based on a mixed financing model, in which, instead of one there is a system with multiple pension pillars. The first pillar is the mandatory pension insurance based on intergenerational solidarity, and is financed by contributions from the insured, that employers pay at a rate of 20% of employees' gross salaries. The Pension insurance under the second pillar is obligatory for insured persons who are insured under the Pension Insurance Law and holders of this insurance are mandatory pension funds. The contribution rate which is paid to the mandatory pension funds is 5% of the gross salary of the insured. Accordingly, insured persons, who in 2002 were younger than 40 years of age and are secured in both pillar, allocate 15% of the contribution to the first pillar and 5% of contributions to the second pillar. The third pillar pension system in Croatia is voluntary pension insurance based on individual capitalized savings carried out by the voluntary pension funds. The third pillar of insurance participate those beneficiaries who wish to further insure against the risk of old age, disability and death.

But despite the reforms, today's pension insurance system in Croatia has significant difficulties that impede the efficient functioning. Therefore, since the future trends in the pension system are largely determined by demographic and economic indicators as well as regulations governing in the pension system, this paper will show the script development of the pension insurance in Croatia from 2016 to 2060. Within the framework of scenario this paper will analyze the trends of certain variables in pension insurance important for the sustainability of the whole system.

## **3. The Pension Insurance future development scenario in the Republic of Croatia**

For the Pension Insurance future development scenario in the paper, authors used projections of demographic, administrative and economic trends made by relevant international and national institutions (the World Bank, the International Labour Organisation, the Central Bureau of Statistics in Croatia, Croatian Ministry of Finance, Croatian Chamber of Commerce and other ).

### **3.1. The projections of demographic, administrative and economic developments in Croatia by 2060**

Projections of demographic trends important for the development of macroeconomic policies of each country, and the number and composition of the population according to various demographic and economic characteristics seem determinant for current and future social and socio-economic development.

Demographic aging of population (increasing the share of the population aged 65 and over in the total population) is the basic demographic indicator that characterizes the Croatian population in recent decades. Based on the foregoing, it can be concluded that the current negative demographic trends reflect adversely on future developments in the pension system, which is highly dependent on these indicators.

The projections of the total population in Croatia classified by age groups are shown in Table 1.

*Table 1 Croatian population by age groups*

| Year | Resident number by age<br>(in thousands) |       |         |             | Resident number by age<br>(in %) |      |       |             |
|------|--|-------|---------|-------------|----------------------------------|------|-------|-------------|
|      | Total                                    | 0-14  | 15-64   | 65 and more | Total                            | 0-14 | 15-64 | 65 and more |
| 2016 | 4,425.7                                  | 674,9 | 2,984.9 | 765,9       | 100                              | 15,3 | 67,4  | 17,3        |
| 2020 | 4,357.3                                  | 654,7 | 2,814.6 | 888,0       | 100                              | 15,0 | 64,6  | 20,4        |
| 2030 | 4,254.9                                  | 606,8 | 2,639.8 | 1,008.4     | 100                              | 14,3 | 62,0  | 23,7        |
| 2040 | 4,129.4                                  | 557,9 | 2,506.9 | 1,064.6     | 100                              | 13,5 | 60,7  | 25,8        |
| 2050 | 3,989.2                                  | 545,6 | 2,317.8 | 1,125.8     | 100                              | 13,7 | 58,1  | 28,2        |
| 2060 | 3,848.8                                  | 518,7 | 2,199.4 | 1,130.7     | 100                              | 13,5 | 57,1  | 29,4        |

*Source: Central Bureau of Statistics in the Republic of Croatia, Eurostat*

The development of the pension system Croatian in the next 50 years will be significantly affected by the reduction in the population and in particular the reduction of the population aged 0 to 14 and 15 to 64 years of life, and increasing of the retirement population, i.e the population aged 65 and older.

Within the administrative projection, an important strategic document on which the European Commission published in 2012 (White paper, An Agenda for Adequate, Safe and Sustainable Pensions, European Commission, Brussels, 2012), and by which are encouraged EU member states to constantly increase the legal limit for retirement. On the basis of this document by 2060, this limit should be increased from five to seven years, due to the expected increase in human life expectancy.

In the context of economic developments, according to projections of the World Bank, the European Bank for Reconstruction and Development, the Ministry of Finance of the Republic of Croatia and Croatian Chamber of Commerce in the next twenty years is expected to revive economic activity both in Europe and in Croatia. In the coming years it is expected an annual real income growth rate of 3% to a maximum of 3.5% (World Bank, Croatian Chamber of Economy, [www.ebrd.com/pages/country/croatia.shtml](http://www.ebrd.com/pages/country/croatia.shtml), [www.worldbank.org/en/country/croatia](http://www.worldbank.org/en/country/croatia), loaded 17/02/2017.).

Real income growth rate will grow slightly slower than GDP growth or productivity, but after a time wage growth should move in line with GDP growth, with expected annual real growth in the range of 3% to a maximum of 4%. In addition, it is possible to expect real annual returns of pension funds of 3% to 4%, which will certainly have a positive effect on the overall level of pensions. (Guidelines for Economic and Fiscal Policy, Croatian Ministry of Finance, 2016).

### **3.2. Scenario assumptions of pension insurance in the Republic of Croatia by 2060**

In order to demonstrate the scenario of movement of the most important variables of sustainability in the pension system in Croatia from 2016 to 2060, it is necessary to define the underlying assumptions.

In accordance with pre-specified demographic projections, the assumption scenarios of development of pension insurance are:

- 1) The total number of inhabitants in Croatia in 2016 amounted to 4,425,747 inhabitants. The structure of the population by age group is as following (0-14 years 15.3%; 15-64 years: 67.4%; 65 years and over 17.3%).
- 2) The total population in Croatia in 2060 amounted to 3,848,800 inhabitants. The structure of the population by age group in 2060 is as following (0-14 years 13.5%; 15-64 years 57.1%; 65 years and over 29.4%).
- 3) The life expectancy, within the observed ten years period, is increased by two years.

Administrative assumption scenarios of development of pension insurance are:

- 1) The age limit for old-age retirement in 2060 is increased to 72 years. In the period from 2018 to 2060, every 6.5 years, age limit for old-age pension is increased by one year.
- 2) All other pension regulations valid in 2016 shall be applied until the end of the studied period.

Economic assumption scenarios of development of pension insurance are:

- 1) In the period from 2018 to 2060, real income growth rate is 3% per year.
- 2) In the period from 2018 to 2060, real GDP growth is 3% per year.
- 3) The percentage of the employed population aged 15 to 64 years of age (the share of employed persons in the working age population) is gradually increasing from 49.41% in 2016 to 55.51% in 2030. Since 2030 the percentage of employed population decreases gradually from 55.51% to 50.94% in 2060 as well.
- 4) In the period from 2018 to 2030, the real income of mandatory pension funds is 3.5% per year, and after 2030, 4%, the real return of voluntary pension funds in the period from 2018 to 2060 is 2%.

### 3.3. Number of insured persons and retired in Croatian pension system in the period from 2016 to 2060

Table 2 below shows the working age and the working population and the number of insured and pensioners in the period from 2016 to 2060, calculated on the basis of pre-conceived notions.

*Table 2 Number of insured and retired (in thousands)*

| Year | Work able residents | Work active residents | Number of insured | Number of retired | Insured/retired ratio |
|------|---------------------|-----------------------|-------------------|-------------------|-----------------------|
| 2016 | 2.883               | 1.758                 | 1.477             | 1.293             | 1,14                  |
| 2020 | 2.839               | 1.732                 | 1.490             | 1.301             | 1,15                  |
| 2030 | 2.809               | 1.714                 | 1.559             | 1.355             | 1,15                  |
| 2040 | 2.835               | 1.729                 | 1.530             | 1.310             | 1,17                  |
| 2050 | 2.822               | 1.722                 | 1.481             | 1.266             | 1,17                  |
| 2060 | 2.864               | 1.747                 | 1.459             | 1.234             | 1,18                  |

*Source: author's calculations based on defined assumptions, scenarios of pension insurance development*

In contrast to the number of working age and the working population, the number of insured will gradually increase from the current 1,477,000 to 1,559,000 insured in 2030. After 2030, due to the retirement of persons born in 1970 and entering the fewer workforce population aged 15 to 64 years of age according to demographic assumptions, will decrease the number of employees or the number of insured. The downward trend in the number of insured will continue until 2050 (to 1,481,000 insured), but after that, with less intensity in reduction. Similar trends are expected for the future number of retired Croatian pension system, according to the assumptions of scenarios of development in pension insurance. After 2016 the number of pensioners will significantly increase due to the fulfillment of the old-age pension numerous generations born in the fifties and sixties (in 2020 the number of pensioners amounted to 1,301,000). This trend will be maintained until 2030, after which it will reduce the number of new pensioners, because they will go into retirement by fewer generations born in the seventies. The trend of reduction will be retained until the end of the studied period (expected number of pensioners in 2060 amounted to 1,234 million). Based on pre-specified it is possible to conclude that the next twenty years will increase the number of retirees, but less intensively than in the previous period. Accordingly, if in a subsequent period achieves economic trends, the assumed scenario of development of



pension insurance sustainability of the pension system is not in question, although the ratio of insured and pensioners in the period from 2016 to 2060, will have a slightly upward trend despite the growth of economic activity.

### 3.4. The amount of monthly pension earned in the first and second pillar Croatian pension system in the period from 2016 to 2060

Table 3 shows the amount of future monthly pension in both pillars in the period from 2016 to 2060.

*Table 3 Amount of monthly pension (in HRK)*

| Year | The amount of pension from the first pillar | The amount of pension from the second pillar | Total |
|------|---|--|-------|
| 2016 | 1,313                                       | 535  | 1,848 |
| 2020 | 1,509                                       | 615  | 2,124 |
| 2030 | 2,139                                       | 872  | 3,011 |
| 2040 | 2,114                                       | 1,255  | 3,369 |
| 2050 | 2,100                                       | 1,772  | 3,872 |
| 2060 | 1,987                                       | 2,008  | 3,995 |

*Source: author's calculations based on defined assumptions, scenarios of pension insurance development*

For policyholders insured within two pillar pensions from the first part for each next generation all will become less dependent on the amount of wages insured and all will be more pronounced by solidarity and redistribution of the insured with higher wages to policyholders with lower wages. According to the calculation shown in Table 3, pensions from the first pillar will decrease after 2030, while in line with the projected growth of wages and rising real return of pension funds, the second pillar will have constant growth. However, the intensity of growth will not be big.

### 3.5. Retirement income of the Croatian pension system in the period from 2016 to 2060

Table 4 shows the scenario of paid annual contributions and annual contributions paid by the insured in the three pillars of security in the period from 2016 to 2060.

*Table 4 The total amount of annual contributions paid within the three pillars of pension insurance (in millions of HRK)*

| Year | I pillar (annual per person in HRK) | I pillar (annual payment in million HRK) | II pillar (annual per person in HRK) | II pillar (annual payment in million HRK) | III pillar (annual per person in HRK) | III pillar (annual payment in million HRK) |
|------|-------------------------------------|--|--------------------------------------|---|---------------------------------------|--|
| 2016 | 16,210                              | 20,353                                   | 5,403                                | 7,981                                     | 2,702                                 | 616  |
| 2020 | 18,602                              | 23,553                                   | 6,201                                | 9,236                                     | 3,100                                 | 797  |
| 2030 | 26,240                              | 34,780                                   | 8,747                                | 13,639                                    | 4,373                                 | 1,489                                      |
| 2040 | 20,336                              | 27,145                                   | 12,338                               | 16,881                                    | 4,169                                 | 1,111                                      |
| 2050 | 17,875                              | 21,158                                   | 15,404                               | 20,766                                    | 4,702                                 | 1,591                                      |
| 2060 | 13,777                              | 19,330                                   | 21,550                               | 27,816                                    | 5,275                                 | 2,367                                      |

*Source: author's calculations based on defined assumptions, scenarios of pension insurance development*

By the defined demographic, administrative and economic assumptions in the scenarios of development of pension insurance, in particular due to the increase in the employment rate and income growth rate, it can be expected upward trend in the amount of total contributions paid in the second and third pillar, although the intensity of this growth as well as growth of pensions is not great. The contributions paid in the first pillar will grow by 2030, after which it will record the downward trend due to the reduced number of insured.

### 3.6. Pension fund assets of the Croatian pension system in the period from 2016 to 2060

Table 5 shows the future value assets of mandatory pension funds in Croatia.

*Table 5 Assets of mandatory pension funds (in millions HRK)*

| Year | Gross domestic product | Pension funds assets | Share of GDP (%) |
|------|------------------------|----------------------|------------------|
| 2016 | 397,386                | 81,217 ↗             | 20,44            |
| 2020 | 464,885                | 114,673 ↗            | 24,67 ↗          |
| 2030 | 688,144                | 209,933 ↗            | 30,51 ↗          |
| 2040 | 1,018.621              | 317,520 ↗            | 31,17 ↗          |
| 2050 | 1,507.807              | 425,569 ↗            | 28,22 ↘          |
| 2060 | 2,231.923              | 557,214 ↗            | 24,97 ↘          |

*Source: author's calculations based on defined assumptions, scenarios of pension insurance development*

The assets of mandatory pension funds in Croatia will have a constant upward trend due to increase of paid contributions, the real increase in wages and on the basis of the expected real return on property investment funds. The value assets of mandatory pension funds will have a higher intensity of growth through 2030, after which the growth rate of the assets in these funds will be lower, because an increasing number of insured from second pillar of insurance will be eligible to retire and will take their pension savings transferred from pension funds pension insurance company / companies (if any more) that will pay pensions.

## 4. Conclusion

The stability and sustainability of the pension system is one of the fundamental problems in Croatia. Based on the analyzed scenarios of development of the pension insurance system in Croatia from 2016 to 2060, under the conditions of demographic, administrative and economic indicators one can observe with positive or negative trends certain variables important for the sustainability of this system.

Primarily, unfavorable demographic trends will significantly affect the future trends in the pension system even in the case of growth of economic activity. Reduction of the working population will have an impact on reducing the number of insured after 2030, which will result in lower payments and contributions and lower pensions in relation to the expected, especially within the first insurance pillar.

In order to, at least partially eliminate the negative trends of certain variables within the display scenarios of the future development of pension insurance, it will be needed to upgrade and develop a new model of financing the pension system. Since under the assumption of growth in economic activity, the variables in the second and third pillar pension funds showed positive trends, it is necessary to further encourage them. In addition to the economic, it is necessary to take into account the impact of non-economic factors (attitudes of stakeholders) on the pension system. Furthermore, the confidence in the system and investment in the voluntary pension funds in Croatia, which are there is not enough.

The new models of savings will be possible to affect further the collection of pension contributions, the amount and length of issuing to the pension funds, the successful management of pension funds and also greater user confidence of the entire pension system. In the end, the model of sustainable pension system should allow greater fairness with regard to the funds invested in relation to the final amount of the pension realized after legally acquired the conditions for retirement and also the balanced development of the entire society.

## REFERENCES

Puljiz, V. (2005): *Socijalna politika*, Pravni fakultet u Zagrebu, Zagreb

Puljiz, V. (2008): *Socijalna politika Hrvatske*, Pravni fakultet u Zagrebu, Zagreb

Puljiz, V. (2007): *Hrvatski mirovinski sustav: korijeni, evolucija i perspektive*, Revija za socijalnu politiku, broj 2, Zagreb, pp. 163-192.

Vretenar Cobović, M. & Cobović, M. (2016): *Sustainability of Pension Insurance System in Republic of Croatia*, in: Fifth International Conference: Economy of Eastern Croatia – vision and growth, Josip Juraj Strossmayer University in Osijek, Faculty of Economics in Osijek, June 2-4, 2016, pp. 840-848.

White paper, An Agenda for Adequate, Safe and Sustainable Pensions, European Commission, Brussels, 2012

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0055:FIN:EN:PDF>  
(accessed 17 February 2017)

Smjernice ekonomske i fiskalne politike, Ministarstvo financija Republike Hrvatske, 2016  
<http://www.mfin.hr/hr/smjernice-ekonomske-i-fiskalne-politike> (accessed 17 February 2017)

Eurostat, <http://ec.europa.eu/eurostat>, (accessed 17 February 2017)

Državni zavod za statistiku Republike Hrvatske, [www.dzs.hr](http://www.dzs.hr), (accessed 17 February 2017)

Svjetska banka, [www.ebrd.com/pages/country/croatia.shtml](http://www.ebrd.com/pages/country/croatia.shtml), (accessed 17 February 2017)

Hrvatska gospodarska komora, [www.worldbank.org/en/country/croatia](http://www.worldbank.org/en/country/croatia), (accessed 17 February 2017)



**Ljudski kapital  
u funkciji  
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capital in a function  
of the socio-economic  
development of the  
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**KNOWLEDGE MANAGEMENT MODEL IN THE FUNCTION OF  
DEVELOPMENT OF EASTERN CROATIA**

**MODEL UPRAVLJANJA ZNANJEM U FUNKCIJI RAZVITKA  
ISTOČNE HRVATSKE**

**ABSTRACT**

*From the first civilizations until today the human society has passed two development stages and today it is at the beginning of the third one. In this evolutive process the agricultural stage was replaced by the industrial stage, whereas today the human society is transitioning towards the new information era, i.e. knowledge era. Land and livestock were primary production resources in the agricultural period, and raw materials in the industrial period of human society development. Similarly, data, information and knowledge are becoming key resources in the knowledge period. Essential characteristics of the knowledge era are provided by knowledge economy in which economic success is based on successful knowledge application. Knowledge needs to be managed on personal level, i.e. business entity level, but also on the level of a society. Eastern Croatia is geographically and in terms of human resources a society which is, according to European standards, economically underdeveloped. The application of a knowledge management concept, i.e. knowledge society, seems to be a logical solution to the problem of economic development, both for the eastern Croatia and the Croatian economy as a whole. Thus, in the focus of the conducted research was the problem of finding a general knowledge management model that would enable economic development of eastern Croatia. Before defining a model solution of the outlined problem according to the research goals, the current social transition and the role of knowledge as a developmental resource of the new era were analysed. The general descriptive structural model of knowledge management in the function of economic development of eastern Croatia is defined as a solution to the problem. The presented model is a starting point for further research where the solutions for the complete application of the*

*presented general descriptive knowledge management model need to be found, in order to ensure successful transition of eastern Croatia from the industrial to the knowledge era.*

**Key words:** *knowledge society, knowledge economy, knowledge management, information-communication technology, eastern Croatia*

## SAŽETAK

*Od prvih civilizacija do danas ljudsko je društvo prošlo kroz dvije i nalazi se na početku treće razvojne etape. U tom evolutivnom procesu agrarno razdoblje je smijenilo industrijsko razdoblje, a danas se ljudsko društvo nalazi u tranziciji prema novom informacijskom dobu, odnosno dobu znanja. Kako što su zemlja i stoka bili primarni proizvodni resurs u agrarnom razdoblju, odnosno sirovine i materijal u industrijskom razdoblju razvitka ljudskog društva, tako podaci, informacije i znanje postaju ključan resurs doba znanja. Bitna obilježja doba znanja daje ekonomija znanja u kojoj se gospodarski uspjeh temelji na uspješnoj aplikaciji znanja. Kao što se znanjem treba upravljati na osobnoj, odnosno razini poslovnog subjekta, tako znanjem treba upravljati i na razini određene društvene zajednice. Istočnu Hrvatsku prostorno i u smislu ljudskih potencijala čini društvena zajednica koja je po Europskim mjerilima gospodarski slabo razvijena. Aplikacija koncepta ekonomije znanja, odnosno, društva znanja nameće se kao logično rješenje problema poticanja gospodarskog razvitka, kako istočne Hrvatske, tako i Republike Hrvatske u cjelini. Prema tome u fokusu provedenog istraživanja nalazio se problem pronalaženja generalnog modela upravljanja znanjem koji bi omogućio gospodarski razvitak istočnoj Hrvatskoj. Za pronalaženje odgovarajućeg rješenja, odnosno prije definiranja modelskog rješenja navedenog problema, a sukladno ciljevima istraživanja sagledana je aktualna društvena tranzicija te uloga znanja kao razvojnog resursa novog doba. Kao rješenje problema definiran je načelni deskriptivni strukturni model upravljanja znanjem u funkciji gospodarskog razvitka istočne Hrvatske. Predstavljeni model čini polaznu točku za daljnja istraživanja u kojima se treba iznaći rješenja za cjelovitu aplikaciju predstavljenog načelnog deskriptivnog modela upravljanja znanjem kako bi se osigurala uspješna tranzicija istočne Hrvatske iz industrijskog u doba znanja.*

**Ključne riječi:** *društvo znanja, ekonomija znanja, upravljanje znanjem, informacijsko-komunikacijska tehnologija, istočna Hrvatska*

## 1. Introduction

According to the majority of economic indicators, Republic of Croatia is at the very bottom of the scale of development among European countries. If we take into account that eastern Croatian counties are among the most underdeveloped parts of the Republic of Croatia, it becomes clear that eastern Croatia is among the most underdeveloped areas in Europe. Therefore, it is not surprising that this area has been facing devastation in almost every sense over the last ten years. Probably the greatest devastation is the fact that working-age population is leaving eastern Croatia, with small probability of return, because often entire families leave this area with no plan of coming back. Departure of young and working-age population with children changes the demographics of eastern Croatia, and the damage that is made is almost irreparable. Older population is not able to support itself and if this condition persists, in the long-term the Republic of Croatia might end up in a hopeless situation.

The key question is how to change negative economic trends and return eastern Croatia on the path of economic growth. The only right answer to this question is knowledge. The reason for this is that on the one hand, knowledge is becoming an economic resource and the basis of competitiveness in the new era, and on the other, knowledge is necessary for the success of every management process, as well as the process of global management of economic activities in the Republic of Croatia. Unfortunately, the ones that are managing the economic processes in Croatia, whether on the national, regional or local level, have something in common: when it comes to the question of political stand, as well as in the economic outlook, the orientation is on the past instead on the future. The general impression is that people who are leading global economic processes are mentally stuck in the 1970s since they are trying to build Croatia's economy on the principles and characteristics of the developed industrial age. Sadly for the most that view the economic recovery in this way, the world has evolved in the meantime and entered the new age where some new values are becoming key factors of economic growth. Factors that make up the foundation of the new age are information and knowledge. In that sense this research is focused on the possibilities to organize and manage information and knowledge to start the development of the Republic of Croatia, especially its eastern area.

## **2. Research methodology**

Together with information, knowledge has become a fundamental resource of the new age, in which the world has formally entered at the beginning of this century. What food was in the agricultural stage of development of human society, i.e. what industrial products were in the industrial age, this is information and knowledge for the new age. Accordingly, if in the agricultural age agricultural products dominated in the consumer basket, and products of industrial production in the industrial age, it is rational to conclude that with the advent of information age, i.e. knowledge age, the share of products that are a result of information and knowledge, i.e. the products that are shaped information and knowledge will grow. With changes of the eras in human history development, and with the change of the consumption focus, the key for achievement of economic success of a certain area, i.e. certain society, has changed. If the areas with developed agricultural production were economically successful in the agricultural age, industrially developed areas have taken over that role in the industrial age. Again using the analogy, it could be concluded that potentially in the new age the position of the developed areas will be taken by the ones with information and knowledge as dominant factors of development. That this would actually happen is shown by examples on the micro business level where successful business entities today are the ones with products that are based on information and knowledge. Knowledge management on the micro level aimed at creating added value is a key to success of such business entities. It is logical to conclude that knowledge management on the macro level will also be a crucial factor of success of certain economic entities. Accordingly, the development of eastern Croatia will very much depend on successful use of information and knowledge for economic purposes. This is why it is necessary to have a model approach to the problem of knowledge management in eastern Croatia and in the Republic of Croatia as a whole.

Based on the above arguments, the research goals are the following:

1. Outline current social transition;
2. Outline the role of knowledge in the function of economic development in knowledge society;
3. Define a descriptive knowledge management model in the function of economic recovery of eastern Croatia.

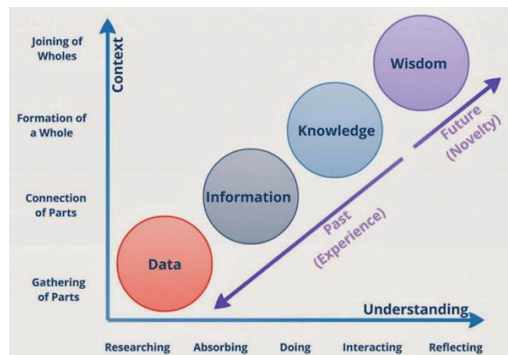


A number of scientific methods have been used in this research, from deductive method, systematic process analysis, historical method, generalization method, combination method, analogy method, analysis and synthesis method, descriptive modelling method, to thought experiment method. The listed methods are used along with some other methods. Secondary and tertiary data sources are used for research purposes. The result of this research is a general structural descriptive knowledge management model for eastern Croatia.

### 3. Research results

The transition in human history from one epoch to another is a process, and not a one-time event. In science today there is no clear consensus about time or name of the new era. A segment in science differentiates the information era from the knowledge era, whereas others argue that these two are happening simultaneously. The reason for these two perceptions lies in the differentiation of the terms information, knowledge and wisdom, which is illustrated in Figure 1.

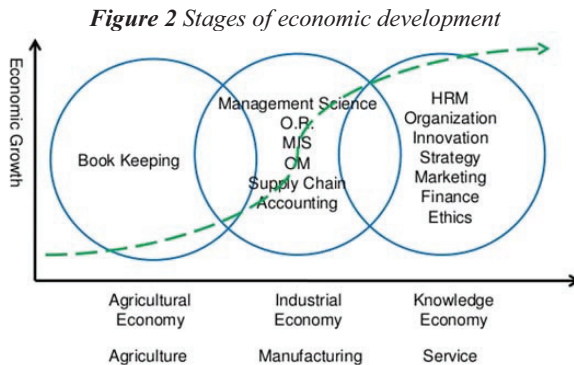
*Figure 1 Differentiation of the terms data, information, knowledge and wisdom*



Source: <https://adamjorlen.com/2013/12/08/a-shift-beyond-the-knowledge-society-in-sweden/> (accessed 27 February 2017)

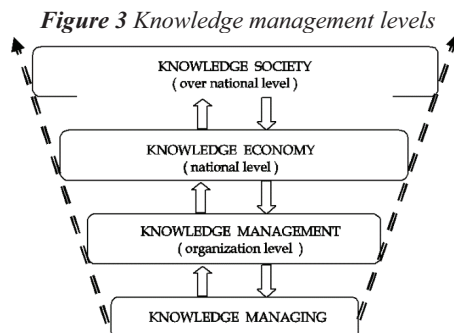
Considering the fact that it is hard to overview the processes of social transition as processes with fixed beginning and the end, the information era and knowledge era, as processes that generally start with a very short time delay, could be observed as parallel processes. Accordingly, the new era could be called information era as well as knowledge era. When it comes to the term “knowledge era”, then it could generally be described as the following: “The term *knowledge society* refers to a society in which the creation, dissemination, and utilization of information and knowledge has become the most important factor of production. In such a society, *knowledge assets* (also called *intellectual capital*) are the most powerful producer of wealth, side-lining the importance of land, the volume of labor, and physical or financial capital.” (International Encyclopedia of the Social Sciences, 2008) The term “knowledge era” is linked to the term “knowledge economy”: “The knowledge economy is a system of consumption and production that is based on intellectual capital. The knowledge economy commonly makes up a large share of all economic activity in developed countries. In a knowledge economy, a significant part of a company's value may consist of intangible assets, such as the value of its workers' knowledge (intellectual capital), but generally

accepted accounting principles do not allow companies to include these assets on balance sheets. In the Information Age, the global economy moved towards the knowledge economy. This transition to the Information Age includes the best practices taken from the service-intensive, manufacture-intensive and labor-intensive types of economies and added knowledge-based factors to create an interconnected and globalized economy where sources of knowledge like human expertise and trade secrets are crucial players in economic growth and are considered as important as other economic resources. The knowledge economy addresses how education and knowledge — generally called "human capital — can serve as a productive asset or a business product since innovative and intellectual services and products can be sold and exported and can yield profits for the individual, the business and the economy. This component of the economy relies greatly on intellectual capabilities instead of natural resources or physical contributions. In the knowledge economy, the production of services and products that are knowledge-based provides rapid acceleration in the technical and scientific fields, making way for more innovation in the economy as a whole.” (Investopedia, n.d) Figure 2. shows the stages of economic development.



Source: [https://www.slideshare.net/Eduniversal\\_Group/sung-joo-park-presentation](https://www.slideshare.net/Eduniversal_Group/sung-joo-park-presentation) (accessed 23 February 2017)

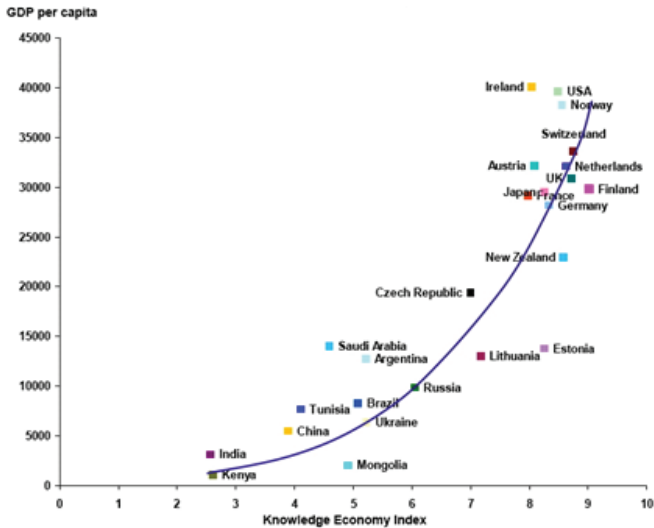
Systematic approach on all levels, from personal level to the society in general, is required in order to apply knowledge economy. Knowledge management levels are illustrated in Figure 3.



Source: <https://www.intechopen.com/books/the-economic-geography-of-globalization/intellectual-capital-in-context-of-knowledge-management> (accessed 10 March 2017)

Science today axiomatically accepts the thesis about interdependence of economic development level and development of a certain area, i.e. country. With regard to the above argument, Figure 4. shows the relation between knowledge economy index and GDP per capita.

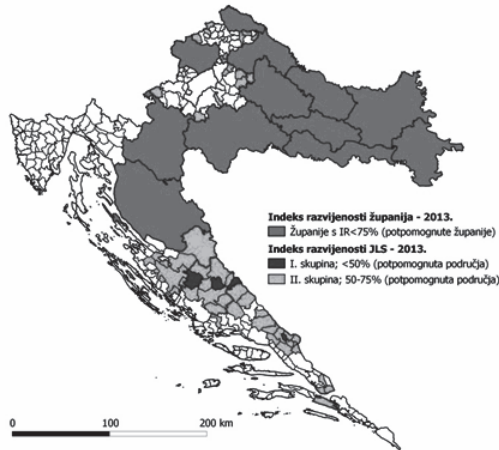
*Figure 4 Influence of knowledge on economic development*



Source: <http://professor-murmann.info/index.php/weblog/fullarticle/532> (accessed 15 March 2017)

As it is outlined in the introduction, according to statistics, and the data from Figure 5., eastern Croatia belongs to underdeveloped areas in the Republic of Croatia.

*Figure 5 County Development Index in the Republic of Croatia in 2013*



Source: <http://regionalni.weebly.com/potpomognuta.html> (accessed 18 February 2017)

It is a populist thesis that this area in Croatia could be developed successfully with agricultural resources and processing industrial capacities. Although agricultural production shouldn't be neglected, especially from strategic reasons, it should be remembered that agriculture, and even the industry lately, anywhere in the developed world cannot survive without the help of society through various forms of stimulation and protection of production, so it is unlikely that the situation in the Republic of Croatia would be any different. Therefore, a fundamental focus, when it comes to economic development of the eastern Croatia and the country as a whole, in accordance with the current era in the development of human society, should be redirected from the management of the substance to the information and knowledge management.

In order to achieve a stable and long-term economic development of eastern Croatia, it is necessary, as soon as possible, to have a model approach on transition towards knowledge economy i.e. knowledge society, with the focus on knowledge management to transform eastern Croatia into a knowledge region. In order to achieve the outlined process, it is necessary to make a number of changes in the way this area is functioning. A structural descriptive knowledge management model in eastern Croatia contains the following elements:

1. Competence center (knowledge and skills)
  - a. Branch and subject systematization of knowledge and the development, management and evolution of an ontological scheme of the education system in the Republic of Croatia
  - b. Database management about population from school years to the end of working activity for every person in the Republic of Croatia - the lifelong index;
  - c. Forming of thesaurus of exam questions and knowledge and skills tests;
  - d. Testing and evaluation of knowledge tests;
  - e. Tracking of personal index of knowledge value added (KVA);
  - f. Tracking of other success parameters (social influence index, team work skills, management skills, physical ability, preferences, psychological profiling of the person etc.);
  - g. Issuing of certificates for organizations and individuals for the right of their referencing in the list of references of every registered person;
  - h. Notation of school diplomas, academic diplomas and certificates in the list of certificates of every registered person;
  - i. Issuing of individual certificates (diplomas) and associated certificates on demand;
  - j. Issuing of recommendations for qualified and higher education institutions related to the evolution of plans and programs in accordance with the ontological scheme of the educational system.
2. Chambers
  - a. Foundation of chambers for every form of economic and public activity;
  - b. Prohibition of work without chamber membership;
  - c. Mandatory chamber membership with periodic renewal of membership;
  - d. The obligation to periodic verification of knowledge for the purpose of renewal of membership.
3. The fundamental education system
  - a. The fundamentalization of knowledge at the primary and secondary education level – learning of principles (wisdom) first, and then skills (knowledge);
  - b. The applicativisation of knowledge at secondary vocational level in order to acquire the apprentice level - through lifelong learning one can acquire the level of assistant craftsman, and higher professional studies provide a master craftsman level.
4. Higher education system

- a. A clear differentiation of professional and scientific studies - scientific studies in the field of fundamental science and professional studies in the field of applied knowledge (vertical vocational education for master craftsman level);
  - b. A clear differentiation of science and arts;
  - c. Fundamentalization of the first (bachelor degree) level - specialization in fundamental subjects of a field/area;
  - d. The applicativisation and specialisation of a graduate degree level - fields of study are narrow areas and at the level of branches or fields where more specific knowledge is acquired;
  - e. The specialisation in specific areas (specialist studies) - the sphere of lifelong learning;
  - f. Democratization, liberalization, interdisciplinaryization and openness (everyone can take courses that they are interested in, but education cannot be completed without fundamental exams) of higher education above fundamental levels of education, especially in the field of lifelong learning;
  - g. Distance learning.
5. Lifelong learning
- a. It includes all the activities in the function of increasing students' knowledge and skills outside school hours;
  - b. It includes every organized tracking of courses at higher education institutions.
  - c. It includes every organized education or taking actions which contribute to the increase of knowledge and skills of a person;
  - d. It includes all reference work;
  - e. Digitization of lifelong learning system;
  - f. Earned certificates are noted in the list of references in the "competence center";
  - g. Competence center ensures testing for the purpose of verification with points for acquired knowledge and skills within lifelong learning.
6. Foundation/trust funds for scholarships – premises:
- a. Everyone has the right to appropriate financial support and everyone is required to return the support (money or working within the society);
  - b. Starting from high school on, during regular education everyone has the right to scholarship on the basis of the ranking in the "competence center";
  - c. Scholarships are borrowed in the form of virtual credits to be used for educational purposes;
  - d. Organizations and individuals verified in the competence center use their programs to attract participants – competition of programs;
  - e. Scholarships are awarded to individuals and not to institutions – a person can get a virtual check and gives it to the chosen institution;
  - f. Everyone is obliged to return the scholarship – it is returned by remaining "loyal" to the state over a certain period, or by paying off the received scholarships. Best performers by the "competence center" ranking are financially rewarded, for example by reducing their obligation to repay the scholarship.
7. Institute for the coordination of scientific research
- a. Integration and free flow of knowledge;
  - b. Research and defining the problems that need to be solved within the framework of science;
  - c. Organization of competitive research grants and designing a system for project funding;
  - d. Promotion of ideas, innovation, creativity and knowledge through festivals, workshops, mass media (TV, radio, Internet) - popularization of science.
8. Institute for foreign market research
- a. Market research;

- b. Creating lists of jobs and vacancies abroad;
  - c. Intermediation;
  - d. Promotion of distance working.
9. Institute for monitoring the satisfaction of the population
- a. Permanent research of the people's satisfaction;
  - b. Defining the standards of life quality;
  - c. Defining the standards of burden at work and during education;
  - d. Monitoring the compliance with the standards and pointing out the deviations from the standards.
10. The State Committee for monitoring the implementation of the transformation into a knowledge society
- a. Coordinating authority which tracks the implementation of the transformation into a knowledge society;
  - b. Reports to the public about the achieved results;
  - c. Develops further suggestions for the adjustment and improvement of the transition process according to the changes that are happening on the global level, in relation to the overall transition of society in the knowledge era;
  - d. Draws up legislative proposals and carries out scientific, professional and public debate before proposing them to the legislators.

Based on the outlined descriptive knowledge management model in eastern Croatia, there are ten elements which need to be consistently and completely implemented for a practical efficiency of the model. Due to limitations in the space the structure of the proposed model will not be explained at this point.

#### **4. Conclusion**

The knowledge society cannot be formed by the community of uneducated individuals. That is why it is extremely important to increase the level of knowledge in society, as an objective and independent category. The knowledge must become an imperative for every person, therefore it is necessary to design and implement a fair and motivating system for a systematic permanent increase of knowledge level in society. The outlined descriptive knowledge management model in eastern Croatia has been developed for this initiative. Healthy competition and objective standards are the basis for building a more just and more efficient society. With the presented model knowledge is transferred from the meta-sphere to the market level. It is predicted that competition of knowledge could produce the expansion of knowledge, and that should have a very big impact on the economic development of the eastern Croatia. Instead of the monolithic administratively prescribed education system, this model promotes competition among different approaches with common standards and objectification of efficiency of each applied education system. The practical success of the defined model depends on the integrity of its realization, and on the efficiency in motivating people in terms of their active involvement in positive processes of knowledge society. It is logical to conclude that high inclusion of the population in continuous processes of acquisition and verification of knowledge will raise the volume of knowledge as a key factor of competitiveness in the knowledge economy, because quality is produced from quantity. The descriptive knowledge management model is principled in its nature, because it defines the basic structure of the knowledge management system in the function of economic development of eastern Croatia. Its detailed elaboration and the development of applicative sub-models are the topics for further scientific research.

## REFERENCES

- International Encyclopedia of the Social Sciences (2008): *Knowledge Society* (2008), <http://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/knowledge-society> (accessed 25 March 2017)
- Investopedia (n.d.): *What is 'Knowledge Economy'*, in: Knowledge Economy (n.d): <http://www.investopedia.com/terms/k/knowledge-economy.asp> (accessed 20 March 2017)
- <http://cmapspublic3.ihmc.us/rid=1G9L62WTW-NJ5G5D-C84/KVAmethodology.pdf> (accessed 27 February 2017)
- <http://professor-murmann.info/index.php/weblog/fullarticle/532> (accessed 15 March 2017)
- <http://regionalni.weebly.com/potpomognuta.html> (accessed 18 February 2017)
- <https://adamjorlen.com/2013/12/08/a-shift-beyond-the-knowledge-society-in-sweden/> (accessed 5 March 2017)
- <https://www.intechopen.com/books/the-economic-geography-of-globalization/intellectual-capital-in-context-of-knowledge-management> (accessed 10 March 2017)
- [https://www.slideshare.net/Eduniversal\\_Group/sung-joo-park-presentation](https://www.slideshare.net/Eduniversal_Group/sung-joo-park-presentation) (accessed 23 February 2017)
- [https://www.slideshare.net/SD\\_Paul/science-and-technology-capacity-and-the-knowledge-society](https://www.slideshare.net/SD_Paul/science-and-technology-capacity-and-the-knowledge-society) (accessed 23 February 2017)
- International Encyclopedia of the Social Sciences (2008): *Knowledge Society* (2008), <http://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/knowledge-society> (accessed 25 March 2017)
- Investopedia (n.d.): *What is 'Knowledge Economy'*, in: Knowledge Economy (n.d): <http://www.investopedia.com/terms/k/knowledge-economy.asp> (accessed 20 March 2017)



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## WHAT CONTRIBUTES TO PHYSICAL ACTIVITY AMONG ADOLESCENTS?

### ŠTO DOPRISUJE TJELESNOJ AKTIVNOSTI ADOLESCENTICA?

#### ABSTRACT

*Living costs for people with increased body mass index (BMI) are significant, from psychic (discontents) through health (the cost of treating diseases caused by increased weight) and economic (adaptation of space, job absenteeism or lower labour productivity). The aim of this study was to examine the differences between young girls with different BMI and physical self-concept in physical activity and dieting. This study also investigated the contributions of BMI, physical activity and dieting on the body dissatisfaction. Socio-cultural model of body dissatisfaction assumes that the deviation of BMI from the thin-ideal will lead to dieting, but it also assumes that internalizing the athletic-ideal will lead to increased physical activity in order to get closer to the ideal body shape. This study included 306 first and third grades female high school students in Našice. Four groups were compared: a) lower BMI and lower physical self-concept (n=41), b) lower BMI and higher physical self-concept (n=66), c) higher BMI and lower physical self-concept (n=66) and d) higher BMI and higher physical self-concept (n=44). Four groups do not differ in physical activity ( $F_{3,213}=1.34$ ;  $p>0.10$ ), but differ in the dieting ( $F_{3,213}=12.01$ ;  $p<0.001$ ). Groups with higher BMI and lower physical self-concept diet significantly more than girls from the two groups with a lower BMI. The results have shown that BMI, physical activity and dieting explain 52% of variance of body dissatisfaction. Dieting, as the most important predictor, explained 39.4%, while BMI explained 11%, and physical activity about 2% of the variance of body dissatisfaction. The results suggest internalizing the thin-ideal and dieting as a strategy to dismiss body dissatisfaction. Absence of differences in the physical activity among groups, as well as a small contribution of physical activity in explaining body dissatisfaction, indicates the need to promote the importance of physical activity as a healthy strategy to regulate BMI.*

**Key words:** physical activity, dieting, BMI, body dissatisfaction, adolescents.

## SAŽETAK

Troškovi života s povećanim indeksom tjelesne mase (ITM) su značajni – od psihičkih (nezadovoljstva) preko zdravstvenih (troškovi liječenja bolesti izazvane povećanom težinom) i gospodarstvenih (prilagodba prostora, bolovanje ili manja radna produktivnost). Stoga je cilj rada bio provjeriti razlikuju li se mlade djevojke različitog ITM-a i tjelesnog samopoimanja u tjelesnoj aktivnosti i u držanju dijeta. Provjeravani su i doprinosi ITM-a, tjelesne aktivnosti i držanja dijeta objašnjenju nezadovoljstva tjelesnim izgledom. Socio-kulturalni model nezadovoljstva tjelesnog izgleda pretpostavlja da će odstupanje ITM-a od ideala vitkosti koji postaje norma dovesti do držanja dijeta, ali i da će internaliziranje ideala fit-tijela u istom slučaju povećati tjelesnu aktivnost kako bi se osoba približila željenom idealu. U istraživanju je sudjelovalo 306 učenica prvih i trećih razreda srednje škole u Našicama različitih smjerova. Uspoređene su 4 grupe sa obilježjima: a) niži ITM i niže tjelesno samopoimanje ( $n=41$ ), b) niži ITM i više tjelesno samopoimanje ( $n=66$ ), c) viši ITM i niže tjelesno samopoimanje ( $n=66$ ) i d) viši ITM i više tjelesno samopoimanje ( $n=44$ ). Pokazalo se da se četiri grupe ne razlikuju po tjelesnoj aktivnosti ( $F_{3,213}=1.34$ ;  $p>0.10$ ), ali se razlikuju u držanju dijeta ( $F_{3,213}=12.01$ ;  $p<0.001$ ) na način da djevojke i grupe s višim ITM-a i nižim samopoimanjem značajno više drže dijetu od djevojaka iz dvije grupe s nižim ITM-om. Kod drugog problema utvrđeno je da ITM, tjelesna aktivnost i držanje dijete objašnjavaju 52% varijance nezadovoljstva tjelesnim izgledom. Najznačajniji prediktor držanje dijeta samostalno objašnjava 39.4% varijance, dok ITM objašnjava oko 11% varijance, a tjelesna aktivnost oko 2% varijance kriterija. Dobiveni rezultati sugeriraju internaliziranje ideala vitkosti i dijetu kao strategiju korigiranja istog. Nepostojanje razlika u tjelesnoj aktivnosti skupina, kao i mali doprinos tjelesne aktivnosti u objašnjenju nezadovoljstva tjelesnim izgledom, ukazuje na daljnju potrebu promoviranja važnosti tjelesne aktivnosti kao zdravije strategije regulacije ITM-a.

**Ključne riječi:** tjelesna aktivnost, držanje dijete, ITM, nezadovoljstvo izgledom, adolescentice.

### 1. Introduction

Increased body mass index (BMI) is related to many undesirable consequences, e.g. medical costs are much higher for overweight children (Biener, Meyerhoefer, and Cawley, 2014), obesity in adults is a positive predictor of their job absenteeism (Cawley, Rizzo, and Haas, 2007), obese children and adolescents have lower health related quality of life, compared with their peers (Schwimmer, Burwinkle, and Varni, 2003), and body mass is a significant predictor of body dissatisfaction (Lawler, and Nixon, 2011).

Self-concept, as persons' beliefs and knowledge about himself, is positively related to body satisfaction (Guiney, and Furlong, 1999). Physical self-concept, a part of overall self-concept, is a perception of own physical appearance without evaluating it. Alipoor, Moazami, Nezhad, and Zaheri (2009) found that physical self-concept is negatively correlated with body dissatisfaction.

Body dissatisfaction is a subjective negative evaluation of own body and body appearance, and it is important in adolescence, particularly for adolescent girls, because it often leads to the onset of eating disorders (Stice, Presnell, and Spangler, 2002), depression (Ferreiro, Seoane, and Senra, 2014) and lower self-esteem (Duchesne et al., 2016). Socio-cultural model of body dissatisfaction (Tiggemann, 2011) claims that body (dis)satisfaction is a function of the similarity of self-perception and internalized body ideal. Two main types of body ideals are identified: the thin-ideal and the athletic-ideal (Homan, McHugh, Wells, Watson, and King, 2012). Model predicts that the discrepancy between body image and ideal body could be regulated by using different strategies: dieting, a commercial program for weight control following public health message, or simply ignoring problem (Madigan, Daley, Kabir, Aveyard, and Brown, 2015). Dieting is more related to the thin-ideal, while physical activity is more related to the athletic-ideal.

Dieting is “the intentional and sustained restriction of caloric intake for the purpose of reducing body weight or changing body shape” (NTFPTO, 2000, p: 2582). Mothers often encourage their adolescent daughters to diet, and maternal dieting is associated with their daughters disordered eating behaviors (Neumark-Sztainer et al., 2010).

Physical activity (PA), as a recommended strategy to regulate body dissatisfaction, is “any bodily movement produced by skeletal muscles that result in energy expenditure” (Caspersen, Powell and Christenson, 1985; p:126). It promotes mental health: quality of life is related with adult females' physical activity in free time (Babić Čikeš, Tomašić Humer, and Šincek, 2015). World Health Organization (2010) recommended at least 60 minutes of moderate to vigorous-intensity PA for children and adolescents. Our previous findings suggest that more than 50% of preschool children (Tomašić Humer, Babić Čikeš, and Šincek, 2016) and female university students (Šincek, Tomašić Humer, and Merda, 2017) spend less than an hour daily doing physical activity. In this research, female adolescents with different levels of BMI and physical self-concept were compared based on physical activity and dieting. Based on socio-cultural model, we hypothesized that higher BMI will induce more dieting, especially in girls whose physical self-concept is lower. Differences in four groups using alternative strategy (physical activity) would imply internalizing athletic-ideal. Accordingly, another goal was to determine the contributions of BMI, physical activity and dieting in explaining the variance of body dissatisfaction. Our hypothesis was that BMI will be the most significant predictor, and that dieting will be a significant predictor due to internalizing thin-ideal, while physical activity, based on previous finding of low levels of physical activity in young female adult, will not reach significance, suggesting that the athletic-ideal is not as widespread as thin-ideal among adolescent females.

## 2. Subjects and methods

### 2.1. Participants

The data were collected on a sample consisting of 306 female students from first ( $n=153$ ) and third grade ( $n=153$ ) from the "Isidor Kršnjavi" high school in Našice. Their ages ranged from 14 to 17 years ( $M=15.75$ ,  $SD=1.041$ ). This research includes the three-year and four-year education programs. The categories of school orientations are: gymnasium ( $N=131$ ), four-year vocational ( $N=83$ ) and three-year vocational school ( $N=92$ ).

### 2.2. Measures

**Socio-demographic information** (age, grade, gender, the type of school) and information regarding height and weight (to calculate body mass index).

**Body Mass Index (BMI)** was calculated as self-reported weight in kilograms divided by the square of height in meters ( $\text{kg}/\text{m}^2$ ).

**Fels physical activity questionnaire for children** (Treuth, Hou, Young and Maynard, 2005) is a standardized eight-item questionnaire for assessing physical activity in children and adolescents (7 to 19 y.o.). It contains three “open” questions for which activities are listed by the participant, and the frequency of participation for each activity is obtained. The remaining five questions use a Likert type to evaluate physical activity. The results show physical activity in sport, leisure time and doing chores. The composite shows overall physical activity (theoretical range 3-15, higher results implying higher physical activity). Reliability ranges  $\alpha=.68 - .86$ .

**Adolescent Dieting Scale** (Patton et. al., 1997) is an 8-items scale questioning the three typical dieting strategies: calorie counting, reducing meal sizes, and skipping meals. Participants choose one of four proposed answers: from 0 – never to 3 – almost always. The result is formed as a sum of scores for each item, the higher the score, the more the person diets. Scale reliability is  $\alpha=0,92$ .

**Self-Description Questionnaire – II** (Marsh, 1992) is a multi-dimensional self-concept instrument constructed for youngest children (SDQ I), adolescents (SDQ II) and college students

(SDQ III). It consists of three scales: academic and non-academic self-concept and general self-concept or self-esteem. We used a subscale Physical Self-Description as a part of non-academic self-concept scale to measure the physical self-concept. Items were answered on a 6-point scale. Higher score indicated higher self-concept with range from 8 to 48. Cronbach's alpha for this subscale was 0.87.

**Body Shape Questionnaire** (Cooper, Taylor, Cooper, Fairburn, 1987) is a 34-items questionnaire regarding the body shape preoccupations on a six point Likert type (1=Never and 6=Always). The overall score is the total across the 34 items, range from 34 to 204 where a higher score indicates higher body dissatisfaction. There is a classification of overall score: less than 80 – no concern with body shape; 81-110 – mild concern with body shape; 111-140 – moderate concern with body shape and over 140 – marked concern with body shape. Internal consistency coefficient was  $\alpha=0.96$ .

### 2.3. Procedure

The ethics committee of the Department of Psychology, Faculty of Humanities and Social Sciences Osijek, approved this research. Researchers have collected informed consent from the adolescent participants. The data were collected at the participants' schools, in their classrooms. The researcher read the instructions for participant and distributed the surveys in a paper-and-pencil format. Participants completed them independently and anonymously. A survey took approximately 30 minutes to complete. After completing it, the students were given a possibility to talk with the school psychologist if it made them feel upset.

### 3. Results and discussion

Data were analysed using the statistical package SPSS version 20.0 (SPSS Inc., Chicago, IL). The collected data are shown with descriptive statistical parameters for measured variables (Table 1). The methods of analysis used in processing the results are the analysis of variance and hierarchical regression analyses.

**Table 1** Results of descriptive analysis for measured variables

|                       | <i>N</i> | <i>M</i> | <i>SD</i> | <i>Min</i> | <i>Max</i> |
|-----------------------|----------|----------|-----------|------------|------------|
| Body mass index (BMI) | 306      | 21.22    | 3.039     | 15.80      | 34.90      |
| Physical activity     | 306      | 7.90     | 1.667     | 3          | 15         |
| Dieting               | 306      | 4.77     | 5.998     | 0          | 24         |
| Physical self-concept | 306      | 33.68    | 7.160     | 8          | 48         |
| Body dissatisfaction  | 306      | 70.33    | 30.023    | 34         | 181        |

Source: Authors

Data from Table 1 suggest that adolescents in this sample are, as a group, satisfied with their body. But their standard deviation and range show that there are also some highly dissatisfied girls. Their physical self-concept is high, and their average BMI is ideal, but the range shows that some overweight and obese adolescents participated in this research, as well as some malnourished girls. Results on physical activity suggest lower levels of it, same as for dieting. The standard deviation shows that intragroup differences in dieting are highlighted.

Participants were divided into four groups considering the body mass index and the level of physical self-concept (low and high). Four groups of adolescent girls with low and high BMI and physical self-concept were compared using ANOVA (dieting and physical activity as the dependent variables, see Table 2.). They differ in dieting ( $F_{3,213}=12.01, p<0.001$ ), but do not differ in physical activity ( $F_{3,213}=1.34; p>0.10$ ). Groups with higher BMI and lower physical self-concept ( $M_3=7.79, SD=7.068M, n=66$ ) diet significantly more than girls from the two groups with lower BMI ( $M_1=3.00, SD=4.599, n=41; M_2=2.44, SD=4.507, n=66$ ). This results support the hypothesis, suggesting that dieting is the primary strategy to reduce BMI.

**Table 2** Differences in dieting and physical activity between adolescent girls with low and high BMI and low and high levels of physical self-concept

|                   | BMI  | Physical self-concept | N  | M    | SD    | F        |
|-------------------|------|-----------------------|----|------|-------|----------|
| Dieting           | low  | low                   | 41 | 3.00 | 4.599 | 12.01*** |
|                   | low  | high                  | 66 | 2.44 | 4.507 |          |
|                   | high | low                   | 66 | 7.79 | 7.068 |          |
|                   | high | high                  | 44 | 4.52 | 4.805 |          |
| Physical activity | low  | low                   | 41 | 7.47 | 1,726 | 1.34     |
|                   | low  | high                  | 66 | 8.03 | 1,791 |          |
|                   | high | low                   | 66 | 8.09 | 1,581 |          |
|                   | high | high                  | 44 | 7.83 | 1,525 |          |

\*\*\*  $p < .001$

Source: Authors

In the hierarchical regression analysis contributions of BMI, physical activity and dieting were used as the predictors of body dissatisfaction. In the first step of the hierarchical regression analysis, body mass index was entered, physical activity was added in the second step, and dieting in the third step. Prior to HRA, (inter)correlations were calculated and shown in Table 3. It is found that all predictors correlate with body dissatisfaction. The only insignificant correlation was between physical activity and BMI.

**Table 3** (Inter)correlation of BMI, physical activity, dieting and body dissatisfaction (N=306)

|                         | 1.     | 2.     | 3.     | 4. |
|-------------------------|--------|--------|--------|----|
| 1. BMI                  | -      |        |        |    |
| 2. Physical activity    | .090   | -      |        |    |
| 3. Dieting              | .334** | .169** | -      |    |
| 4. Body dissatisfaction | .330** | .162** | .714** | -  |

\*\*  $p \leq .01$

Source: Authors

**Table 4** Contribution of BMI, physical activity and dieting in explaining of body dissatisfaction (N=306)

| Model  | Predictors        | Body dissatisfaction |        |              | F         |
|--------|-------------------|----------------------|--------|--------------|-----------|
|        |                   | $\beta$              | $R^2$  | $\Delta R^2$ |           |
| Step 1 | BMI               | .330**               | .109** |              | 37.157**  |
| Step 2 | BMI               | .318**               | .127** | .018**       | 21.959**  |
|        | Physical activity | .134**               |        |              |           |
| Step 3 | BMI               | .102**               | .521** | .394**       | 109.511** |
|        | Physical activity | .039                 |        |              |           |
|        | Dieting           | .674**               |        |              |           |

\*\*  $p \leq .01$ ;  $\beta$  – beta coefficient;  $R^2$  – coefficient of determination;  $F - F$  – value

Source: Authors

Data in Table 4 shows that BMI, physical activity and dieting contributed to the explanation of 52% of variance of body dissatisfaction. Dieting as the most important predictor explained 39.4%, while BMI explained 11% and physical activity about 2% of the variance of body dissatisfaction. These results are somewhat surprising, suggesting that dieting, as a regulating strategy, contributes more than BMI. The socio-cultural model predicts that differing from the ideal body, and higher BMI, will strongly contribute to body dissatisfaction, but our data suggest that dieting is the most important predictor – more dieting will be present in more dissatisfied girls. These results should be regarded in the context of other results (e.g. Tomiyama, Ahlstrom, and Mann, 2013) that suggest dieting is either non-efficient or it leads to undesirable outcome (e.g. eating disorder). As predicted, girls with higher BMI were more dissatisfied. Physical activity became a

non-significant predictor after including dieting, suggesting that dieting functions as a mediator of physical activity and body dissatisfaction.

Current research has some limitations and shortcomings. Using only data from female adolescents left us without insight into relation of this variables in males, and it is possible that there are gender differences in preferred ideal and regulatory strategy, although there are researches suggesting that dieting has increased among adolescent males, and decreased among adolescent females over a ten years' period (Ingoldsdottir, Asgeirsdottir, Gunnarsdottir, and Bjornsson, 2014). Exploring thin/athletic ideal internalization directly and analysing if a particular regulatory strategy (dieting vs. physical activity) mediates the relation of internalized ideal and body dissatisfaction should be addressed in future research. Although the socio-cultural model strongly suggests a pathway from body dissatisfaction toward dieting/physical activity, correlational nature of this study does not allow such conclusion about causality, and longitudinal data would be more informative in this case. Based on current and previous research data, the focus of preventing body dissatisfaction should be on promoting athletic-ideal and physical activity, while warning that dieting and thin-ideal, instead of reducing of body dissatisfaction, is related to other negative outcomes (e.g. eating disorder) and should be avoided.

## 5. Conclusion

The findings that the majority of female adolescents are satisfied with their body, that their average BMI is in the category that is ideal, and that they describe their body positively is satisfactory. At the same time, findings that their average physical activity is in the lower part of a possible range strongly indicates that physical activity should be promoted – they are high-school pupils with compulsory physical education in school, which makes this results even more worrisome, suggesting that their non-compulsory physical activity is scarcely. Those adolescent girls with higher BMI and low physical self-concept diet more than their peers with lower BMI, regardless of their physical self-concept. No matter how high or low their BMI or physical self-concept was, these girls did not differ in their physical activity. Also, dieting was the strongest positive predictor of body dissatisfaction: the girls that diet more, are also more dissatisfied with their body; this predictor explained 4x more of body dissatisfaction variance than BMI which is traditionally held as the strongest predictor of body dissatisfaction. Low level of physical activity in the overall sample, non-differing of groups with high/low BMI and high/low physical self-concept, and only 2% of variance of body dissatisfaction explained by physical activity compared to 40% explained by dieting strongly suggest that promoting of the athletic-ideal and physical activity should be the goal for preventive activities among female adolescents.

## REFERENCES

- Alipoor, S., Goodarzi, A. M., Nezhad, M. Z., & Zaheri, L. (2009): **Analysis of the Relationship between Physical Self-Concept and Body Image Dissatisfaction in Female Students**, Journal of Social Sciences, Vol.5, No.1, pp.60-66.
- Babić Čikeš, A., Tomašić Humer, J., & Šincek, D. (2015): **Physical Activity and Quality of Life of Mothers of Preschool Children**, Collegium antropologicum, Vol.39, No.2, pp.419-426.
- Biener, A., Meyerhoefer, C., & Cawley, J. (2014): **Estimating the Medical Care Costs of Youth Obesity in the Presence of Proxy Reporting Error**.
- Caspersen, C.J., Powell, K.E., & Christenson, G.M. (1985): **Physical activity, exercise, and physical fitness: definitions and distinctions for health related research**, Public Health Report, Vol.100, pp.126-31.

- Cawley, J., Rizzo, J. A., & Haas, K. (2007): **Occupation-specific absenteeism costs associated with obesity and morbid obesity**, *Journal of Occupational and Environmental Medicine*, Vol.49, No.12, pp.1317-1324.
- Cooper, P. J., Taylor, M. J., Cooper, M., & Fairburn, C. G. (1987): **The development and validation of the Body Shape Questionnaire**, *International Journal of Eating Disorders*, Vol.6, pp.485-494.
- Duchesne, A. P., Dion, J., Lalande, D., Bégin, C., Émond, C., Lalande, G., & McDuff, P. (2016): **Body dissatisfaction and psychological distress in adolescents: Is self-esteem a mediator?**, *Journal of health psychology*, pp.1-7
- Ferreiro, F., Seoane, G., & Senra, C. (2014): **Toward understanding the role of body dissatisfaction in the gender differences in depressive symptoms and disordered eating: a longitudinal study during adolescence**, *Journal of adolescence*, Vol.37, No.1, pp.73-84.
- Guiney, K. M., & Furlong, N. E. (1999): **Correlates of body satisfaction and self-concept in third- and sixth-graders**, *Current Psychology*, Vol.18, No.4, pp.353-367.
- Homan, K., McHugh, E., Wells, D., Watson, C., & King, C. (2012): **The effect of viewing ultra-fit images on college women's body dissatisfaction**, *Body Image*, Vol.9, No.1, pp.50-56.
- Ingolfssdottir, G., Asgeirsdottir, B. B., Gunnarsdottir, T., & Bjornsson, A. S. (2014). **Changes in body image and dieting among 16–19-year-old Icelandic students from 2000 to 2010**. *Body image*, Vol.11, No.4, pp. 364-369.
- Lawler, M., & Nixon, E. (2011): **Body dissatisfaction among adolescent boys and girls: the effects of body mass, peer appearance culture and internalization of appearance ideals**. *Journal of youth and adolescence*, Vol.40, No.1, pp.59-71.
- Madigan, C. D., Daley, A. J., Kabir, E., Aveyard, P., & Brown, W. (2015): **Cluster analysis of behavioural weight management strategies and associations with weight change in young women: a longitudinal analysis**, *International Journal of Obesity*, Vol.39, No.11, pp.1601-1606..
- National Task Force on the Prevention and Treatment of Obesity (2000): **Dieting and the development of eating disorders in overweight and obese adults**, *Arch Intern Med*, Vol.160, No.17, pp. 2581-2589.
- Marsh, H. W. (1992): *Self Description Questionnaire – II: SDQ II Manual*, University of Western Sydney, Australia.
- Neumark-Sztainer, D., Bauer, K. W., Friend, S., Hannan, P. J., Story, M., & Berge, J. M. (2010): **Family weight talk and dieting: how much do they matter for body dissatisfaction and disordered eating behaviors in adolescent girls?**, *Journal of Adolescent Health*, Vo.47, No.3, pp.270-276..
- Patton, G. C., Carlin, J. B., Shao, Q., Hibbert, M. E., Rosier, M., Selzer, R., & Bowes, G. (1997): **Adolescent dieting: healthy weight control or borderline eating disorder?**, *Journal of Child Psychology and Psychiatry*, Vol.38, No.3, pp.299-306.



Schwimmer, J. B., Burwinkle, T. M., & Varni, J. W. (2003): **Health-related quality of life of severely obese children and adolescents**, *Jama*, Vol.289, No.14, pp.1813-1819.

Stice, E., Presnell, K., & Spangler, D. (2002): **Risk factors for binge eating onset in adolescent girls: a 2-year prospective investigation**, *Health Psychology*, Vol.21, No.2, pp.131.

Šincek, D., Tomašić Humer, J., & Merda, M. (2017): **Prediktori nezadovoljstva tjelesnim izgledom i odstupajućih navika hranjenja u kontekstu sociokulturalnog modela**, *Medica Jadertina*, Vol.47, No.1-2, pp.23-38.

Tiggemann M. (2011): *Sociocultural perspectives on human appearance and body image*, in: Cash TF, Smolak L, (Eds.), *Body image: A handbook of science, practice, and prevention*, New York, Guilford Press, pp 12-19.

Tomašić Humer, J., Babić Čikeš, A., & Šincek, D. (2016): **Does joint physical activity in mother-child pairs contribute to child's quality of life?**, *Život i škola: časopis za teoriju i praksu odgoja i obrazovanja*, Vol.62, No.2, pp. 59-70.

Tomiyama, A. J., Ahlstrom, B., & Mann, T. (2013): **Long term Effects of Dieting: Is Weight Loss Related to Health?**, *Social and Personality Psychology Compass*, Vol.7, No.12, pp. 861-877.

Treuth, M. S., Hou, N., Young, D. R., & Maynard, L. M. (2005): **Validity and Reliability of the Fels Physical Activity Questionnaire for Children**, *Medicine & Science in Sport & Exercise*, Vol.37, No.8, pp. 488-495.

World Health Organization (WHO): *Global Health Observatory (GHO) data: Prevalence of insufficient physical activity* [pristup 20. veljače 2017.]. Available on [http://www.who.int/gho/ncd/risk\\_factors/physical\\_activity\\_text/en/index.html](http://www.who.int/gho/ncd/risk_factors/physical_activity_text/en/index.html)

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**YOUNG PEOPLE AS HUMAN CAPITAL – WHAT TYPE OF  
INFORMATION LITERACY EDUCATION IS REQUIRED?**

**MLADI KAO LJUDSKI KAPITAL – KAKVE EDUKACIJE O  
INFORMACIJSKOJ PISMENOSTI SU POTREBNE?**

**ABSTRACT**

*In the era of global information and communication connectivity and the development of information and communication technology (ICT), leaving out young people from the education and application of ICT can be considered as a form of social exclusion that may determine their labor market status. In other words, one of the fundamental competencies of a contemporary individual is his or her information literacy (IL). It affects quality and flexibility of labor capital, contributing to the better-informed citizenry, their more active participation in society and more successful job-seeking. IL is the umbrella term for all other types of literacy (e.g., computer, the Internet, media) and it includes various forms of information, such as oral, printed and digital. The present paper is structured as follows. The first part outlines the Association of College and Research Libraries IL Standard with the list of indicators and learning outcomes that enable assessment and evaluation. Particular attention will be given to the first two sections of the Standard: identifying the information need and information seeking and retrieval. The second part deals with IL of young people in Croatia. Following a thorough literature review, the paper discusses the types of IL education offered to young people in Croatia as a part of a broader preparatory process for their prospective jobs and labor market. The methodology used in the study included searching web pages of various subjects, such as libraries (e.g., public, academic), the Croatian Employment Service, different associations and other institutions that might organize IL workshops or provide instruction for searching and retrieving the information needed. The final part of the paper outlines recommendations on the inclusion of IL education in the Croatian primary, secondary and tertiary education, with the focus on the first two sections of the Standard.*

**Key words:** *information literacy (IL), information and communication technology (ICT), young people, labor market, IL education.*

## SAŽETAK

*U vrijeme globalnog informacijsko-komunikacijskog povezivanja i razvijanja informacijsko komunikacijske tehnologije (ICT) neuključenost mladih u učenje i primjenu istih može se smatrati oblikom socijalne isključenosti koja određuje položaj i snalaženje mladih na tržištu rada. Drugim riječima, osnovna kompetencija suvremenog čovjeka je njegova informacijska pismenost koja utječe na kvalitetu i fleksibilnost radne snage te dodatno doprinosi njegovoj boljoj informiranosti, aktivnijem uključivanju u društvo te učinkovitijem traženju posla. Informacijsku pismenost stoga možemo nazvati krovnom pismenošću koja uključuje ostale tipove pismenosti (informatičke, internetske, medijske i slično) jer zahvaća različite pojavnosti informacija - od oralnih informacija, izvora tiskanih na papiru pa sve do digitalnih informacija.*

*U radu će se prvo predstaviti koncept informacijske pismenosti te prikazati standard Američkog udruženja visokoškolskih knjižnica koji navodi pokazatelje uspješnosti i ishode učenja koji omogućuju testiranje i vrednovanje. Posebna pažnja bit će posvećena prvim dvjema točkama standarda: definiranju informacijske potrebe te postupku traženja i pronalaženja informacija. Osim analize literature o mjerama za poboljšanje informacijske pismenosti mladih u Hrvatskoj, cilj ovoga rada je analizirati koje i kakve vrste edukacija o informacijskoj pismenosti se nude u Hrvatskoj kao priprema mladih ljudi za budući posao i tržište rada. Metoda koja će se koristiti je pregledavanje web mjesta knjižnica, zavoda za zapošljavanje, udruga i slično te općenito pretraga interneta u potrazi za mogućim ponuđenim radionicama informacijske pismenosti i/ili uputama kako tražiti i pronalaziti informacije. Na kraju rada dati će se smjernice i upute o uključivanju programa edukacije o informacijskoj pismenosti u redovitu nastavu u osnovnim i srednjim školama te fakultetima s posebnim naglaskom na navedene prve dvije točke standarda.*

**Ključne riječi:** *informacijska pismenost, informacijsko komunikacijska tehnologija, mladi, tržište rada, edukacije o informacijskoj pismenosti.*

### 1. Young people as human capital and use of ICT

Investment in human capital has recently been discussed as one of the major factors contributing to the development of modern knowledge-based economies (Šošić, 2003, 439). Creating a positive climate for investment in human capital has been increasingly recognized as an important aspect of labor markets in developed countries.

Investing in human capital facilitates economic restructuring, while decreasing poverty, unemployment and social exclusion (Šošić, 2003, 439). The global financial crisis in 2008 caused turmoil in labor markets, resulting in increased unemployment rates in most European countries, including Croatia (Obadić, 2010, 4).

Unemployment is a common problem. Youth unemployment is especially worrying as young people represent the significant human capital of economy and society in general. According to the European Commission statistics for 2016, above 4.2 million young people (aged between 15-24) were unemployed (Youth employment). The reports of the Croatian Employment Service showed that in 2015, out of 285, 906 unemployed persons, 84, 725 or 29,6% were aged between 15-29 (Hrvatski, 2016, 16).<sup>1</sup> These young people represent an enormous source of human potential for entire society.

Also, the new theory of intellectual capital has been gaining importance. The fundamental postulate of the theory is that the value of tangible assets (land, buildings, equipment, and

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<sup>1</sup>14, 814 (5, 2%) young people were aged between 15-19; 34, 910 (12, 2%) between 20-24, and 35, 001 (12, 2%) between 24-29.

money) of the leading world's companies today is lower compared to intangible assets. No longer is the access to capital important, but the access to information. In other words, the actual value lies in the intellectual asset that lacks physical traits (Kolaković, 2003, 926).

Two types of human capital can be found in literature, viz. the "specific" and "general." While the former relates to knowledge and skills useful only to a limited group of people, the latter, e.g. literacy, is useful to everyone. Literacy, which is often viewed as the key indicator of human capital, refers to the level of reading and writing skills, enabling an individual to communicate and function in society (Potočnik, 2007, 105). However, in the era of the Internet, which is the most frequently used information communication technology today, the term *literacy* primarily refers to information literacy.

All relevant social subjects seem to be aware of the role information communication technology has in searching and retrieving the needed information and in knowledge transfer. Moreover, this has been supported by empirical research which shows that knowledge, economy, and ICT complement one another (Thurk and Fine, 2003, 108). Market competitiveness of the young largely depends on their information literacy competency. This competency, in turn, hinges on the willingness of society and education system to allow young people to develop their IL competencies and adapt to new trends. It is indisputable that new ICT is rapidly reshaping our society, altering the ways we learn, work and participate in a community. Not only does this technology support the development of core competencies but it also facilitates lifelong learning as well as the development of more complex skills.

In 2013, the Council of the European Union decided to take a more direct approach to combating unemployment, in particular by adopting the Youth Guarantee delivered by the European Commission. The main aim of the Youth Guarantee is the investment in human capital of the young Europeans to establish a long-lasting, sustainable, and inclusive economic growth. The European strategic documents, such as the Lisbon strategy, accentuate the need to promote education and training in the ICT field, with the aim of creating a more competitive knowledge-based economy (Youth Guarantee).

The Croatian Employment Service introduced the Youth Guarantee on 1 July 2013. The initial package of the active measures was supplemented with the additional 11 measures, which primarily targeted the youth under 29. These measures were assumed to be better suited to the real needs of the Croatian labor market. One of the measures relevant to the present study is the education of the unemployed, in particular, development of youth literacy programs (Bilić and Jukić, 2014, 498).

In 2014, the Croatian Government released a document entitled the Strategy of Education, Science and Technology aimed to address contemporary challenges (Strategija, 2014). The Strategy announced the implementation of ICT in education, which had already been initiated by the National Educational Curriculum for preschool education and general compulsory and secondary education in 2011. The third proposition of the document states that the young people will be able to use ICT effectively and efficiently in order to seek, collect, store, retrieve, analyse, and organise data; analyze and synthesize the structured information; explore, model, and simulate different processes and phenomena in the nature and society; solve problems in various situations; create and demonstrate personal ideas and materials; engage in efficient and independent learning by using computer as a medium for communication and cooperation with others (Fuchs, Vican and Milanović Litre, 2011).

It can be argued that the core competency of a young person today is his or her information literacy which relates to the independent use of ICT. The latter directly impacts quality and flexibility of labor force and contributes to the more informed citizenry, their more active role in society and more efficient job seeking. The present paper deals with the third component of the National Curriculum which relates to the effective use of ICT in searching and retrieving

information. Furthermore, by focusing on the measure "Education of the unemployed: Programs on youth literacy," the present study aims to explore which education programs on youth information literacy are available in Croatia.

### **1.1. Information literacy and IL standard**

Information literacy can be regarded as an umbrella term which encompasses a range of literacies (e.g. information, the Internet, media), each relating to different types of information, such as oral, printed, and digital (Bawden, 2001, 223-224). The definition also includes a competency list according to which an information literate person is aware of his or her information need, can recognize the information to solve a problem, as well as locate, evaluate, organize, and apply effectively the information needed (ALA, 1989). In addition, the Alexandria Proclamation, co-developed by UNESCO (United Nations Educational, Scientific and Cultural Organization), IFLA (International Federation of Library Federations) and NFIL (National Forum on Information Literacy) states that information literacy has a pivotal role in individual's life, in particular in achieving his or her personal, social, professional, and educational goals. Information literacy is considered to be one of the central components of effective lifelong learning and active participation in a knowledge society (Lau, 2006, 20). In the era where information is readily available, information literacy competencies are needed by everyone, especially young people who need to learn how to deal with information overload, and how to use information for their benefit and the benefit of the whole society (Baier Jakovac and Hebrang Grgić, 2015, 29). Based on the given definitions, it was possible to set up the standards which determine the indicators and outcomes of information literacy and enable its integration into the curriculum.

The most prominent information literacy standard is the one issued by the American Association of College and Research Libraries (ACRL), which aims to infuse information literacy in the context of higher education. The ACRL Standard outlines the performance indicators and outcomes which enable assessment and evaluation. In particular, it consists of 5 basic standards, 22 indicators and 86 learning outcomes in total (ACRL, 2000, 1-18).

In the remainder of the paper, particular attention is given to the first two sections of the Standard, viz. identification of information need and information-seeking and retrieval process. These two processes are crucial as they allow adequate evaluation, use, and organization of the information needed.

### **1.2. Identification of information need and information-seeking and retrieval process**

Though young people nowadays are believed to possess outstanding skills in the use of new technologies, research on the information and media habits, interactions, and ways of information processing show that these interactions are horizontal and superficial (Lasić- Lazić, Špiranec and Banek, 2012, 139). Besides, the latter are oriented towards the quantity of the data instead of their qualitative interpretation and critical thinking, which is required for deep and meaningful learning. These claims have been supported by the findings of numerous studies conducted in Croatia (Lasić- Lazić, Špiranec and Banek, 2012; Petr Balog and Furi, 2016.; Baier Jakovac and Hebrang Grgić, 2015).

Searching and retrieving information for the purpose of being informed can be relatively superficial and short-term, less precise or critical, and often without the explicit criteria for evaluating the information retrieved. This assumption may be related to a tendency of young people to fail at their first attempt. If an individual is not able to precisely identify the

information need<sup>2</sup> and is not familiar with the search system or its techniques and strategies (e.g. Google search engine as the most frequently used system), the amount of relevant retrieved results may be limited and less precise.<sup>3</sup>

Therefore, it is useful to examine the standards which define the characteristics of an information literate individual, along with the features, attributes, processes, knowledge, competencies, attitudes or beliefs that an individual needs to adopt. According to the ACRL Standard, the information literate person knows how to determine the nature and extent of the information needed and articulates the need for information. Also, the information literate student identifies a variety of types and formats of potential sources for information and considers the costs and benefits of acquiring the needed information (ACRL, 2000, 1-18)

All of these performance indicators are realized by the set of outcomes for each standard. As a way of illustration, some of the outcomes for the first standard include the following: The information literate student identifies key concepts and terms that describe the information need, recognizes that knowledge can be organized into disciplines that influence the way information is accessed and considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context.

Considering the information-seeking and retrieval process, the information literate individual selects the most appropriate investigative methods or information retrieval systems for accessing the needed information, constructs and implements effectively-designed search strategies, retrieves information online or in person using a variety of methods; refines the search strategy if necessary and extracts, records, and manages the information and its sources. Some of the most interesting outcomes listed for the indicators include the following: The information literate individual identifies keywords, synonyms and related terms for the information needed; selects controlled vocabulary specific to the discipline or information retrieval source; constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books); identifies gaps in the information retrieved and determines if the search strategy should be revised and repeats the search using the revised strategy as necessary; differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources (ACRL, 2000, 8-11).

The standards do not normally have a normative character; instead, they should be regarded as recommendations and guidelines which may underlie various education programs, such as workshops on youth information literacy.

The remainder of the paper outlines the research findings on the types of information literacy programs currently available in Croatia. As noted above, these programs may be regarded as a part of a broader preparatory process for young people's prospective jobs and labor market.

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<sup>2</sup> According to Saračević, information need can be analyzed at two levels. At an individual level, it refers to individual's cognitive state which prompts him or her to seek information, while at a broader, social level, it denotes a particular group's need for information. Concerning the former, it is assumed that individuals ask questions and seek information because they realize that their knowledge is inadequate to solve a particular problem. Such information need is an individual's subjective state. On the other hand, at a social level, it is assumed that a certain group with common features and goals shares the same information need that can be met by accessing specific sources of information. In that respect, the social information need is considered to be more objective as it is established within a particular social group, resulting from a consensus and common experience (Saračević, 2009, 9-21).

<sup>3</sup> Precision is the number of the relevant retrieval results out of the total number of results retrieved. Precision relates to the possibility of avoiding useless retrieval results (Lancaster, 1998, 3-4).

## 2. Research

### 2.1. Research goal, methodology and limitations

The goal of the present research was to explore what types of information literacy education are available in Croatia. This education may be regarded as a part of a broader educational process preparing young people for their prospective careers and the labor market in general. It should be noted that the education provided by academic libraries was excluded from the analysis. A review of the literature,<sup>4</sup> including the Internet, showed that most academic library websites contain information on workshops and/or instruction programs that offer guidance to students on how to search library catalogs and databases. This seems logical given that students are expected to use their academic library catalogs and databases in doing their regular academic assignments. Therefore, our aim was to include not only the workshops within the tertiary education setting but also the workshops available to young people in Croatia in general.

The research methodology included the Internet search, and it aimed to locate the available workshops and/or instruction programs on information literacy, dealing mainly with seeking and accessing the information needed.

It should be noted that the focus was placed on searching workshops and/or instruction programs whose scope was related to the first two sections of the ACRL Standard. In other words, we searched the workshops and/or instruction programs that teach young people how to identify the information need and how to search and retrieve the information efficiently.<sup>5</sup>

Further potential limitations relate to the fact that not all possible search strategies were implemented in research. Consequently, not all available information on information literacy workshops was retrieved. Since the research goal was to retrieve all available information on the searched topic, the search strategies used in the study aimed to increase recall and decrease precision. This entailed using all possible forms of a single term. As a way of illustration, for the term "information literacy", we used its singular form, the plural form, abbreviations, narrower terms (e.g. "IT literacy", "digital literacy", "media literacy"), broader terms, as well as the synonyms (e.g. "information behavior"). We also used all available techniques provided by Google search engine, such as Boolean operators, quotation marks for phrases, advanced search, etc.

### 2.2. Research results

First, it is important to present a few ongoing projects in Croatia which aim to improve and advance information literacy. The first project conducted by the Ministry of Science and Education started in 2016 under the title "Literacy Development - Foundation for Lifelong Learning." The project aims at developing key competencies for lifelong learning by increasing information literacy in primary and secondary school students. By implementing different activities, such as development and implementation of new curricula for information literacy, projects, and project-based learning, equipment of school libraries, professional development of education practitioners and intensive work with students, developmental potential of schools is expected to increase. The project proposals can be submitted by local and regional self-government units, while schools may apply for funds in the range of 500, 000 – 1,5 million kn. (Unapređenje pismenosti, 2016).

Next is the co-project of the Croatian Academic and Research Network – CARNet and the Ministry of Science and Education. It started in 2015 under the title "e-Schools: Establishing a System for Developing Digitally Mature Schools." By focusing on the development of digital

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<sup>4</sup>Petr Balog, Zetović and Plašćak, 2014, 2015-2030.

<sup>5</sup>Thus, the workshops on e.g. evaluation of information were excluded from the analysis.



competence, the project aims to better prepare students in pursuing their education and assist them in becoming more competitive for labor market (e-Škole, 2015).

The final project outlined here was initiated by the Agency for Electronic Media in 2015 with the aim of facilitating media literacy. 11 institutions were granted financial means for organizing different workshops, seminars, lectures, etc., with the goal of furthering media literacy (Agencija, 2015).

In 2013, the Croatian Employment Service held the workshops entitled "Information Literacy" and "Doors Open Days - I want to learn," marking the Lifelong Learning Week. The workshops were organized in partnership with Centre for Career Information and Guidance and Agency for Vocational Education and Training and Adult Education. One of the goals of the workshops was to teach participants basic computer and Internet skills and encourage them to use these in job seeking. Likewise, the Croatian Employment Service held the workshop entitled "Information literacy-key to employability" at 6th Job Fair in Varaždin County (Hrvatski, 2013)

In addition to the projects outlined thus far, 43 additional workshops and programs were retrieved including: the workshops organized by city and school libraries (15), various non-governmental nonprofit associations and organizations (8), civic organizations (2), centres for professional development, education and culture (7), communities (4), portals and platforms for education (2), and other (5). Furthermore, online handbooks for searching the Internet (4), as well as various searching guidelines on web portals, were retrieved (6).

### **3. Conclusion**

Like other countries, Croatia is struggling with unemployment. Youth unemployment rates are especially worrying as young people represent a significant portion of our economy and society. Young people constitute a group of citizens whose integration in society is always marked by particular problems to which both them and society respond differently. Long-term social changes are significantly affected by globalization along with rapid development of information and communication technology, economic changes and increased immigration of the youth. At the same time, young people make up the segment of the population which represents a necessary source for development and survival of society. Market competition of young people largely depends on their information literacy competencies, which in turn depend on the willingness of a society and education system to foster their development and adjustment to new trends.

The Croatian education system consists of two main layers, viz. formal (ie. primary, secondary and tertiary education) and lifelong education. The latter entails not only gaining information and knowledge but also formulating opinions, critical thinking, and interpretation. Engaged in that kind of learning, information users take an active role in information-seeking, which prompts them to explore, reflect on and evaluate information independently.

In today's society, the main responsibility for the development of information literacy lies with the library, given that its core mission is to inform, educate, and develop students' competencies and prepare them for independent learning. Thus, it can be concluded that teaching information literacy should be initiated as early as primary and secondary schools, with a focus on teaching young people to seek, retrieve, understand, and use information. Primary and secondary school students should be made aware of the importance of information in today's society as well as of the ethical and critical use of information. Hence, information literacy development depends on the collaboration between all relevant social subjects, including state administration, schools, libraries and teachers, employment services, centers for professional development and training and academic community.

The present findings show that most education programs and workshops on information literacy in Croatia are organized by the subjects listed. However, the results are relatively disappointing given that information literacy is one of the most important competencies of young people in today's society. Croatia belongs to a group of countries in which implementation of information literacy in education and society, in general, is progressing slowly. This situation is undoubtedly influenced by a stage of information literacy the society itself has reached but also by the still prevailing traditional models of education and librarianship. Therefore, to achieve contemporary learning objectives, it is important to base education on modern educational standards, in particular, information literacy. To this end, information literacy needs to be incorporated into the curricula and facilitated through teacher-librarian collaboration, starting as early as primary and secondary education.

## REFERENCES

ACRL (2000): *Information Literacy Competency Standards for Higher Education* <http://www.ala.org/acrl/sites/ala.org.acrl/files/content/standards/standards.pdf> (accessed 19 March 2017)

*Agencija za elektroničke medije – Medijska pismenost* <http://www.e-mediji.hr/hr/gradjani/medijska-pismenost/> (accessed 26 March 2017)

*Aktivnosti Hrvatskog zavoda za zapošljavanje u obilježavanju tjedna cjeloživotnog obrazovanja*, [http://www.hzz.hr/UserDocsImages/TCU\\_%20aktivnosti\\_2013.pdf](http://www.hzz.hr/UserDocsImages/TCU_%20aktivnosti_2013.pdf) (accessed 16 March 2017)

ALA (1989): *Presidential Committee on Information Literacy: Final Report* <http://www.ala.org/acrl/publications/whitepapers/presidential> (accessed 23 March 2017)

Baier Jakovac, A. and Hebrang Grgić, I. (2015): Informacijska (ne)pismenost: istraživanje mladih korisnika knjižnica u Vukovaru, *Knjižničarstvo* Vol. 19, No.1-2, pp. 27-46 [http://www.knjiznicarstvo.com.hr/wp-content/uploads/2016/02/247\\_Baier-Jakovac\\_Hebrang-Grgic\\_2015\\_1-2.pdf](http://www.knjiznicarstvo.com.hr/wp-content/uploads/2016/02/247_Baier-Jakovac_Hebrang-Grgic_2015_1-2.pdf) (accessed 19 March 2017)

Bawden, D. (2001): *Information and digital literacies: a review of concepts*, *Journal of Documentation*, Vol. 57, No. 2, pp. 218-259

Bilić, N. and Jukić, M. (2014): Nezaposlenost mladih – ekonomski, politički i socijalni problem s dalekosežnim posljedicama na cjelokupno društvo, *Pravni vjesnik : časopis za pravne i društvene znanosti Pravnog fakulteta Sveučilišta J.J. Strossmayera u Osijeku*, Vol.30, No.2, pp. 485-505

*e-Škole*, <https://www.e-skole.hr/hr/e-skole/opis-projekta/> (accessed 26 March 2017)

Fuchs, R., Vican, D. and Milanović Litre, I. ed. (2011): *Nacionalni okvirni kurikulum za predškolski odgoj i obrazovanje te opće obvezno i srednjoškolsko obrazovanje*, Ministarstvo znanosti, obrazovanja i športa, Zagreb, ppt. 1-291 [http://mzos.hr/datoteke/Nacionalni\\_okvirni\\_kurikulum.pdf](http://mzos.hr/datoteke/Nacionalni_okvirni_kurikulum.pdf) (accessed 23 March 2017)

Furi, I and Petr Balog, K. (2016): *Information seeking behaviour in the digital environment: information science vs. non-information science students*, *Knjižnica*, Vol. 60, No. 1, pp. 61-82

Hrvatski zavod za zapošljavanje (2016), *Godišnjak 2015*, Zagreb, [http://www.hzz.hr/UserDocsImages/HZZ\\_GODISNJAK\\_2015.pdf](http://www.hzz.hr/UserDocsImages/HZZ_GODISNJAK_2015.pdf) (accessed 18 March 2017)

Kolaković, M. (2003): *Teorija intelektualnog kapitala*, Ekonomski pregled, Vol. 54, No.11-12, pp. 925-944.

Lancaster, F.W. (1998): *Indexing and abstracting in theory and practice*, University of Illinois, Compaing Illions

Lasić- Lazić, J., Špiranec, S. and Banek, M. (2012). *Izgubljeni u novim obrazovnim okruženjima – pronađeni u informacijskom opismenjivanju*, Medijska istraživanja : znanstveno-stručni časopis za novinarstvo i medije, Vol.18 No.1, pp. 125-142 [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=127116](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=127116) (accessed 3 March 2017)

Lau, J. (2011). *Smjernice za informacijsku pismenost u cjeloživotnom učenju : završna verzija, recenzirano 30. srpnja 2006*, Hrvatsko knjižničarsko društvo, Zagreb

Obadić, A. (2010): *Utjecaj financijske krize na globalno tržište rada*, in: 90. godina Ekonomskog fakulteta u Zagrebu, prosinac 2010, pp. 1-16

Potočnik, D. (2007): *Mladi i nove tehnologije*, u: Ilišin, V., Radin, F., ed.: *Mladi: problem ili resurs?* Institut za društvena istraživanja, Zagreb, pp. 105-135.

Saračević, T. (2009): *Information science*, in: M. J. Bates and M. Niles Maack, ed. (2009): *Encyclopedia of Library and Information Science*, Taylor & Francis, New York, pp. 2570-2586. <http://comminfo.rutgers.edu/~tefko/SaracevicInformationScienceELIS2009.pdf> (accessed 26 March 2017)

*Strategija obrazovanja, znanosti i tehnologije*, [http://narodne-novine.nn.hr/clanci/sluzbeni/2014\\_10\\_124\\_2364.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2014_10_124_2364.html) (accessed 21 March 2017)

Šošić, V. (2003): *Premija za obrazovanje i ulaganja u ljudski kapital u Hrvatskoj*, Financijska teorija i praksa, Vol. 27, No.4, pp. 439-455

Thurk, J. and Fine, G. A. (2003): *The problem of tools: Technology and the sharing of knowledge*, Acta Sociologica Vo. 46, No. 2, pp. 107-117.

*Unaprjeđenje pismenosti – temelj cjeloživotnog učenja*, <http://www.esf.hr/natjecaji/obrazovanje/unaprjeđenje-pismenosti-temelj-cjelozivotnog-ucenja/> (accessed 26 March 2017)

*Youth employment*, <http://ec.europa.eu/social/main.jsp?catId=1036> (accessed 20 March 2017)

*Youth Guarantee*, <http://ec.europa.eu/social/main.jsp?catId=1079&langId=en.%2016.%20svibnja%202014> (accessed 21 March 2017)

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## **REGIONAL COMPETITIVE ADVANTAGE AND LONG TERM PEDAGOGICAL ASPECTS OF THE ENTREPRENEURIAL EDUCATION**

### **KONKURENTSKA PREDNOST REGIJE I DUGOROČNO ULAGANJE U PODUZETNIČKU EDUKACIJU**

#### **ABSTRACT**

*This paper tries to present the results of a survey on pedagogical aspects of entrepreneurial learning as a part of the comprehensive survey conducted in eight pan-European countries.*

*The strategic goals of the conducted survey on the needs of interaction among the entrepreneurial learning national experts on entrepreneurial learning are pointing out that entrepreneurial competitiveness should be improved in the European macro regional framework. The entrepreneurial learning is one of the priorities of EU 2020 development agenda defined through a number of programmatic and action plan documents.*

*The summary of survey's results confirmed the interest of all included countries in stronger cooperation in the area of entrepreneurial learning in order to improve their Entrepreneurial Learning Policy framework with a vision of the long-term enhancement of the socio-economic competitiveness of each of these countries, as well the European macro region as a whole.*

*This goal would be reached if all European regions, included Croatia, sustainably develop their entrepreneurial competitive advantages.*

**Key words:** *entrepreneurial learning, entrepreneurial competitiveness, European macro region.*

#### **SAŽETAK**

*Ovim se radom žele predstaviti rezultati o pedagoškim aspektima poduzetničkog učenja kao dio cjelovito provedenog istraživanja u osam pan-europskih zemalja.*

*Strateški ciljevi iz provedenog istraživanja o potrebi interakcije nacionalnih ekspertnih timova za razvoj poduzetničkog učenja ukazuju na nužnost podizanja razine poduzetničke kompetitivnosti na razini svih uključenih zemalja.*

*Poduzetničko učenje jedan je od prioriteta razvoja Europske unije do 2020. godine definirano kroz višestruke dokumente i akcijske planove.*

*Analiza rezultata istraživanja pokazala je i potvrdila potrebu jačanja razmjene znanja i stručne prakse u poduzetničkom učenju što je doprinos društvenom i gospodarskom razvoju za podizanje razine poduzetničke konkurentnosti u europskim makro regionalnim okvirima.*

*Ovaj je cilj moguće ostariti u svakoj i u svim europskim regijama, uključivo s Hrvatskom, ukoliko se u svakoj regiji sustavno podržava razvoj konkurentne prednosti.*

**Ključne riječi:** *poduzetničko učenje, poduzetnička konkurentnost, europske makro regije.*

## 1. Introduction

A strategic European document<sup>1</sup> underlines entrepreneurship as the main driver of innovation, competitiveness and growth at European level. Due to the strong presence in key sectors such as knowledge-based services and activities, small and medium-sized enterprises play a central role today in the national, regional and European Union economies. The Small Business Sector is also a base for development in the Southeast Europe region where it gives the largest contribution to job creation and economic development, providing space for the expansion of services, construction and transport sectors, which also promote the economic growth of the region.

This paper recognizes the importance of further developing the Entrepreneurial Learning Improvement Process in the European macro-regional context in which each European region develops its entrepreneurial competitiveness.

Entrepreneurial learning<sup>2</sup> is defined as the process of acquiring entrepreneurial knowledge and skills at all levels of formal and informal education in order to strengthen entrepreneurship and entrepreneurial spirit and competitiveness of countries.

For further development of entrepreneurial learning are important exchange and transfer of new knowledge and best practices among the countries of Southeast Europe pre-accession region and the EU Member States, as defined in the key European Union Business Learning Strategy document<sup>3</sup>, the European Educational and Training Co-operation Framework by 2020.

Competitive advantage depends on long-term investment in entrepreneurial education and in this paper will be explored the ways of entrepreneurial learning according to the pedagogical nature (knowledge, competencies) and according to the stages of the life cycle of entrepreneurial venture. Some scientific researches in the world have confirmed the fact that education and training, that is entrepreneurial learning, are key factors for successful business operations.

It is most certain<sup>4</sup> that a radical turnaround in entrepreneurial education is needed, which involves "creative destruction and new ways of knowledge and teaching organization". Such a move would paradoxically be Schumpeter's last temptation for entrepreneurship to become the central object of learning.

### Goal of the work - hypothesis of research

The goal of this paper is to contribute to the improvement and systematic exchange of knowledge and experience in entrepreneurial learning development policies in the pan-European network of eight European countries. The specific goal is to examine which forms of entrepreneurship by the pedagogical nature (knowledge, competencies) and the stages of lifecycles of entrepreneurial activity contribute most to the successful and competitive business of the enterprise.

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<sup>1</sup> European strategic development plan 2020, <http://www.euractiv.com/en/priorities/eu-new-2020-strategy-comes-fire/article-187582>, 4 April 2011.

<sup>2</sup> Gibben, A.: Entrepreneurship Learning: Challenges and Opportunities, European Training Foundation, Torino, 2006, p. 5.

<sup>3</sup> European Strategic Development Plan 2020.

<sup>4</sup> Gibb, A: **In pursuit of a new „enterprise“ and „entrepreneurship“ paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge**, International Journal on Management Reviews, Vol. 4, No. 3, September 2002, p. 233-269

The hypothesis that it is possible to improve entrepreneurial learning by creation of a central platform of cooperation has been set up. For the purpose of this hypothesis approval the methods of the questionnaire and in-depth interview were used.

### **Scientific and social justification of research**

The research will be carried out as applied scientific research with the aim of gaining new scientific knowledge and increasing knowledge that can be quickly practically and directly applied. The research investigated the perception of national experts on the need to strengthen cooperation in the area of entrepreneurship learning in pan-European networks that are jointly implemented by the EU Policy on EE.

### **Social Justification of Research**

The social justification of the research will be reflected in the social benefits and beneficiaries, as well as possibilities and methods of using scientific research results in practice, both in the Republic of Croatia and in the European macro regional space.

The results obtained will be used to identify and direct the necessary activities to improve the entrepreneurial learning process.

Therefore, users of research results may be state institutions, social organizations, the public, business system management, entrepreneurial learning experts, and even entrepreneurs in the small businesses.

## **2. On entrepreneurial learning generally**

European Parliament<sup>5</sup> and European Council<sup>6</sup>, in their recommendations for entrepreneurship development, state the definition and principles of this key competence of lifelong learning. In this respect, entrepreneurship represents the ability of an individual to turn ideas into acts. It implies creativity, innovation, ability to take reasonable risks, and the ability to plan, organize, and run projects to achieve certain goals. Entrepreneurship runs through everyday family life. It also encourages awareness of the integrity of work in employees and develops their ability to take advantage of the opportunity.

### **The concept of Entrepreneurial Learning**

In this paper entrepreneurial learning is defined as the process of acquiring entrepreneurial knowledge and skills at all levels of formal and informal education in order to strengthen entrepreneurship and Entrepreneurial spirit of this activity, regardless of the primary commercial benefit.<sup>7</sup>

### **Entrepreneurial Learning in the Republic of Croatia**

The National Curriculum Framework (abbreviated NOK) is the basic document for pre-school, elementary and secondary education and is probably the most anticipated and most needed document for the educational system in the Republic of Croatia since its independence.

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<sup>5</sup> Strategy on Entrepreneurship Education 2010-2014., Government of the Republic of Croatia [http://www.e4e.com.hr/pdf/60\\_sjednica\\_vlade\\_rh\\_1.1\\_strategija.pdf](http://www.e4e.com.hr/pdf/60_sjednica_vlade_rh_1.1_strategija.pdf)

<sup>6</sup> Idem, str. 14.

<sup>7</sup> Gribben, A.: **Entrepreneurship Learning: Challenges and Opportunities**, European Training Foundation, Torino, 2006.

Entrepreneurial learning is emphasized as one of NOK's core competencies. Basically, entrepreneurial competence development, as a cross-cutting subject that develops in all subjects, is the development of an entrepreneurial person trained to identify opportunities to transform their ideas into activities or ventures in different situations: education, work and life in general. This is a framework in which the process of forming a business community should be further developed.

### 3. Survey's result presentation

A survey comprised questions in order to evaluate the interest of an individual country for mutual improvement of cooperation in the macro regional framework on the implementation of entrepreneurial learning policies with a vision of long-term strengthening of the socio-economic competitiveness.

The offered answers: employability, increased number of start-ups, increased number of innovative products and services, more women entrepreneurs, and total increase of income in the economy, are at the same time indicators of the economic competitiveness. Since the ranking of their importance is uniform, (from 3.88 to 4,63 according to Likert), it may be concluded that just the areas described by indicators contribute the most to long-term strengthening of the economic competitiveness.

**Graph 1** Level of formal education that contributes mostly to entrepreneurial learning improvement



*Source: Karajić, D.: Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p58*

It may be concluded that a significant contribution to the entrepreneurial learning improvement would have the level of high school education, 4.88 according to the Likert's scale. Follows the secondary school education with a high evaluation of 4.63 and elementary school education with 3.63.

The result is directly correlated to one of the set objectives of the research that the entrepreneurship is considered as key competence in all forms of education. Pursuant to the results of research it is related to the introduction of entrepreneurship as key competence in curricula of formal elementary school, secondary school and high school education.

The third group of questions from the Questionnaire related to forms of entrepreneurial learning that contribute the most to the economic competitiveness strengthening.



**Graph 2** Forms of education that contribute mostly to the strengthening of economic competitiveness



Source: Karajić, D.: *Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p59*

Finally, it may be concluded that according to the forms of entrepreneurial learning formal education (4.88 according to Likert) and informal education (4.25 according to Likert) contribute the most.

**Table 1** Contribution to the entrepreneurial learning development as per pedagogic character

|    |   |      |
|----|---|------|
| a) | Ability to solve problem: managing in planning, organizing, decision making – managerial skills   | 4,38 |
| b) | Ability to cooperate in team work: cooperation, new roles acceptance, networking – social skills  | 4,13 |
| c) | Ability of motivation and self-motivation: self-confidence, critical opinion and independence - personality                                       | 4,50 |
| d) | Ability of initiative taking: proactive acting, creativity, readiness to accept risks and ability to implement new ideas – entrepreneurial skills | 4,88 |

Source: Karajić, D.: *Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p59*

To the entrepreneurial learning development, as per pedagogical character, strongly contribute entrepreneurial skills such as undertaking initiative, proactive operations, creativity, readiness to assume risks, and capability of new ideas implementation. These entrepreneurial skills have a strong impact, level 4.88 on the Likert's scale.

Characteristics of a person, such as motivation and self-motivation, self-confidence, critical opinion and independence, contribute to entrepreneurial learning development by the intensity of 4.50 according to Likert. Managerial skills in the domain of problems settlement, such as getting along with planning, organizing and decision-making, follow with the achieved level of 4.38. Not less important were evaluated (4.13 according to the Likert's scale) social skills including capability of cooperation in team work: cooperation, new roles accepting and networking.

Correlation of entrepreneurial learning and different phases of entrepreneurial enterprise life cycle was given by the answers to the last, 23<sup>rd</sup> question of the Questionnaire.

It is evaluated, according to the phases of the entrepreneurial enterprise life cycle that entrepreneurial learning contributes the most in case of entrepreneurial enterprise launching, evaluation 4.38 according to Likert. It is comparably necessary in the phases of strengthening, planning and growth. In the maturity phase the contribution of the entrepreneurial learning becomes weaker. Its ranking is shown in the Graph 4.

**Graph 3** Phases of entrepreneurial ventures' life that contribute mostly to entrepreneurial learning development



Source: Karajić, D.: *Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network*, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p60

If the results achieved by this research are compared with the results of researches of Gorman, Hanlon and King<sup>8</sup>, their congruousness is visible. The forms of formal education contribute the most to the development of companies in the phase before the business enterprise launching. Informal forms of education contribute to entrepreneurial competitiveness in considerable measure in the phase of planning and business enterprise growth. In the maturity phase education needs are reduced.

### Questionnaire results sum-up

Statistical indicators obtained by elaboration of the filled up Questionnaires were used while formulating research synthesis and defining future common cooperation in the Pan-European countries. Depth-interview with all the national coordinators of the EU Act for Small Enterprises from all eight countries was used as a supplement to the Questionnaire. Four most important objectives relevant for the entrepreneurial learning improvement aiming at long-term economic competitiveness strengthening were singled out:

- Improve entrepreneurial learning by creating a central platform of cooperation in order to facilitate cooperation among countries' stakeholders in European macro regional level.
- Interaction of national expert teams for entrepreneurial learning development may be efficiently realized on a joint web site enabling permanent dialogue among the members of the expert group for the purpose of knowledge and experience exchange.
- different forms of formal and informal education contribute mostly to the strengthening of economic competitiveness.
- Entrepreneurship as a key competence should be included in curricula at the level of high school, secondary school and elementary school formal education.

SWOT analysis of the needs to improve entrepreneurial learning will clearly be seen the advantages and disadvantages of the most important goals to be achieved by creating a central place of cooperation for the countries of South East Europe that represent the pan-European network.

<sup>8</sup> Gorman, G., Hanlon, D. & King, W.: Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten-year literature review, *International Small Business Journal*, April-June 1997 v15 n3 p56(22); [http://mgmt.iisc.ernet.in/~piyer/Entrepreneurship\\_Management/Some%20Research%20Perspectives%20On%20Entrepreneurship%20Education%201997%20v15%283%29%20p56.pdf](http://mgmt.iisc.ernet.in/~piyer/Entrepreneurship_Management/Some%20Research%20Perspectives%20On%20Entrepreneurship%20Education%201997%20v15%283%29%20p56.pdf)

**Table 2** SWOT analysis of the needs to improve entrepreneurial learning

| GOALS                                     | STRENGTHS  | WEAKNESSES  | OPPORTUNITIES  | THREATS   |
|---|--|---|--|---|
| <b>Improving entrepreneurial learning</b> | <ul style="list-style-type: none"> <li>▪ Better business performances</li> <li>▪ better managerial skills of entrepreneurs</li> <li>▪ better business organization</li> <li>▪ better decision-making</li> <li>▪ strengthening economic competitiveness</li> <li>▪ strengthening technological skills of enterprises</li> </ul> | <ul style="list-style-type: none"> <li>▪ lack of policy and implementation for entrepreneurial learning</li> <li>▪ domination of traditional education programmes</li> <li>▪ lack of managerial skills</li> <li>▪ lack of entrepreneurial spirit</li> <li>▪ lack of curricular materials</li> <li>▪ non-competitiveness of products and services</li> </ul> | <ul style="list-style-type: none"> <li>▪ entrepreneurship as key competence in curricula</li> <li>▪ entrepreneurship in curriculum</li> <li>▪ curricula for teachers' training</li> <li>▪ Systematic education for entrepreneurship in the function of lifelong learning (informal education)</li> <li>▪ new jobs creation</li> <li>▪ Higher share of young people educated in entrepreneurship</li> </ul> | <ul style="list-style-type: none"> <li>▪ lagging behind</li> <li>▪ economic stagnation</li> <li>▪ maintaining a high rate of unemployment</li> <li>▪ regionally uneven development</li> </ul> |

Source: Karajić, D.: Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p63

**Strategy of improvement of the Entrepreneurial learning by ranking the elements of Strength, Weakness, Opportunities and Threats**

**Table 3** SWOT analysis of the goals of improving entrepreneurial learning by ranking the following elements: strengths, weaknesses, opportunities and threats

| GOALS                                     | STRENGTHS   | WEAKNESSES  | Strategy S → W  | OPPORTUNITIES  | THREATS  | Strategy O → T  |
|---|---|---|---|--|--|---|
| <b>Improving entrepreneurial learning</b> | <p><b>S1</b><br/>Better business performances</p> <p><b>S2</b><br/>better managerial skills of entrepreneurs</p> <p><b>S3</b><br/>Better business organization</p> <p><b>S4</b><br/>Better decision-making</p> <p><b>S5</b><br/>Strengthening economic competitiveness</p> <p><b>S6</b><br/>Strengthening technological</p> | <p><b>W1</b><br/>Lack of policy and implementation for entrepreneurial learning</p> <p><b>W2</b><br/>Lack of national educational structure</p> <p><b>W3</b><br/>Domination of traditional curricula</p> <p><b>W4</b><br/>Lack of managerial skills</p> | <p><b>S1 → W4</b></p> <p><b>S1 → W5</b></p> <p><b>S2 → W2</b></p> <p><b>S3 → W4</b></p> <p><b>S4 → W4</b></p> <p><b>S5 → W5</b></p> <p><b>S6 → W4</b></p> | <p><b>O1</b><br/>Entrepreneurship as key competence in curricula</p> <p><b>O2</b><br/>Entrepreneurship in curriculum</p> <p><b>O3</b><br/>Curricula for teachers training</p> <p><b>O4</b><br/>Systematic education for entrepreneurship in the function of lifelong learning (informal education)</p> <p><b>O5</b><br/>New jobs creation</p> <p><b>O6</b><br/>Higher share of</p> | <p><b>T1</b><br/>Lagging behind</p> <p><b>T2</b><br/>economic stagnation</p> <p><b>T3</b><br/>maintaining high rate of unemployment</p> <p><b>T4</b><br/>Regionally uneven development</p> | <p><b>O1 → T2</b></p> <p><b>O2 → T1</b></p> <p><b>O3 → T1</b></p> <p><b>O4 → T2</b></p> <p><b>O4 → T1</b></p> <p><b>O5 → T4</b></p> <p><b>O6 → T1</b></p> |

| GOALS | STRENGTHS                | WEAKNESSES                           | Strategy S → W | OPPORTUNITIES                             | THREATS | Strategy O → T |
|-------|--------------------------|--------------------------------------|----------------|---|---------|----------------|
|       | abilities of enterprises | W5<br>Lack of entrepreneurial spirit |                | young people educated in entrepreneurship |         |                |

Source: Karajić, D.: *Research on interaction among national experts for the entrepreneurial learning development within Pan-European Network*, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011, p65

#### 4. Conclusion

The strength of entrepreneurial learning advancement is in better business performance, better management skills for entrepreneurs, more advanced business organization, more efficient decision-making, strengthening of economic competitiveness and strengthening of company's technological capabilities. Using these forces will overcome the weaknesses caused by either lack or poor implementation of entrepreneurial learning policy. Lack of national educational structure, dominance of traditional educational programs, lack of entrepreneurial knowledge and skills, lack of curricular materials, weaknesses that can be improved. It supports the forces of faster and more efficient implementation of measures and activities defined in entrepreneurial learning development policies.

It is desirable that Croatian Entrepreneurship Competitiveness Development Policies, in the context of belonging to the community of 28 European Union Member States, are keeping pace with strengthening overall co-operation through the joint implementation of macro-regional policies focused on entrepreneurial learning at the highest level concerning entrepreneurial competitiveness priorities.

#### REFERENCES

- Drucker, P. F.: *Management challenges for the 21st century*, HarperCollins, New York, 1999.
- Timmons, J.A.: *New Venture Creation – Entrepreneurship for the 21st Century*. 5th Edition. Irwin McGraw-Hill, Boston, 1999.
- Gibb, A.: *In pursuit of a new „enterprise“ and „entrepreneurship“ paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge*, International Journal on Management Reviews, Vol.4, No.3, str. 233-269
- Zelenika, R.: *Metodologija i tehnologija izrade znanstvenog i stručnog djela*, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 1998
- Karajić, D.: *Model of interaction between the national experts for the entrepreneurial learning development within Pan-European network*, Master's paper, Faculty of Organization and Informatics University of Zagreb, July 18, 2011
- European Commission: *Proposal for a recommendation of the European parliament and of the Council on key competences for life-long learning*. COM(2005)548, Final, Brussels, 10 November 2005.
- European Commission: Communication from the Commission to the Council and to the European Parliament: *Efficiency and equity in european education and training systems* COM(2006)481 final, Brussels, September 2006.
- European Commission: The Oslo Agenda, *Entrepreneurship education, fostering entrepreneurial mindsets through education and learning*, Brussels, March, 2007.

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## **THE EVOLUTION OF WORK ORGANIZATION AND ITS IMPLICATION FOR EDUCATIONAL POLICIES AND MANAGERIAL PRACTICES**

### **UTJECAJ EVOLUCIJE ORGANIZACIJE RADA NA OBRAZOVNE POLITIKE I MENADŽERSKU PRAKSU**

#### **ABSTRACT**

*Career development is seen as an important concept for understanding development on labor markets and organizational growth at firm level. The usual approach often addresses the problem of employability on policy level (governments' policy and regulation) or from the point of an individual's acquisition and preservation of skills demanded by prospective employers. In this paper, we turn to the role of employers in that process and suggest a five levels scale model to evaluate the complexity and strength of employer to employee relations regarding acquiring competencies and developing personal professional career paths. Our five-level scale model also serves as indicator of firm's level of interference with directing its personnel towards certain strategic direction and shaping their competences towards future occupational needs. We identify five levels in organization's HRM policies as follows: searching for observable physical and intellectual attributes of employees and selecting employees with a priori superb characteristics; looking for inborn predispositions that are easily upgraded with additional trainings; shaping suitable social context and developing employees into it; governing continuous improvement and social engineering through organizational culture and institutional rules; and finally, managing psychological contracts between individuals and organization.*

*We analyze survey data provided by professionals on their expectation concerning employees' skills and competencies and expected means of acquiring future skills needed to perform work activities and improve the organization. We find that firms differ in their engagement in shaping their employees' competences, depending on firm size and ownership form; however, there are no differences concerning the perceptions of skills expected from their employees.*

**Key words:** work organization, labor market, managerial education, employees skills and competencies.

#### **SAŽETAK**

*Razvoj karijere je važan koncept za razumijevanje razvoja tržišta rada i organizacijskog razvoja. Uobičajeni pristupi rješavanju problema zapošljavanja uključuju regulaciju na razini javnih politika (kroz vladine politike i regulacije) i individualno stjecanje i unaprjeđenje vještina koje zahtijevaju potencijalni poslodavci. U ovom radu skrećemo pažnju na ulogu poslodavaca u tom procesu predlažemo model s pet razina za procjenu složenosti i tipa odnosa poslodavca i*

*zaposlenika koji definira poslodavčev preferirani način oblikovanja kompetencija i utječe na način razvijanja osobne profesionalne karijere. Naš model također služi kao pokazatelj razine utjecaja poduzeća na usmjeravanje svojih djelatnika u određenom strateškom smjeru poduzeća i oblikovanju osobnih kompetencija prema budućim profesionalnim potrebama. Pet razina je identificirano na sljedeći način: selekcija temeljena na vidljivim tjelesnim i intelektualnim osobinama zaposlenika i odabir zaposlenika s apriori vrhunskim karakteristikama; odabir prema urođenim predispozicijama koje se nadograđuju dodatnom obukom; razvoj i oblikovanje zaposlenika kroz stvaranje odgovarajućeg društvenog konteksta; upravljanje kontinuiranim poboljšanjem i socijalni inženjering kroz oblikovanje organizacijske kulture i institucionalna pravila; i, konačno, upravljanje psihološkim ugovorima između pojedinaca i organizacija. Analizirana su očekivanja poslodavaca u vezi vještina i kompetencija zaposlenika te načini stjecanja vještina potrebnih za obavljanje unaprjeđenje radnih aktivnosti. Rezultati analize ukazuju da se poduzeća razlikuju u angažmanu u oblikovanju kompetencija svojih zaposlenika ovisno o veličini poduzeća i obliku vlasništva. Međutim, bez obzira na različita očekivanja vezana uz način stjecanja kompetencija, ne postoje statistički značajne razlike u vještinama koje očekuju od svojih zaposlenika.*

**Ključne riječi:** organizacija rada, tržište rada, obrazovanje menadžera, kompetencije djelatnika.

## 1. Introduction

Croatia is one of the European countries facing serious imbalances in its labor market. At a very high rate of 12.8 in 2016 and an unemployment rate between 16-17.3% in the 2012-2015 period, Croatia holds the third worst position in EU concerning the utilization of its labor potential (after Spain and Greece). Still, according to latest European Commission Unemployment Statistics Report (2017), Croatia registered the largest decreases in February 2017 compared to a year before. Another emerging problem is a deficiency of some, mostly vocational, workers for industries that have started along a path of accelerated growth, such as the hotel and hospitality industry, IT, metal processing and construction. This mismatch of available labor force and employers demand often raises the question of adequacy of the educational and vocational system in Croatia. Labor market imbalances coincide with very negative and long-term demographic trends. Discussions demanding active national demographic policy are actualized from time to time mostly during election times, only to be postponed until another election round. The concerns voiced include high immigration rates, with especially the young and better educated leaving the country and seeking jobs in a better performing economic environment in the western European countries. Such trends in circumstances of feeble economic performance demand an active policy effort in influencing development in labor markets, welfare and economic prospects in general (Herwartz, Niebuhr, 2011). It has been noted that labor market misbalances represent a worldwide phenomenon and that distinct and opposite directions development patterns for different occupations coincide in the same economic period, independently from economic cycles (growth or depression) (OECD, 2015; EPSC, 2016). By consulting recent documents produced as part of research efforts undertaken at European and world scale, it can be observed that the questions troubling Croatian researchers are not unique for our region. The European Commission is quite clear in establishing a rather broad framework in describing contemporary work. The developments in the broader social, economic and technological environments have led to a new conception/paradigm of work, with "work" being explicitly defined as an "umbrella concept". Such a definition implies a complexity of factors shaping different aspect of operationalization of work as a concept.<sup>1</sup>

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<sup>1</sup> An ILO research paper (Meda, 2016a) comes out with a significant statement that: "...employment is dying out; the nature of work is changing".

Depending on case specific situations, new ideas are needed to predict requirements in skills and competencies that working persons will need in the future. On one side, there a destabilization of employment positions due to process-based organizational arrangements and contracting out for an ever-broader range of services. Some of these temporary employments are occurring through employment agencies, but here is also a constantly growing number of self-employed. Consequently, changes are occurring in the way personal qualification will be defined and so are changes expected in the description of tasks being performed by a specific job position. Lack of available personnel trained accordingly to employers' expectations is becoming a common phenomenon. On a more theoretical level, as pointed by Dibiaggio (2007), the dilemma is whether some business processes have led to a situation where the division of labor does no longer correspond with the division of knowledge.

Another interesting observation we came upon concerns the implicit "allocation" of responsibility in maintain employability.<sup>2</sup> Mainly, the studies reviewed suggest that governments are responsible for building safety nets that will help workers transition among jobs and employers. The responsibility for employability is also personalized, as individuals are expected to invest more thought and resources towards maintaining their own "market" value for prospective employers. According to the EC study, governments should take a more active position since "...not all workers have the tools to be equally self-resilient" (EPSC, 2016). It appears that, so far, little has been researched about the role of employers, whether in public or private sector, in "maintain" or even "enhancing" the employability of the employees they are responsible for. As stated in the same study, "...as for workers, the burden of employment is shifted to her/his abilities to adapt and remain relevant, and to ensure adequate access to welfare..."

## 2. Starting premises

Studies on labor markets developments indifferent countries and geographic regions produced by several international organizations report three crucial observations:

1. A diversity of carrier trajectories is becoming an accepted fact. Variations should be observed in terms of expected salaries, advancement possibilities and durability of expected skills (something like a payback period for efforts invested into obtaining a skill or qualification),
2. Individuals and public authorities are the ones more likely to perceive the employability (career trajectory) problem and become actively engaged in handling it, resulting in our expectation (hypothesis) that
3. Employees' can contribute to alleviate the pressure on governments and individuals due to the fact that they control much of the employees' actions and time during periods of employment.

Such considerations led us to construct a scale of 5 levels of employee-employer relations. We are referring to the evolution of organization theory approaches when it comes to the attributes employers seek in employees and employers' (or the manager's) interaction with the employee:

- 1- *List of observable physical and intellectual attributes* (classical organization theory premise inclined to seek objectification and controllability of business, mainly production, processes);
- 2- Inborn predispositions incremented by learned skills (the nature-nurture extension of the classic idea that for each job description, a best fitting person should be found; basically the idea that we are partly self-made individuals);

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<sup>2</sup> Employability is often observed through skills and competencies. In fact, research on labor markets during the past decade has very much revolved around the concept of employability. Van der Heijde and van der Heijden (2006) relate employability to a possession of a combination of occupational skills and generic competences.



3- **Social context**(mid-20th century idea of work place psychological influences explaining variation in individual performance: influence of personality, attitudes, feelings and emotions);

4- **Continuous improvement and social engineering**(the 90-s,with a focus on organizational cultures and institutional rules governing labor relations made it preferable to maintain same/stable work force; here the focus is still on employers dominantly controlling the individual's career development);

5- **Psychological contracts between individual and organization** (individualization of skills/competencies and raising importance of personalized networks); professional career development becoming a dominant preoccupation of individuals, especially those in the position to "choose" placements and employers in creating a desirable CV.

First four phases can be traced through dominant issues drawing the attention of organization theory (and management theory) during the 20<sup>th</sup> century (Ruona and Gibson, 2004)<sup>3</sup>. We believe today we are, at least conceptually at fifth phase, which is increasingly becoming actuated in the 21st century. One of the terms we find suggestive of complexity of social and economic consequences of changes in labor patterns is the term "boundary-less career" used by Van Buren (2003). Moreover, there are explicit acknowledgments of social contract idea in more recent studies (ILO, 2016).

### 3. Research design

The idea behind this research was that a firm that was able to achieve a higher level on our scale (more complex relations and expectations between employers and employees) will be less likely to expect "ready-made" employees appearing on the markets. Rather, already a phase 3 firm will be likely to "tailor" the development of its human capital, with the "internal efforts" in managing career development continuing to increase as relations develop further into levels 4 and 5. We expect to find correlation among firm size, or even firm ownership with HR practices. The rationale was that larger firms have more expertise and more intensive exposure to hiring situations and therefore will be conceptually more advanced. The same was expected of private firms in comparison to publicly owned organizations.

To estimate employers' attitudes we used survey answers obtained as part of a research project inquiring into the expectation of Croatian companies dealing with the career development of their employees. In the spring of 2016, a survey was conducted on 126 Croatian companies with the purpose of investigating the role of employer in employees' career development. We were also interested in the impact of firm specific attributes, such as size and ownership type, on employers' expectations regarding employees' capabilities, work attitude and behavior related to their professional development.

**The sample** consists of relatively balanced number of companies in relations to number of employees, and it is divided into five size categories: micro, small, medium, large and very large companies, as described in Table 1a. Regarding ownership, 69% firms in sample are privately owned, following by 25% of public companies, and a small number of cooperatives and NGO-s (mostly union organizations). Descriptive statistics on ownership are presented in Table 1b.

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<sup>3</sup>Ruona and Gibson (2004) identify three distinct phases of HRM development: Their first, HRM, corresponding to our second phase, their second, HRD (human resource development), similar to our third and their final, OD (organization development), corresponding to our 4th phase.

**Table 1a** Sample statistics according to firm size

| Company size | Mean       | Std. Dev.      | Sample range  |          | Category    |      |     |
|--------------|------------|----------------|---------------|----------|-------------|------|-----|
|              |            |                | Min           | Max      | Min         | Max  |     |
| Micro        | 20         | 4.9            | 2.0749        | 1        | 9           | 1    | 9   |
| Small        | 21         | 22.33          | 9.1287        | 11       | 42          | 10   | 49  |
| Medium       | 34         | 138.53         | 49.85         | 60       | 233         | 50   | 249 |
| Large        | 26         | 442.88         | 152.88        | 260      | 861         | 250  | 999 |
| Very large   | 25         | 1948.52        | 1465.12       | 1000     | 7800        | 1000 |     |
|              | <b>126</b> | <b>519.881</b> | <b>974.94</b> | <b>1</b> | <b>7800</b> |      |     |

Source: Authors

**Table 1b** Sample statistics based on ownership

| Ownership   | N=12     | Mean   | Std. Dev. | Min | Max  |
|-------------|----------|--------|-----------|-----|------|
|             | <b>6</b> |        |           |     |      |
| Private     | 87       | 576.67 | 1119.14   | 1   | 7800 |
| Public      | 32       | 457.16 | 547.56    | 15  | 1715 |
| Cooperative | 3        | 74.67  | 104.36    | 9   | 195  |
| NGO         | 4        | 120.5  | 219.69    | 7   | 450  |

Source: Authors

The survey questions are divided into 4 groups of questions. The first group provides general information on employers and is followed by three groups of questions regarding key competences, general skills and psycho-motoric skills needed to perform jobs in various sectors upon graduation in different fields of economics. The answers to questions on employees' skills and competencies are distributed on a scale from 0 to 5, with zero indicating competency is not needed for the job; while, in Likert scale from 1 to 5, 1 indicating skill or competency is slightly needed (extremely weak need) and five indicating skill or competency is extremely needed for job. The descriptive statistics of results obtained is presented in Table 2.

**Table 2** Descriptive statistics on key competencies generic skills and psycho-motoric skills expectations

| Group            | Key competencies                                     | Obs | Mean  | Std. Dev. | Min | Max |
|------------------|--|-----|-------|-----------|-----|-----|
| Key competencies | Oral communication in mother tongue                  | 126 | 4.246 | 0.892     | 0   | 5   |
|                  | Written communication in mother tongue               | 126 | 4.246 | 0.873     | 0   | 5   |
|                  | Math literacy  | 126 | 3.714 | 1.123     | 1   | 5   |
|                  | Computer skills                                      | 126 | 3.651 | 0.673     | 2   | 5   |
|                  | Dedication to learning                               | 126 | 4.452 | 0.873     | 0   | 5   |
|                  | Initiative and entrepreneurial skills                | 126 | 3.770 | 1.253     | 0   | 5   |
|                  | Successful communication and cooperation with others | 126 | 4.540 | 0.628     | 2   | 5   |
| Generic skills   | Decision making                                      | 126 | 3.881 | 1.048     | 0   | 5   |
|                  | Responsibility                                       | 126 | 4.659 | 0.554     | 3   | 5   |
|                  | Human resources management                           | 126 | 3.246 | 1.495     | 0   | 5   |
|                  | Resources management                                 | 126 | 3.754 | 1.378     | 0   | 5   |
|                  | Team work  | 126 | 4.544 | 0.722     | 2   | 5   |

| Group                 | Key competencies                                       | Obs | Mean | Std. Dev. | Min | Max |
|-----------------------|--|-----|------|-----------|-----|-----|
|                       | Empathy  | 126 | 3.64 | 1.092     | 0   | 5   |
|                       | Persuasion   | 126 | 3.96 | 1.058     | 0   | 5   |
|                       | Presentation skills                                    | 126 | 4.63 | 0.733     | 1   | 5   |
|                       | Analytic skills  | 126 | 4.57 | 0.731     | 1   | 5   |
|                       | Creativity and innovativeness                          | 126 | 3.94 | 1.061     | 0   | 5   |
|                       | Planning and organizing                                | 126 | 4.36 | 0.854     | 1   | 5   |
|                       | Customer orientation                                   | 126 | 4.13 | 1.061     | 0   | 5   |
|                       | Work results oriented                                  | 126 | 4.59 | 0.622     | 3   | 5   |
|                       | Adaptability   | 126 | 4.38 | 0.790     | 2   | 5   |
|                       | Stress response and emotional self-control             | 126 | 4.19 | 0.867     | 2   | 5   |
|                       | Environmental protection awareness                     | 126 | 2.82 | 1.605     | 0   | 5   |
| Psycho-motoric skills | Steering precision (with machinery or other equipment) | 126 | 1.18 | 1.541     | 0   | 5   |
|                       | Coordination of sight and movement                     | 126 | 2.08 | 1.565     | 0   | 5   |
|                       | Manual dexterity                                       | 126 | 1.44 | 1.287     | 0   | 4   |
|                       | Digit dexterity  | 126 | 1.65 | 1.405     | 0   | 5   |
|                       | Response time  | 126 | 2.34 | 1.731     | 0   | 5   |
|                       | Focus attention  | 126 | 3.11 | 1.740     | 0   | 5   |
|                       | Physical strength and endurance                        | 126 | 1.05 | 1.310     | 0   | 5   |

Source: Authors

As can be seen from Table 2, employers most highly value skills related to interpersonal relations (i.e. *Successful communication and cooperation with others*( $m=4.5$ ,  $s.d.=0.6$ ) and *Team-work*( $m=4.5$ ,  $s.d.=0.7$ )). Attitudes towards work are seen to be highly important, which can be seen from *Responsibility* and *Work results orientation*, confirming the importance of achievement motivation, as a factor and term identified by EPSC (2016).

#### 4. Statistical analysis and results interpretation

First, we identify dominant attitude of Croatian employers towards their role concerning employees' training and eventual career development. The results are presented in Table 3.

**Table 3** Expectations on pursuing professional development depending on firm size (mlogit regression)

|   | Firm size | Micro          | Small   | Medium       | Large   | Very large |
|---|-----------|----------------|---------|--------------|---------|------------|
| Professional development                        |           | 0-9            | 10-49   | 50-249       | 250-999 | 1000<      |
| Self-development                                |           | -0.802         | -0.185  |              | -       | -0.398     |
|   |           |                |         |              | 1.226*  |            |
|   |           | (0.675)        | (0.732) |              | (0.598) | (0.632)    |
| Internally managed development                  |           | 0.717          | 0.0264  |              | 1.262*  | 0.618      |
|   |           | (0.639)        | (0.620) |              | *       | (0.581)    |
| Externally provided employees development       |           | -              | -       |              | -0.670  | -0.841     |
|   |           | 1.982**        | 1.661*  |              |         |            |
|   |           | *              | *       |              |         |            |
|   |           | (0.697)        | (0.685) |              | (0.740) | (0.691)    |
| No need for continuous professional development |           | -16.37         | -0.983  |              | -15.54  | -1.280     |
|   |           | (1,364)        | (1.264) |              | (1,249) | (1.404)    |
| Constant  |           | 1.079          | 0.805   |              | 0.307   | 0.335      |
|   |           | (0.853)        | (0.884) |              | (0.886) | (0.848)    |
| Observations                                    |           | 126            | 126     | 126          | 126     | 126        |
| LR chi2 (12)                                    | = 29.88   | Pseudo R2      |         | = 0.0745     |         |            |
| Prob> chi2                                      | = 0.0186  | Log likelihood |         | = -185.50335 |         |            |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors

The relative probability of a firm expecting employees to manage their own professional development (self-development) decreases with firm size. It is significantly lower in large companies compared to middle sized companies. At the same time, the management in large companies is likely to rely significantly on internally managed employee development in comparison with management in middle sized companies. In addition, the relative probability of a firm stressing comparison with middle sized companies. Although indecisive, results point on higher internally structured human resource management approach as firm size rises. This finding suggests that larger firms are more to rely on internal professional development and external education, rather than directing personnel towards self-crafted professional development.

A paired t-test was run on a sample of 126 companies to determine whether there was a statistically significant mean difference between the expectations related to generic skills needed to carry out assigned work compared to need for psycho-motoric skills needed for the same job.

**Table 4** Comparison of expectations related to generic skills vs. expectations on psycho-motoric skills needed

| Variable   | Observations | Mean                | Std. Err. | Std. Dev.          | [95% Conf. Interval] |          |
|--|--------------|---------------------|-----------|--------------------|----------------------|----------|
| <b>Generic skills</b>                                | 126          | 65.35714            | .8765346  | 9.839077           | 63.62237             | 67.09191 |
| <b>Psycho-motoric skills</b>                         | 126          | 12.88095            | .7082827  | 7.950454           | 11.47917             | 14.28273 |
| diff   |              | 52.47619            | 1.043238  | 11.71031           | 50.41149             | 54.54089 |
| mean(diff) = mean(sumarno_29_test - sumarno_31_test) |              |                     |           |                    | t =                  | 50.3013  |
| Ho: mean(diff) = 0                                   |              |                     |           |                    | degrees of freedom = | 125      |
| Ha: mean(diff) < 0                                   |              | Ha: mean(diff) != 0 |           | Ha: mean(diff) > 0 |                      |          |
| Pr(T < t) = 1.0000                                   |              | Pr(T > t) = 0.0000  |           | Pr(T > t) = 0.0000 |                      |          |

Source: Authors

Managers evaluated the employees' possession of generic skills ( $65.36 \pm 0.88$ ) more important than obtaining psycho-motoric skills ( $12.88 \pm 0.71$ ). With a statistically significant increase of 52.4761 (95% Conf. Interval, 50.41 to 54.54),  $t(125) = 50.30, p < .05$ , it can be concluded that there is a statistically significant difference between two groups of skills employers expect (or desire) employees to develop prior to employment.

**Table 3** Expectations on pursuing professional development when different ownership (mlogit regression)

|   | Ownership | Private<br>(base) | Public             | Cooperativ<br>e   | NGO                |
|---|-----------|-------------------|--------------------|-------------------|--------------------|
| <b>Professional development</b>                 |           |                   |                    |                   |                    |
| Self-development                                |           |                   | -<br>1.534**<br>*  | 0.0123            | 15.10              |
| Internally managed development                  |           |                   | (0.477)            | (1.296)           | (1,580)            |
| Externally provided employees development       |           |                   | -0.137<br>(0.515)  | 16.01<br>(1,755)  | -2.077*<br>(1,201) |
| No need for continuous professional development |           |                   | 1.449**<br>(0.670) | -1.786<br>(1.273) | 16.23<br>(1,561)   |
| Constant  |           |                   | 1.773<br>(1.127)   | -0.386<br>(7,058) | 1.464<br>(5,244)   |
| Observations                                    |           | 126               | 126                | 126               | 126                |
| LR chi2 (12) =                                  | 39.04     | Pseudo R2 =       | 0.1931             |                   |                    |
| Prob> chi2 =                                    | 0.0001    | Log likelihood =  | -81.571575         |                   |                    |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors

The relative probability of expecting employees to invest (private time and money) in professional development and be dedicated to self-development is 21.6% lower in public companies compared to private companies<sup>4</sup>. In addition, the relative probability of a public employer sending employees to externally organized trainings is 325.86% higher than the case in private companies. In short, private companies lean on employees' intrinsic motivation for personal professional development and desire to contribute to the overall company's goal while public companies rely more on external education providers in directing (and shaping) personnel professional development.

When it comes to employers expectations on key competencies' of their employees, expectations were indicated as high and were equally dispersed across the sample, and did not vary in relation either to firm size or firm ownership type. The regression analysis showed no statistical difference in the expectations of employers in larger or smaller firms.

The same applies when analyzed probability of expected level of generic skills in micro, small, medium, large and very large firms. Nevertheless, we consider interesting finding that there is no statistically significant difference in expectations regarding generic skills such as responsibility, creativity and innovativeness, and stress response and emotional control needed, as well as human management skills and resource management skills across different sized firms.

To conclude, in line with previous results, learning paths for acquiring competences differ in conformance to firm size and ownership structure. However, independent of firm size or ownership, employers value the same resulting competencies, most of which are helpful in managing interpersonal relations.

<sup>4</sup>Relative probabilities are similar to log of odds (in this case the value is -1.534).

## 5. Conclusion and comments

This research was aimed at assessing the stage of development of human resource management approaches in Croatian firms. Smaller firms were expected to rely more heavily on formal educational programs that provide employees with the needed qualifications up-front; once employed, the employee is expected to individually manage his/hers own career path. On the other hand, larger firms put more emphasis on internally managed professional development that is purposely designed to serve organizational goals. In that aspect, we might establish that there is a tendency of larger firms to function in line with stage 4 of our employer to employee relations scale. Our research so far, does not enable us to precisely position the smaller firms in the HRM development scale. It is possible that a number of small firms, being more entrepreneurially oriented, especially the ones employing professionally highly skilled and self-motivated employees, do fall in the so called "social-contract" mode in our categorization of HRM development practices. Even though we would expect most of the smaller firms not to act so progressive, rather focus on surviving, they are exploiting current insufficiencies and imbalances on labor market and, due to lack of resources available to invest directly into personnel development as a firm, they raise expectations on employees to self-direct their individual professional career paths. Basically, this paper has clarified possible paths for future research.

Regarding employers' preferences in terms of employees' abilities, skills and attitudes, we identify the predominant perspective that employers exhibit in assessing prospective employees. Based on answers obtained in a survey of employers' expectations regarding capabilities and motivation of employees obtained through tertiary education, differences related to firm size or ownership between groups in our sample are not statistically significant.

The policy implications of our findings can be manifold. Even though this research only provided indications, companies, depending on their technological and market position, have different expectations when it comes to the competencies they expect their employees to have upon recruitment. There is consensus on the profile of knowledge, but there are different attitudes as to how employees are to attain the competencies that will be required as their employer evolves. This is apparently supported by the difference towards the attitudes expected in different firms (to be confirmed by further research), since smaller firms (which we consider to have a dynamic strategy orientation) expect their employees to be self-guided in: firstly, perceiving, then articulating the firms' needs and, finally, finding the path, whether process or provider, that will help him/her become the pertinent professional. This finding can be interpreted as a suggestion for educational authorities for providing a flexible life-long learning education system better suitable for individually crafted developmental paths at different phases of career development.

## REFERENCES

Dibiaggio L. (2007), *Design Complexity, Vertical Disintegration and Knowledge Organization in the Semiconductor Industry*, Industrial and Corporate Change, pp. 1-29.

European Commission (2017), *Unemployment Statistics – Recent developments in unemployment at a European and Member State level*, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment\\_statistics#Recent\\_developments\\_in\\_unemployment\\_at\\_a\\_European\\_and\\_Member\\_State\\_level](http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Recent_developments_in_unemployment_at_a_European_and_Member_State_level) (April 04, 2017)

European Political Strategy Centre (EPSC) (2016), *The Future of Work – Skills and Resilience for a World of Change*, Issue 13, available at: [http://ec.europa.eu/epsc/sites/epsc/files/strategic\\_note\\_issue\\_13.pdf](http://ec.europa.eu/epsc/sites/epsc/files/strategic_note_issue_13.pdf) (March 29, 2017)

Herwartz, H. and Niebuhr, A. (2011), *Growth, Unemployment and Labour Market Institutions: Evidence from a Cross-Sections of EU regions*, Applied Economics, V. 43, pp. 4663-4676.

ILO(2016), *Social Contract and the Future of Work*, The Future of Work Centenary Initiative, Issue Note Series 4, based on contributions from. C. Behrendt, Y. Ghellb, S. Hayter and F. Bonnet; [http://ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms\\_534205.pdf](http://ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_534205.pdf) (March 29, 2017)

Meda, L. (2016a), *The Future of Work: The Idea of Work in Europe*, Working paper, in European Trade Union Institute, <https://www.etui.org/Events/Shaping-the-new-world-of-work.-The-impacts-of-digitalisation-and-robotisation/Plenary-D-Employment>

Meda, L. (2016b), *The Future of Work: The Meaning and Value of Work in Europe*, ILO Research paper no. 18, in European Trade Union Institute, [http://www.ilo.org/global/research/papers/WCMS\\_532405/lang--en/index.htm](http://www.ilo.org/global/research/papers/WCMS_532405/lang--en/index.htm)

OECD (2015), *In itTogether: Why Less Inequality Benefits All*, <http://www.oecd.org/social/in-it-together-why-less-inequality-benefits-all-9789264235120-en.htm>

Ruona, W. E. A. and Gibson, S. K. (2004), *The making of twenty-first-century HR: An analysis of the convergence of HRM, HRD and OD*. Human Resource Management, 43 (1), pp.: 49–66.

Van Buren, H. J. (2003), *Boundaryless Careers and Employability Obligations*. *Business Ethics Quarterly*, 13(2), pp. 131-149.

Van der Heijde, C. M. and B.I.J.M. Van der Heijden (2006), *A Competence-Based and Multidimensional Operationalization and Measurement of Employability*. Human Research Management, Vol. 45, No. 3, pp. 449–476.



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**ECONOMIC ROLE OF CROATIAN EMIGRATION**

**EKONOMSKA ULOGA HRVATSKOG ISELJENIŠTVA**

***ABSTRACT***

*The Republic of Croatia is one of the European countries with the most prominent and longest lasting emigration. Because of this, it is considered the traditional country of emigration. The Croatian people have been displaced over the world. Emigration began in the 15th century, and continued until the present day. The largest number of those who once left Croatia not ever come back. There are numerous examples where Croatian emigrants organized strong emigrant groups. Those groups strive to maintain Croatian identity and help their country in any way.*

*Thanks to globalization significantly increased opportunities for mobility. Unlike the emigrant waves of the past century, today the main emigrants are highly educated young people. There are a number of reasons why people want to emigrate. Some leave in search of a better life, for a better standard of living, some for jobs, some to return to their native country to their families, some to study etc. Regardless on the type of migration is a word they directly affect human rights, national sovereignty, but also the economic development of each country.*

*The role of the emigration has always had great importance in the economic development of their home country because a large portion of emigrant's remains connected with their home country and through engagement in different organizations or associations, but also through concrete assistance, which sending family members who remained in the country. At the time of economic crisis, the role of emigration takes on even greater importance. Then is especially noticed how large economic and financial assistance from Croatian emigrants to economy activity in Croatia is.*

*This work focuses on the economic contribution of Croatian emigrants.*

*The aim of this paper is to present the situation of displaced Croatian emigrants and considering that determine in which way they contribute to homeland. Special attention focuses on economic*

assistance and how much is its role in times of economic crisis. In this study is included the analysis of collected statistical data from the census and other publications.

**Key words:** Emigration, Economic Contribution, Development, Croatia, remittances

## SAŽETAK

Republika Hrvatska jedna je od europskih zemalja s najizraženijim i najdugotrajnijim iseljavanjem te se smatra tradicionalno iseljeničkom zemljom. Hrvatski narod raseljen je po cijelom svijetu. Iseljavanja su započela još u 15. stoljeću, a nastavila su se sve do danas. Najveći broj onih koji su jednom napustili domovinu nije se više nikada u nju vratio. Postoje brojni primjeri gdje su hrvatski iseljenici organizirali čvrste iseljeničke skupine koje se i danas i za budućnost trude očuvati hrvatski identitet i pomoći domovini na bilo koji način.

Zahvaljujući globalizaciji znatno su se povećale mogućnosti za mobilnost. Za razliku od iseljeničkih valova prošlih stoljeća, danas glavni iseljenici su mladi visokoobrazovani ljudi. Postoji niz razloga zbog kojih ljudi žele migrirati. Neki odlaze zbog potrage za boljim životom, zbog boljeg životnog standarda, neki zbog zaposlenja, neki da bi se vratili u svoju matičnu zemlju svojim obiteljima, neki radi studiranja itd.. Bez obzira o kojoj vrsti migracija je riječ one izravno utječu na ljudska prava, nacionalnost, suverenitet, ali i na ekonomski razvoj pojedine zemlje.

Uloga iseljeničstva uvijek je imala veliki značaj na ekonomski razvoj matične zemlje jer veliki dio iseljenika ostaje vezan uz svoju matičnu domovinu i to kroz angažiranje u različitim udrugama ili društvima, ali i kroz konkretnu pomoć koju šalju članovima obitelji koji su ostali u domovini. U vrijeme gospodarske krize, uloga iseljeničstva dobiva još veći značaj. Tada se posebno uočava koliko je velika ekonomska i financijska pomoć hrvatskog iseljeničstva gospodarstvu u Hrvatskoj. Ovaj rad se fokusira na ekonomskom doprinosu hrvatskog iseljeničstva.

Cilj ovog rada je prikazati položaj raseljenog hrvatskog iseljeničstva i s obzirom na to odrediti na koji način doprinose domovini. Posebna pažnja je fokusirana na ekonomsku pomoć i kolika je njena uloga u vrijeme gospodarske krize. U ovo istraživanje uključena je analiza prikupljenih statističkih podataka iz popisa stanovništva i drugih publikacija.

**Ključne riječi:** iseljeničstvo, ekonomski doprinos, razvoj, Hrvatska, uplate.

## 1. Introduction

More than ever in the history of the world population lives abroad. According to the United Nations "in 2013, over 232 million people worldwide now live and work outside their home country, which represents about 3,2% of the total world population." ([http://www.un.org/en/ga/68/meetings/migration/pdf/UN%20press%20release\\_International%20Migration%20Figures.pdf](http://www.un.org/en/ga/68/meetings/migration/pdf/UN%20press%20release_International%20Migration%20Figures.pdf)) The Republic of Croatia is one of the European countries with the most prominent and longest lasting emigration. Because of this, it considered the traditional country of emigration. Croatian people are displaced on all five continents and has more than 3 million emigrants and descendants. It is very difficult to determine the exact number of Croatian emigrants because it have not collected data in all phases of emigration. However, estimates suggest that outside Croatia lives almost as equal Croats as many as they are in the country. Although the majority of emigrants went with the hope to return one day and their absence considered only temporary, however, for most of them this was the permanent relocation to a new country. Emigration began in the 15th century (leaving their homeland because of the Turkish

occupation), and continued until today. In the period after Civil war comes to an increase of settlers in Croatia. It was return of refugees and expelled population.

## **2. Croatian emigration**

Under various influences, the Croats for centuries continuously emigrated to overseas countries, European countries and neighbouring countries. All these Croats, regardless of where they live, are members of the Croatian nation. According to Law for cooperation with Croats outside of the Republic of Croatia „Croats outside the Republic of Croatia are:

- members of the sovereign and constituent Croatian people in Bosnia and Herzegovina
- members of the Croatian minorities in European countries (Croatian minorities)
- Croats who emigrated overseas and to European countries and their offspring (Croatian emigrants/diaspora).” (<http://www.zakon.hr/z/507/Zakon-o-odnosima-Republike-Hrvatske-s-Hrvatima-izvan-Republike-Hrvatske>)

Europeans who have not settled in large groups and waves (for example, Germans and Dutch) are easily accepted new rules of life in a new country, but the Croatian emigration for years resisted every assimilation and integration and have for decades advocated ideas Croatian hood and nurture loyalty and patriotism towards the country. It made possible the emigrants to build a lasting relationship with their homeland. Since the declaration of independence of the Croatia one part of Croatian emigrants felt relief because they are from then able to publicly demonstrate their nationality, even those who did not attach great importance to its origin (because a large part of the Croatian emigrants during the existence of the Yugoslav communist regime was in isolation). In order to survive in a new country emigrants were associate together and founded a number of cultural, social communities. These communities, institutions, societies had an important role in their social and political life.

### **2.1. Members of the sovereign and constituent Croatian people in Bosnia and Herzegovina**

According to the Constitution of Bosnia and Herzegovina, the Croats are one of the three constituent people in Bosnia and Herzegovina and the Croatian language is one of the three official languages. According to 1991 Census “in Bosnia and Herzegovina lived 759,906 or 17.36% of Croats and they occupied the territory of 6392 km<sup>2</sup> or 12.49% of the territory of Bosnia and Herzegovina. For 13.44% of the population or 588,099 people Croatian language is native language.” (<http://www.fzs.ba/Dem/Popis/Etnicka%20obilježja%20stanovnistva%20bilten%20233.pdf>) Because of the aggression and the crimes committed in Bosnia and Herzegovina, unlike other countries in the world, Census in 2001 did not conducted, than merely in 2013. It estimated that the Croats are slightly less, around 553,000 or 14.6%. Croatian people in demographic terms is convincing loser. In certain areas (parts of Bosnian Posavina) Croats are now almost extinct.

### **2.2. Members of the Croatian minorities in European countries (Croatian minorities)**

Because of different reasons Croats from the 15th century continuously emigrated to European countries in which today have recognized the status of a national minority. According to the latest Census and estimates, numerical state of members of the Croatian national minority has the following approximately: “Austria about 50,000, Bulgaria about 1500, Montenegro 7000-10000, Czech Republic about 800, Italy about 3000, Kosovo about 350, Hungary about 50,000, Macedonia about 4000, Romania about 7500, Slovakia about 4000, Slovenia 35 000 - 54000, Serbia 150000-200 000.” ([http://www.mvep.hr/files/file/publikacije/Sve\\_sto\\_ste\\_htjeli\\_znati\\_o\\_EUropskoj\\_uniji\\_web.pdf](http://www.mvep.hr/files/file/publikacije/Sve_sto_ste_htjeli_znati_o_EUropskoj_uniji_web.pdf)) The status of members of the Croatian national minority is regulated differently in different countries (depends on the legislation of each country).

### **2.3. Croatians who emigrated overseas and to European countries and their offspring (Croatian emigrants/diaspora)**

Except the term, 'Croatian emigrants' it is often used the term 'diaspora', when referring to the Croatian emigrants in overseas countries, although many authors under this term means all the emigrants. According to estimates by Croatian diaspora in the world, covers approximately three million people, including direct emigrants and their descendants. Diaspora is an internationally recognized status of members of a nation outside their home country, or permanently resident in another country. "More than a million Croats and descendants live in the US and Canada. Around 400,000 Croats are in South America, most of them in Argentina and Chile. Diaspora in Australia includes about 250,000 Croats and in New Zealand about 40,000. In Western Europe, most of the Croats are in Germany (around 350,000), followed by Austria (90 000), Switzerland (80 000), Italy (60,000), France (40,000) and Sweden (35,000)." (<http://www.enciklopedija.hr/Natuknica.aspx?ID=57806>)

### **3. The economic contribution of Croatian emigrants**

The role of the emigrants/diaspora has always had great importance to the economic development of home country. Large number of emigrants are highly educated people whose loss in their home countries further reduces academic potentials, which are very important for strengthening the competitiveness of the national economy and technological development. However, a large part of emigrants as already mentioned remain associated with their home country and through engagement in different associations or organizations, but also through the concrete assistance, which they sent family members who remained in the country.

The Croatian emigrants had especially great importance during the Civil war when they gave a moral, political, financial and military assistance: they gathered significant financial resources for the purchase of humanitarian assistance and weapons for the Croatian army and the police. Many Croatian emigrants are on homeland call left everything and voluntarily joined the Croatian defense. Besides, they spread out the truth about the Civil war in Croatia around the world. However, that contribution should not be viewed as a gift, but as an equal contribution to the Republic of Croatia. According to Law for cooperation with Croats outside of the Republic of Croatia „Republic of Croatia as form of economic cooperation with the Croats in Bosnia and Herzegovina, neighboring and other countries, encouraging cross-border and regional cooperation through their own projects and help in standing for tenders for EU funds." (<http://www.zakon.hr/z/507/Zakon-o-odnosima-Republike-Hrvatske-s-Hrvatima-izvan-Republike-Hrvatske>) A large number of investments coming to Croatia from emigration, and a significant number of companies in Croatia employ many employees, and their owners are exactly emigrants.

Croatian emigration/diaspora represent a significant potential in terms of new technologies, transfer of knowledge and experience can significantly contribute to faster recovery and strengthening of the national economy. As a rule, in attracting Croatian emigrant's greatest emphasis put on their financial support and encouragement to their investments in the Croatian economy. „Ministry of Science, Education and Sport, launched in 2006, the special fund 'Unity through Knowledge' aimed at unifying scientific and professional potential of Croatian homeland and abroad, and based on connections, collaboration and creativity in the joint construction of a knowledge society." (<http://hr.seebiz.eu/kolumne-i-komentari/iseljenistvo-moze-bit-akcelerator-izlaska-iz-gospodarske-krize/ar-73737/>) The objectives were encouraging research and scientific work that would be competitive on a global level, with the aim of strengthening the Croatian economy.

The fund supposed to finance the development of new technological innovations, patents and so on. One of the main objectives was to transform the brain drain in their inflow and return to the country. However, unlike the emigration waves of the last century, today the main emigrants are highly educated young people. At the time of economic crisis, the role of emigration takes on even greater importance. Then is especially noticed how large economic and financial assistance from Croatian emigrants to economy activity in Croatia is.

#### **4. Remittances from abroad as a significant factor in raising the standard of living**

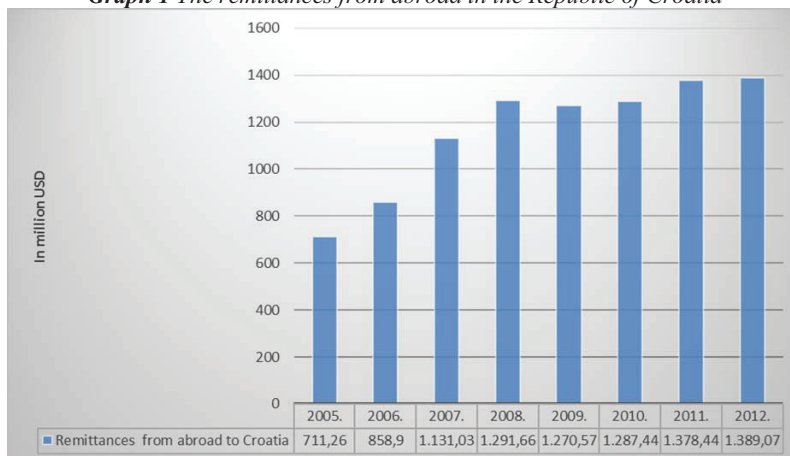
Croatian emigrants represents the second economic sector in Croatia (first is tourism). Except donations, the money that emigrants spend when they come to visit its homeland and purchase the Croatian products abroad, foreign remittances, or remittances from abroad that emigrants annually sent to Croatia represent the largest factor of assistance. Through these remittances were maintained relationships with emigrants, and they by their organizations reciprocal relationship with their homeland. According to the Law of payment system, money remittance "is payment service at which receive funds from the payer, and is not open account for payment on behalf of the payer or the payee, for the purpose of transferring a corresponding amount of funds to the payee or to another payment service provider of the payee, and/or such funds received for the payee and put him available." ([http://www.hnb.hr/propisi/zakoni-htm-pdf/h-zakon-o-platnom-prometu-133-09\\_136-12.pdf](http://www.hnb.hr/propisi/zakoni-htm-pdf/h-zakon-o-platnom-prometu-133-09_136-12.pdf))

Remittances from abroad (from emigrants), or emigrant remittances are remittances of Croats employed abroad, emigrant transfers, money that comes from abroad through the official channels, from the banks. However, rights statistics remains unknown because there is no control of those who sent money to unofficial channels. Emigrant remittances have enormous significance for the economies of some countries, due to the fact they contribute to economic growth and improve living standards. Remittances from emigrants abroad are an important source of national income. Directly sending financial help to family members who remained in the country or by visiting their motherland, Croatian diaspora/emigrants play an important role in the Croatian economy. Diaspora can be an important source of trade, capital, technology and knowledge to the country of origin and destination.

Payments from abroad reduces poverty and can lead to: "greater accumulation of human capital, the higher costs of health care and education, better access to information and communication technologies, improving access to formal services, of the financial sector, increased small business investment, better preparedness for adverse natural shocks such as droughts, earthquakes and cyclones, the reduction of child labor." (according to the <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>)

Sending money home is not only the personality of the Croatian diaspora. Migrants around the world every day sent billions of dollars and euros in their home countries. The World Bank systematically monitors the movement of heights of remittances by foreign nationals who work in other countries are paid to private accounts in their home countries. According to the World Bank Croatia is among the countries where the last few years the payment of its own citizens from abroad has been increasing steadily. Payments can be sent through formal and informal channels. Formal are bank transfers and informal mainly through the family and friends or even cash. The graph below shows the formal channels of payment.

**Graph 1** The remittances from abroad in the Republic of Croatia



Source: made by authors

using <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>

The graph shows the remittances from abroad in the Republic of Croatia from 2005 to 2012. According to the World Bank in 2012 estimated the total amount of remittances to private accounts in Croatia amounted to approximately USD 1.4 million. It can be noticed continuous growth from 2005 to 2012. The estimated amount of remittances for 2013 “is 1,497 million USD which makes 2.6% of GDP.”

(<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>). The following table shows the countries from which it paid into the private accounts in the Republic of Croatia.

**Table 1** The remittances from abroad in the Republic of Croatia by country

| Country               | Remittances by years in million USD |       |       |
|-----------------------|-------------------------------------|-------|-------|
|                       | 2010.                               | 2011. | 2012. |
| Argentina             | 1                                   | 1     | 1     |
| Australia             | 126                                 | 135   | 136   |
| Austria               | 90                                  | 96    | 97    |
| Bosna and Herzegovina | 15                                  | 16    | 16    |
| Brazil                | 1                                   | 1     | 1     |
| Canada                | 78                                  | 84    | 84    |
| Chile                 | 1                                   | 1     | 1     |
| Czech                 | 3                                   | 3     | 3     |
| Denmark               | 1                                   | 2     | 2     |
| Finland               | 3                                   | 3     | 3     |
| France                | 55                                  | 59    | 60    |
| Germany               | 616                                 | 660   | 666   |
| Greece                | 1                                   | 1     | 1     |
| Hungary               | 1                                   | 2     | 2     |
| Ireland               | 2                                   | 2     | 2     |
| Italy                 | 46                                  | 50    | 50    |
| Luxemburg             | 1                                   | 1     | 1     |
| New Zealand           | 4                                   | 4     | 4     |
| Norway                | 5                                   | 5     | 6     |
| Poland                | 1                                   | 2     | 2     |
| Romania               | 2                                   | 3     | 3     |
| Slovakia              | 1                                   | 1     | 1     |

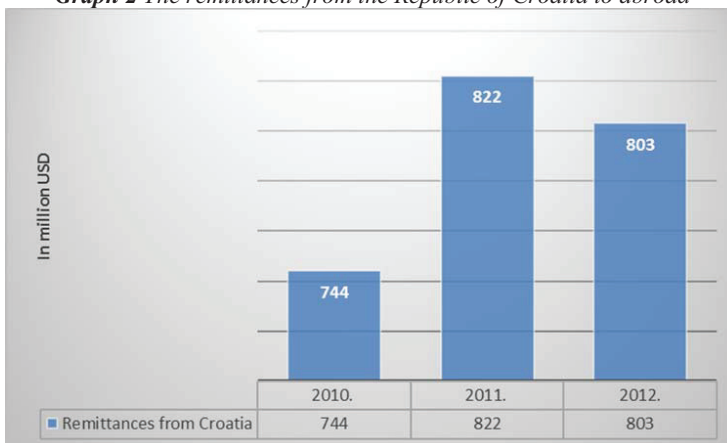
| Country        | Remittances by years in million USD |       |       |
|----------------|-------------------------------------|-------|-------|
|                | 2010.                               | 2011. | 2012. |
| Slovenia       | 43                                  | 46    | 46    |
| Spain          | 3                                   | 4     | 4     |
| Sweden         | 12                                  | 13    | 13    |
| Swiss          | 48                                  | 51    | 52    |
| United Kingdom | 16                                  | 17    | 17    |
| USA            | 82                                  | 88    | 88    |
| Others North   | 22                                  | 23    | 23    |
| Others South   | 3                                   | 3     | 3     |
| Total          | 1287                                | 1378  | 1389  |

Source: made by authors

using <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>

The table shows all the countries from which was recorded payments in the Republic of Croatia. According to World Bank data from 2010, 2011 and 2012, most of the money was paid from Germany, then from Australia, the USA, Austria, Canada, France, Switzerland, Italy, Slovenia and from the UK. They are not noticeable deviations higher payments by each country. It has been a noticeable continuous growth every year. Far away in the first place is Germany. "Croatian World Congress has estimated that the Croatian emigrants between 1991 and 2011, sent to Croatia about 100 billion euros. Significant revenue is realized and the taxation of pensions that are earned abroad (about 162,000 pension)." (<http://www.hrvatskiglas-berlin.com/?p=140793>). These amounts greatly enhance the purchasing power of citizens and have a major impact on the national economy. Along with these transfers, which are registered by Central National Bank, it should also include the cash that emigrants bring themselves during visits home, especially since the price of the official money transfer is high. Croatia is so among the countries where the last few years, transfers its own citizens from abroad has been increasing steadily. This is the result of drastic decline in foreign direct investment, but also a growing number of Croatian citizens who go abroad. There is no doubt that it still expects growth in the volume of payment of money from abroad, provided that the objective should be focus to more resources on saving and investment (and not just in consumption). There are also interesting data about how many remittances was from Croatia to abroad which shows the following graph.

**Graph 2** The remittances from the Republic of Croatia to abroad



Source: made by authors using

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>



Graph shows that Croatian paid in 2012 about 803 million USD, 2.31% less than last year when it paid 822 million USD. In 2010 is paid a minimum of 744 million USD.

The economic crisis and the growth of unemployment are additional reasons for increasing emigration. Despite the current difficult global economic crisis, which has engulfed the whole world is expected to remittances from abroad continue to grow. Global economic and financial crisis in particular feel the poorest and the least developed countries, and without the help of its own citizens from abroad, many would not be able to survive. Exactly in the poorest and least developed countries remittances that come from abroad are very important economic factor. Regardless of whether the emigration of Croatian continue or stop, Croatia population lacking. Many demographers believe that the most desirable immigrants in the Republic of Croatia was exactly Croatian emigrants. In order to achieve this initiative, in June 2014 in Zagreb held Croatian Emigrant Congress. It was a Congress on which participated personalities from emigration, as well as public figures from Croatia with a view to discussion of the Croatian diaspora as one of the key Croatian national interests.

## 5. Conclusion

Since the Croatian accession to the European Union has significantly accelerated the process of emigration. The fact is that the Croats from the emigration returned to Croatia in the minimum number, which is very disappointing. In the Croatian emigration/diaspora, operate many powerful investors who would be able to invest in many economic and social affairs. However, the most difficult problem is how to attract Croatian emigrants. Data on remittances exist in the World Bank, and they show that payments from abroad are constantly growing. However, there are differences in the sending money of emigrants leaving today and those who went past decades. Today, emigrants should not so forgo to help their families, while in the past they send a large portion of salary. Despite the current difficult global economic crisis, which has engulfed the whole world is expected to remittances from abroad continue to grow in Croatia.

## REFERENCES

- Federalni zavod za statistiku BiH. Statistički bilten Sarajevo, 1993., <http://www.fzs.ba/Dem/Popis/Etnicka%20obiljezja%20stanovnistva%20bilten%20233.pdf> (accessed 15 October 2014)
- Katić, D. (2014): *Hrvatski glas Berlin*, <http://www.hrvatskiglas-berlin.com/?p=140793> (accessed 16 January 2015)
- Kušen, D. (2013): *Iseljništvo može biti akcelerator izlaska iz gospodarske krize*, Seebiz.eu, <http://hr.seebiz.eu/kolumne-i-komentari/iseljenistvo-moze-biti-akcelerator-izlaska-iz-gospodarske-krize/ar-73737/> (accessed 09 January 2015)
- Leksikografski zavod Miroslav Krleža, <http://www.enciklopedija.hr/Natuknica.aspx?ID=57806> (accessed 06 July 2014)
- Ministarstvo vanjskih I unutarnjih poslova, [http://www.mvep.hr/files/file/publikacije/Sve\\_sto\\_ste\\_htjeli\\_znati\\_o\\_EUropskoj\\_uniji\\_web.pdf](http://www.mvep.hr/files/file/publikacije/Sve_sto_ste_htjeli_znati_o_EUropskoj_uniji_web.pdf) (accessed 02 May 2015)
- United Nations, International migration and development, (2013), [http://www.un.org/en/ga/68/meetings/migration/pdf/UN%20press%20release\\_International%20Migration%20Figures.pdf](http://www.un.org/en/ga/68/meetings/migration/pdf/UN%20press%20release_International%20Migration%20Figures.pdf) (accessed 09 September 2014)

World Bank, Remittances data,

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:22759429~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html> (accessed 02 February 2015)

Zakon o odnosima Republike Hrvatske s Hrvatima izvan Hrvatske, Narodne novine d.d., 16/12, Zagreb, 2012., <http://www.zakon.hr/z/507/Zakon-o-odnosima-Republike-Hrvatske-s-Hrvatima-izvan-Republike-Hrvatske> (accessed 06 February 2015)

Zakon o platnom prometu, Narodne novine d.d. 33/09, 136/12, Zagreb, 2009., [http://www.hnb.hr/propisi/zakoni-htm-pdf/h-zakon-o-platnom-prometu-133-09\\_136-12.pdf](http://www.hnb.hr/propisi/zakoni-htm-pdf/h-zakon-o-platnom-prometu-133-09_136-12.pdf) (accessed 09 January 2015)

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## **CHALLENGES OF MODERN MANAGEMENT WITH SPECIAL EMPHASIS ON SIGNIFICANCE OF LIFELONG LEARNING**

### **IZAZOVI MODERNOG MENADŽMENTA S POSEBNIM NAGLASKOM NA ZNAČAJ CJELOŽIVOTNOG UČENJA**

#### **ABSTRACT**

*The development and management challenges that are placed on employers effect on all aspects of life. Changes in the context of economic processes, policies and culture put in front of employers new challenges. The economy should bring out the best from them. The globalization of the economy and technological revolution today are almost a natural process. Globalization means the transitional periods. The new era of computerization brings numerous improvements in terms of global expansion of the world. The new world order introduces new market laws, new ways of working, thinking and acting.*

*It turns out that a key role in responding to the challenges of modern management will have individuals. The basis of success of society in general is knowledge and innovation, as well as the most valuable intangible assets. It could be said that entrepreneurship has its roots from the foundation of the people. The interest in entrepreneurship stems from the fact that the progress of human civilization is actually a great product of organized entrepreneurship.*

*Entrepreneurship today is certainly one of the main topics in the political, economic and general social sense and increases progress not only of the world economy, but also the general social, cultural and social progress. Within entrepreneurship, lifelong learning is very important factor in employment and gives everyone the opportunity to include in the society. Knowledge society is the main driving force of modern society, and thanks to them, the entrepreneurship can build competitiveness in the global market.*

*The aim of work is to analyze the lifelong learning as a fundamental initiator of development.*

**Key words:** *challenges of modern management, lifelong learning, the knowledge society, globalization, development.*

#### **SAŽETAK**

*Razvoj i upravljanje izazovima koji se postavljaju pred poslodavce utječu na sve aspekte života. Promjene u kontekstu ekonomskih procesa, politika i kulture stavljaju pred poslodavce nove izazove. Gospodarstvo treba izvući najbolje iz njih. Globalizacija gospodarstva i tehnološke revolucije danas su gotovo prirodan proces. Globalizacija znači prijelazna razdoblja. Nova era kompjuterizacije donosi brojna poboljšanja u pogledu globalnog širenja u svijetu. Novi svjetski poredak uvodi nove tržišne zakone, nove načine rada, razmišljanja i djelovanja.*

*Ispada da će ključnu ulogu u odgovoru na izazove suvremenog upravljanja imati pojedinci. Temelj uspjeha društva općenito je znanje i inovacije, kao najvrjednija nematerijalna imovina.*

*Moglo bi se reći da poduzetništvo ima svoje korijene od postanka ljudi. Zanimanje za poduzetništvo proizlazi iz činjenice da je napredak ljudske civilizacije zapravo veliki proizvod organiziranog poduzetništva.*

*Poduzetništvo danas je zasigurno jedna od glavnih tema u političkom, ekonomskom i općem društvenom smislu i povećava napredak ne samo svjetske ekonomije, nego i opći društveni, kulturni i društveni napredak. Unutar poduzetništva, cjeloživotno učenje je vrlo važan faktor u zapošljavanju te daje priliku svakome da se uključi u društvo. Društvo znanja je glavna pokretačka snaga modernog društva, a zahvaljujući njima, poduzetništvo može graditi konkurentnost na svjetskom tržištu.*

*Cilj rada je analizirati cjeloživotno učenje kao temeljni pokretač razvoja.*

**Ključne riječi:** izazovi modernog menadžmenta, cjeloživotno učenje, društvo znanja, globalizacija, razvoj.

## **1. Introduction**

In order to be successful with all changes and challenges that the new time bring, organizations need to change outdated ways of business and collecting information and turn to new information and communication technology. In this way, it will faster get information needed to deal with everything that the process of globalization carries. Another important factor as a response to challenges of modern global trends is the development of modern society.

As a result, growing number of companies to achieve a certain level of competitiveness turn to individuals. Today, it is developed the concept of "knowledge society". Well educated workforce, with a strong creative, innovative and development potential is its main feature.

## **2. Globalization as modern world process**

Globalization is a relatively new term. However, the beginnings of globalization existed for years, even up to the 18th century. Great Colonial Powers used the benefits of trade beyond its borders. Britain was a leader of imposing the theoretical framework of this system. "History tells us that the establishment of a free market in England was planned and regulated process, and is made possible only by adopting a number of laws and under the patronage of state. The establishment of a free market was the project, rather than a natural process of development of the economy." (<http://nova-akropola.hr/kategorija-kultura/globalizacija/>) This idea of the free market worked in Britain until the 19th century. The store spread to other continents and in that way globalization at its beginning was primarily commercial.

Simply put, globalization is a process of removing barriers. The free movement of goods, people and capital become the main feature of this process. The world market in this way, without any restrictions, becomes available to everyone. Globalization is a process that is driven by economic changes. It is based on the doctrine of the free market. Social relations between individuals around the world more and more include planning, manufacturing, commerce, trade and consumption of various goods. The idea is to turn the world into one big, open market without restrictions. This is the essence of the process of globalization as we know it.

At the dawn of the 21st century it started to happen a number of changes, both positive and negative. Industrialization, scientific - technological revolution and general economic and civilizational progress that occurred in the late 20th century led to pollution, ozone holes and the

greenhouse effect, and the development of computerization compromised the privacy. Globalization more and more threatens local culture, traditions and customs. However, the positive aspects of globalization are individuality, openness, criticism and escape from the rigid theory. It launched an unstoppable social changes and reversals.

### **3. Globalization in modern business**

The development of modern technology had a huge impact on the globalization processes. Technological progress contributed to connect individuals of different nationalities and cultures by establishment of virtual communication that facilitated and speeded up the economic activity between states, regardless of their spatial distance. Information became available to everyone thanks to modern information and communication technologies.

"Information and communication technologies play a key role in fostering of innovation, creativity and competitiveness of all industrial and service sectors." (Drucker, 1992) Information and communication technology (ICT) is a kind of force that permeated all aspects of life and changed the way of thinking of individuals. ICT enabled input and use of new knowledge in the business. Information technologies included the use of computers for transferring, processing, storage and data protection. The spread of information and communication technologies enabled that the world became a single system. Two subjects in different parts of the world connected in just a few minutes.

Globalization strongly effected on social balance. Some globalization trends changed the image of the world. There is a disproportion of the population, especially in undeveloped countries. Economic insecurity is large, social sector is increasingly unstable and the role of government changes. New factors that occur on the global stage are more directed on integration in the economic and financial plan, on the strengthening of national groups that limit state monopolies and their power over individuals, and on closing the gap between rich and poor at the national but also at international level. The globalization of the economy made an important contribution on creating major world markets. Changes that the process of globalization introduced, prompted larger investments, increased in trade and trade partnerships, boosted the flow of financial resources, and the production became increasingly transnational integrated. However, these changes happened globally. At the national level there was a weakening of the national economy. All this contributed significantly to the process of globalization. The process could be understand in two ways: as a challenge or as a potential hazard. Attention focused on potential hazards and risks of globalization which manifested in illegal migration, the spread of global organized crime and global terrorism, which went beyond the possibilities of control within the nation states. One of the questions that put as fundamental for the development of future flows of globalization was a question of ethics and global solidarity.

Proponents of globalization saw potential benefit of it in order to prevail major global problems such as poverty, pollution and unemployment. They saw the way out in new forms of cooperation, such as partnerships with non-governmental organizations, civil society, businesses and universities. All major object of political announcements and promises effected on the global economic world, and the attention was mostly focused on global environmental hazards and global technological development. Technological development had a special attention particularly because of potential benefits that may be carried. Because of this, policy should ensure the information that are used in order to achieve positive effects (transformation of medicine), but not for the destruction and the destruction of the human race (the development of

new weapons of mass). Global policy played and will play a major role in the development of globalization.

#### **4. Challenges of modern management**

New technologies strengthened individuals and spread their power. Permanent change and the rising amount of knowledge and skills led to new business successes. It is considered that the future employers will increasingly seek individuals and teams for specific tasks and projects, i.e. the opportunities that occur. Neither the company, i.e. employers who operate them nor individuals who work for the company are no longer interested in permanent employment. Permanent attachment to a particular business enterprise set aside. Virtual organizations of the future will consist of a certain group of selected individuals and teams, and will connect them to commitment to work together on specific groups of tasks and projects. Employers will increasingly receive employees on temporary employment, and sign up more individual rather than collective agreements.

Classic objectives and management responsibilities such as profit, growth and survival became insufficient for the requirements of the new age that requires greater corporate social responsibility. The companies don't look only their own goals and interests but the interests of society as a whole, such as growing company's responsibility to the community, solving environmental and social problems, improving the quality of life and living standards and regional development. Social responsibility arise from social power. Business organizations have huge social power and thus their responsibility increase. Business decisions must include besides economic outputs, and social outputs that overall effects of their own actions on society. This implies a huge responsibility of modern organizations to raise the overall quality of life, especially business and business life in general, democratization and the development of different internal affairs, equality, participation, respect for and enjoyment of human rights. Organizations that have a large number of experts should be engage these same experts in solving current problems of the local and wider community in which they operate.

In the 21st century there is a change in the overall business philosophy, orientation and style of management, necessary knowledge and skills and courses of action in all areas of life and business. Changes in the internal relations, the connection method and operation of certain functions or the enterprise as a whole came from orientation on modern management, orientation on environment rather than internal problems and orientation on individuals and their needs.

#### **5. Lifelong learning and the society of knowledge**

Modern society of knowledge is inseparable from the information space. Global connectivity is largely based on IC technology, but also on the interdependence between states. Globalization leaves a permanent mark on the country. It causes continuous changes and routes to new ways of thinking on regional, national, local and global level. Changes in the sphere of development of ICT are large and investments in them are very important. Their importance in daily business is extraordinary. In such dynamic business environment there is a new economic and commercial developments. These processes stimulate the world economy. They change the way of thinking and working. There might be also changes in the culture, rules, and norms of behavior, attitudes and values.

The continuous flow of information speeds up the social processes. Organizations, individuals, companies and national governments must be ready for all the challenges and changes that these

processes carry out. The factors of production, natural resources, technology and human resources create new market relations and interdependence of national economic processes.

Technological progress leads to changes in the business. Employees have more responsibility for the work and use a multitude of different skills. The use of teams in performing tasks increases. The role of managers as coaches and those people that stimulate training and development strengthens. The availability of the information base of human resources increases. The new technology requires a different position of the people, and new policies and practices in human resources management.

The initiator of the radical changes that occur in technology, work and business is knowledge. In modern society dominate intellectual worker. Education and knowledge are the basis for good employment and career of the individual. Man learns while he is alive. The significance and relationship to career differed from generation to generation. Career refers to the development path of the individual, which is closely connected with the strategic needs of the company. Career means to recognize certain characteristics of an individual in the right moment. Individual should be ready and capable to take its own responsibilities that its career entails. Furthermore, in this way it will be possible to development and expression its creativity. It will develop its career depending on the resources that it owns. Regardless of gender, age, profession, experience or resources all individuals should have equal opportunities for planning, development and progress of their own careers. A high level of expertise requires also careful planning of all actions to achieve success on the way of development of its career. It is therefore logical that the management requires varied roles of individual to a complex technological system to function smoothly.

### **5.1. Learning organization**

Highly effective training is very important in the process of continuous learning. Requirements of continuous learning are understanding of the concept of system working program that includes link between jobs, work units and companies. Employees are expected to adopt new skills and knowledge, apply them to work and share this information with other employees. The important role of managers is to identify training needs and ensure them. To facilitate the exchange of knowledge, managers can use the information maps that show where in company is certain knowledge (for example, directories specifying what that person does and who has special knowledge) and use technology like software for group work (groupware) or the Internet, which allows employees in different business units at the same time working on issues and exchange information.

The learning organization assumes that organization in which employees have a continuous sequence of learning, in which they try to learn new things and then apply them in the process of improving the quality of products or services. Upgrading does not end with the completion of the official training. The objectives of the company are carefully coordinated with the training process. In the learning organization, training is seen as a part of the system designed to create intellectual capital.

The key characteristics of a learning organization are: (Petković, Jovanović-Božinov, 1999)

- Continuous learning - knowledge transfer within the organization
- Creating and sharing knowledge - systems to create, acquiring and sharing knowledge are developed.



- Critical systems thinking - employees are encouraged to "think outside the box", and encouraged them to new ways of thinking, on spotting the connection, etc.
- The culture of learning - the manager and the company aims reward, encourage and support learning.
- Encouragement of flexibility - employees are encouraged to take risks, innovation, research and experimentation of new ideas
- Respect of employees - system and environment are focused on ensuring development and well-being of every employee.

## **5.2. Lifelong learning as relevant initiator of development**

Lifelong learning refers to any learning activity throughout life of improving knowledge, skills and competences within a personal, civic, social or professional activity of the individual. It covers learning in all stages of life, from early childhood to old age and in all forms in which it is realized, it was formal, non-formal or informal.

Knowledge is one of the main initiator of economic development and the economy, as well as society as a whole. Knowledge and education, starting from globalization criteria, are imperative in the development of human resources. The purpose of each system is to connect the process of knowledge with requirements of economic development and the labor market, and to generate more qualified and educated personnel, and thus allow the permanent employment, reduce unemployment and develop the system of knowledge and education, ie. Life-long learning. Top quality education is very crucial for the development of Croatia and the EU as a knowledge-based society and their effective competition in the global knowledge economy. The EU finances a number of programs and thereby allows its citizens make full use of their potential. In the period from 2007 to 2013, the European Union allocated approximately EUR 7 billion to lifelong learning. Croatia in 2011 became a full member the Lifelong Learning Programme.

In economic terms it is necessary to develop entrepreneurship and lifelong learning about entrepreneurship and encourage pupils, students and workers on it. Lifelong learning, with formal and informal learning covers also informal learning with the aim of improving knowledge and skills. Formal education through the educational system includes programs that finish diplomas and qualifications. Non-formal education is provided regardless of the educational system, in which individual programs can have a public document as a document of the successful mastering of the program, but not necessarily.

It is necessary to develop entrepreneurship education in order to maintain global competitiveness. Entrepreneurship development is a key factor to anyone who wants to be competitive in the market. It is necessary to create synergy between lifelong learning and entrepreneurship in order to create a positive stimulating environment for economic development through entrepreneurship.

It is necessary to renew the existing knowledge, skills and abilities required for an individual because continuous competitiveness on the labor market. Since the organization could no longer guarantee steady employment, its employees must expand their knowledge and skills through the Lifelong Learning program. The labor market will work if there is a balance between labour supply and demand. The long-term result of lifelong learning should be qualified and flexible workforce that responds quickly to labor market needs. Therefore, it is most important to focus all activities to increase employment and employability. These activities are poorly focused on

profiles of people who want to enter the labor market, which is mainly relating to persons with disabilities and young people without work experience.

## 6. Conclusion

Now is a time of turbulent changes. In front of management are placed great challenges. The characteristics of 21st century organization are: organizations increasingly focus at the survival and future, changes happen, the behavior is proactive - in other words, everyone is responsible for their own destiny and everyone is responsible for their own actions. Knowledge takes a leading role in the development of modern organizations, there trying to find balance between different knowledge. Modern organization liberates individual creativity and significantly invests in all employees. Employees are increasingly seen as the key factors.

The organizational workflow is no longer only of technical nature, but more and more includes human dimension. Businesses build on relationship between employees. Organizations become more environmentally friendly, work in accordance with preservation of natural environment. The process of globalization connect people of different nationalities, so diversity among people become a fundamental requirement for organization. Based on all the aforementioned characteristics, it may be noted that modern management think globally.

## REFERENCES

- Bahtijarević–Šiber, F. (1999.): *Menadžment ljudskih potencijala*, Golden Marketing, Zagreb
- Bahtijarević–Šiber, F., Sikavica, P., Pološki-Vokić, N. (2008.): *Suvremeni menadžment. Vještine, sustavi i izazovi*, Školska knjiga, Zagreb
- Drucker, P. (1992.): *Nova zbilja*, Novi liber, Zagreb
- Iveković, D. (2007.): *HR Menadžment - suvremeni pojmovnik*, M.E.P. Consult, Zagreb
- Noe, R. A.; Hollenbeck J. R.; Gerhart B.; Wright P. M. (2006.): *Menadžment ljudskih potencijala, treće izdanje*, Mate, Zagreb
- Petković, M., Jovanović-Božinov, M. (1999). *Organizaciono ponašanje – novi koncept vođenja preduzeća*, Poslovna škola Megatrend, Beograd
- Sikavica, P. i dr. (2008.): *Temelji menadžmenta*, Školska knjiga, Zagreb  
<http://nova-akropola.hr/kategorija-kultura/globalizacija/> (accessed 11 May 2015)

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**INFORMATION NEEDS AND INFORMATION SEEKING BEHAVIOUR  
OF YOUNG SELF-EMPLOYED PERSONS IN THE OSIJEK-BARANYA  
COUNTY**

**INFORMACIJSKE POTREBE I INFORMACIJSKO PONAŠANJE  
MLADIH SAMOZAPOSLENIH OSOBA U OSJEČKO-BARANJSKOJ  
ŽUPANIJI**

***ABSTRACT***

*Young people are undoubtedly the most valuable economic, political and social resource, and a future force for the sustainable development of every country. In Croatia, seeking employment represents one of their main challenges. Job creation, competitiveness increase and the production of sophisticated and innovative goods and services are the things that encourage and enhance economic growth and development, and increase profits. Motivating and supporting young people to get self-employed and become entrepreneurs help them enter the labour market. At the same time, it is necessary to emphasize the importance of a proactive search for job openings. In Croatia, certain employment policies are currently being implemented at national level, including counselling, professional guidance and training. Timely information has a very important role in all stages of the entrepreneurial process. Providing relevant information at the right time can forge decisions that affect the outcome of an entrepreneurial venture. The purpose of this paper is to stress the information needs and behaviour of young self-employed people in the Osijek-Baranya County during various stages of the entrepreneurial process. The study involves young people who became self-employed in the period from 2014 to 2017. The applied methodology encompassed a survey and an interview. Due to a low response rate, the analysis of the results is based only on a qualitative approach. The results indicate what kind of information is needed to for becoming an entrepreneur, which sources of information young people use and what obstacles they encounter when searching for information on self-employment and entrepreneurship. The study makes a contribution to the understanding of the information*

*seeking behaviour associated with a job search. Also, the results of this study can serve as a basis for tailoring or improving the guidelines for providing counselling and encouragement when actively seeking employment as well as a framework for possible cooperation with public service and information providers with the ultimate goal to ensure the most adequate responsiveness to the needs of young people.*

**Key words:** *self-employment, youth, information seeking behaviour, entrepreneurship.*

## SAŽETAK

*Mlade osobe nesumnjivo predstavljaju veliki ekonomski, politički i društveni resurs te buduću snagu za održivi razvoj svake države. Jedna od glavnih potreba s kojom se susreću mladi u Hrvatskoj je potreba za zaposlenjem. Otvaranje novih radnih mjesta, povećanje konkurentnosti te proizvodnja sofisticiranih i inovativnih dobara i usluga stvari su koje potiču i jačaju gospodarski rast i razvoj te povećaju dobit. Poticanje i podržavanje mladih u samozapošljavanju i poduzetništvu načini su na koje se mlade može i treba uključiti na tržište rada. Istovremeno, potrebno je osvijestiti mlade o važnosti proaktivnog traženja posla. U Hrvatskoj se to na nacionalnoj razini čini kroz mjere aktivne politike zapošljavanja koje uključuju savjetovanje, usmjeravanje i treninge. Pružanje pravovremenih informacija vrlo je značajno u svim fazama poduzetničkog procesa. O odgovarajućoj informaciji dostupnoj u pravo vrijeme ovisi odluka koje utječu na ishode poduzetničkog pothvata. Svrha ovoga rada je prikazati informacijske potrebe i ponašanje mladih samozaposlenih osoba u Osječko-baranjskoj županiji tijekom raznih faza samozapošljavanja. U istraživanje su uključene mlade osobe koje su otvorile vlastite ili preuzele tuđe tvrtke u razdoblju od 2014. do 2017. godine. Istraživanje se metodološki oslanja na ankete i intervjuje. Zbog slabog su odaziva rezultati oba dijela istraživanja obrađeni kvalitativnim pristupom. Nadalje, rad na temelju provedenog istraživanja pokazuje koje i kakve informacijske potrebe imaju mlade samozaposlene osobe, koje izvore informacija koriste te s kojim se preprekama susreću u pronalaženju informacija vezanih za samozapošljavanje i poduzetništvo. Istraživanje i iz njega proizašli članak predstavljaju doprinos razumijevanju informacijskog ponašanja mladih u kontekstu traženja posla i eventualnog samozapošljavanja. Također, rezultati ovog istraživanja mogu poslužiti kao osnova za prilagođavanje ili unaprjeđenje smjernica za savjetovanje mladih osoba i poticanje njihovog aktivnog traženja zaposlenja te kao okvir za moguću suradnju državnih službi i informacijskih ustanova s konačnim ciljem što adekvatnijeg odgovaranja na potrebe mladih.*

**Ključne riječi:** *samozapošljavanje, mladi, informacijsko ponašanje, poduzetništvo.*

## 1. Introduction

Unemployment affects the social, economic and political image of a country and is one of the leading problems in the world today. According to the Croatian Central Bureau of Statistics, Croatia's registered unemployment rate in January 2017 was 15.4%.<sup>1</sup> In Croatia, the term young people comprises every person aged between 15 and 29 years (Bilić, Jukić, 2014, 486)<sup>2</sup>. Members of that age group have just entered or are about to enter the labour market. The whole process of their entry into the labour market is hampered by a lack of experience and training, which cannot be said for their older competitors. One of the reasons for such a high

<sup>1</sup> Central Bureau of Statistics. [http://www.dzs.hr/Hrv/system/first\\_results.htm](http://www.dzs.hr/Hrv/system/first_results.htm)

<sup>2</sup> It should be noted that Europe and Croatia use different classifications of people regarding age limits. In Europe, people are not considered young so long. The reason for different criteria in this view refers to different socio-economic situations and a different length of the economic dependence on parental support.

unemployment rate among young people is the ever-present recession, due to which it is not advisable to invest in young people where there is a realistic possibility that the investment will not return until they gain adequate work experience and knowledge (Bilić, Jukić, 2014). In 2013, the highest unemployed rate among young people at national level was recorded in Slavonia (Mrnjavac, Bejaković, 2016, 32). Referring to the same year, the Osijek-Baranya County faced the unemployment rate of 20.9%, which was significantly higher than the respective Croatian average (14.2%) (Bilić, Jukić, 2014, 492). In the same period, there were approximately 23.5 percent of young unemployed people aged between 15 and 24 years at European level (Mrnjavac, Bejaković, 2016, 32). In addition to the recession, another reason for a high unemployment rate is the mismatch between supply and demand, accompanied with a growing number of temporary employment contracts which upon their expiration result in job loss and recurrent unemployment (Mrnjavac, Bejaković, 33). In 2015, the unemployment rate among young people in Europe did not change much with respect to the year 2013 or more precisely, it amounted to 22,4%<sup>3</sup>, but in Croatia, this figure jumped to 43%, which considerably exceeds the European average and represent a sharp rise comparing to the situation two years earlier. In the same year, the percentage of young unemployment people in the Osijek-Baranya County rose to 30,6%. (Croatian Employment Service, Monthly Statistics Bulletin, 2015). The 2016 and 2017 data reveal that the situation has now changed a bit. If compared to the same month a year ago, the employment rate has dropped in all age groups in Croatia. The sharpest decrease is evident in the 15-34 age group (Croatian Employment Service, Monthly Statistics Bulletin, 2017).

A carefully selected policy is crucial for the regulation of a modern competitive economic system. Education systems are of vital importance when it comes to the preparation of young people for entering the labour market. A series of documents which provide guidelines for resolving this problem have been issued on international level, such as the EU Youth Strategy for 2010-2018, the Europe 2020 strategy and Youth on the Move, an initiative to unleash the potential of young people to achieve smart, sustainable and inclusive growth in the EU. In this context, one should not forget the Youth Guarantee scheme from 2013 (Mrnjavac, Bejaković, 34). An initiative of the European Union called Youth on the Move aims to increase the efficiency of educational systems by facilitating cooperation with the labour market, improving educational outcomes, reducing the number of people who have left school early and preparing young people for the labour market (Zrilić, Širola, 2013, 108). Through its public employment services, the Republic of Croatia is currently implementing a number of measures aimed at the reduction of youth unemployment. Some of them have proved to be more efficient than the others: professional training for work without an employment contract, training grants, financial support for employing certain categories of unemployed people, and last but not least, financial support for self-employment. The purpose of those measures encompasses the stimulation of economic growth, economic recovery and the development of entrepreneurship as well as the encouragement of new investments and technological development (Bolarić Škare, 304-305). Special attention is hereby drawn to a particular measure which has turned out to be very popular in terms of unemployment reduction.

## **2. Self-employment as a measure for reducing youth unemployment**

New technology and lifelong learning can support someone's decision to try entrepreneurship as one of the ways to dive into business ventures and enter the digital market 'without borders'. Self-employment has started to be regarded as a possible development strategy and an answer to the question how to reduce a high unemployment rate. Due to a lack of work experience, young self-employed people or entrepreneurs face greater challenges than experienced businessmen do

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<sup>3</sup> Eurostat. Statistics Explained. [http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment\\_statistics#Youth\\_unemployment\\_trends](http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Youth_unemployment_trends)

when starting or doing business, which is mostly reflected in a lower success rate. Self-employed youth can be highly beneficial to the community. Young people promote new ideas and innovative solutions in various fields, and often refuse to blindly follow traditional rules, which can bring to increased job creation and expansion of their business (Riahi, 2010). However, one of their biggest challenges is to stay competitive on the market. This assertion is derived from the fact that many small companies are closed down within the first few years of doing business. Certainly, one of the requirements for keeping up with the business trends and the world of today is possessing a high level of computer literacy (Zrilić, Širola, 2013). As our educational system lacks cooperation between institutions and does not catch up with business markets, young people are not given a chance to acquire appropriate IT skills, which makes them uncompetitive on the labour market.

### **3. Information needs and behaviour**

It can be said that digital technology and lifelong learning are the key characteristics of modern times. Information is regarded as the main asset of these characteristics. Information uncontrollably multiplies and becomes obsolete. In order to start their own business, future self-employed people and entrepreneurs need to have a priority access to information and at the same time, be able to evaluate different kinds of information. Having an access to, knowing where to seek and being able to find and recognize the right information are all prerequisites for a high success rate in future business ventures. Every person needs information for his/her business. These information needs are related to areas such as market, industry, technological changes, institutional procedures, legal issues, competition and so on (Chaudhary, Kameswari, 2015). An information need can be defined in many ways. One of the definitions of an information need in the context of business proposes as follows: "Information need is a situation that arises when an informal entrepreneur encounters a work-related problem that can be resolved through some information" (Ikoja-Odongo, Ocholla 2004, 58). A question that can be posed here is what kind of information young entrepreneurs need, regardless of their educational background. The second question is whether they know where to find the information they need and how to qualify or not qualify it as relevant and accurate. Without possessing a certain degree of computer literacy, it can be very hard for an individual to find the information he or she needs and it will probably take him/her more time to do that. Moreover, a person cannot be sure of the reliability of obtained information if he/she does not know how to check the accuracy thereof. According to Wilson, information seeking behaviour is an activity through which a person identifies their own need for information and seek a way to meet this need in order to use or transfer gained information (Wilson, 1999). Wilson's model of 1981 suggests that an information need is not a primary need, but a secondary one and to meet their need, information seeking individuals can come to certain barriers which can make the road to relevant information a bit complicated, sometimes even impossible (Wilson, 1999, 252). Dervin's Sense-Making theory consists of four elements. In the first element there is a certain situation where an information problem occurs, the second element is a gap - a difficulty which must be overcome. The third element is a bridge, a way of closing the gap between situation and the fourth element - the outcome, the result of the sense-making process (Wilson, 1999, 253). Considering the models above, this paper tries to identify the most common gaps that young self-employed people need to close through information seeking behaviour when they are engaged in an information seeking activity.

## **4. Research**

### **4.1. The purpose and goals of the research**

The purpose of this paper is to emphasize the information needs and information seeking behaviour of young self-employed people in the Osijek-Baranya County during various stages of the self-employment (entrepreneurial) process. The main goal of this study is to better understand the information seeking behaviour of young self-employed people in the Osijek-Baranya County in order to be able to give recommendations for providing information services in a better way. The objectives of this study include identification of information needs and information behaviour of young persons when seeking information related to self-employment

The questions raised in this study are as follows:

1. What kind of information do young self-employed persons need in different phases of their entrepreneurial venture?
2. Where do young self-employed people seek information needed for their business?
3. What kind of barriers do young self-employed people face when seeking information for business purposes?

### **4.2. Methodology**

The research was conducted in the Osijek Baranya County during January, February and March 2017, using surveys and interviews. The participants were young self-employed people aged between 15 and 29 years (at the time when their self-employment was registered), who got self-employed between 2014 and 2017. According to the Central Bureau of Statistics, 296 self-employed people met the age and timeframe criteria. All of the 296 participants were contacted by the Croatian Employment Service via SMS messages and asked to complete an online questionnaire. The questionnaire included open- and closed-ended questions. At the end of the questionnaire, the participants were asked to provide their contact info (e-mail) if wishing to be interviewed. Only 23 participants completed the survey, which entails a response rate of 7.8%. The response rate was far below our expectations (A 25-30% response rate is common for this kind of a survey). Subsequently, nine participants agreed to be interviewed. Due to a low response rate, no quantitative analysis of obtained data was performed, so both the survey and the interview data were analysed only qualitatively. Out of the total of 23 participants, there were 12 female and 11 male examinees. Almost half (11) of the examinees were in their first year of self-employment.

### **4.3. Results and discussion**

#### **4.3.1. The importance and type of information young employers seek during their self-employment**

The findings show that survey participants deem information as a very important element in the self-employment (entrepreneurial) process. During the development phase, people interested in starting their own business are most often faced with questions related to the company registration procedure, i.e. the self-employment (entrepreneurial) process. Furthermore, examinees raised questions referring to the profitability of their business venture and the successfulness of business process management as well as to self-employment subsidies, company management and marketing. Here are some of their questions:



ID 55 [*"What do I all need to register and close down a trade? What business activities should I register if I intend to perform different business operations? How to apply for a subsidy? What should I take account of if I get a subsidy? What is the most convenient subsidy for me? What kind of records shall I keep as a tradesman subject to flat taxation? What are the other costs related to a flat tax regime trade? What if I am employed in another company on a permanent basis and I want to register a flat tax regime trade? Do I have to open a business bank account or I may keep on using my personal bank account if I am the only employee in my trade?"*]

ID35 [*"Who should I refer to if I want to get information on state subsidies? How to get to a person who knows all the answers to my questions? What should I all do as a tax payer? People working in public institutions should be better informed"*].

#### 4.3.2. Sources of information related to self-employment

Survey participants sought information related to self-employment from different sources such as various organisations, public institutions, other people, professional books and the Internet. Examinees differed in their ways of seeking information. The Croatian Employment Service is the institution that many survey participants referred to in order to get necessary information. Most of them are satisfied with the services provided by that institution. Some of them contacted the Ministry of Labour and Pension System on various occasions. At the same time, other participants revealed that they had rarely contacted that Ministry. Most participants stated that they had never contacted the Ministry of Economy to get information they needed. On the other hand, some survey participants disclosed that the same Ministry was their frequent source of information. Some denoted the local Centre for Entrepreneurship as their source of information. Other information sources were the Faculty of Economy, the Ministry of Health and Social Welfare, the Tax Administration and the Labour Inspectorate.

One participant mentioned his accountant and notary public as valuable and important sources of information:

*ID53 So far we have been seeking information from our accountant and notary public since they can also benefit from our successful business.*

Examinees often asserted that they regard their acquaintances, friends and family member possessing entrepreneurial experience as a valuable source of information. The fact that individuals usually refer to other people when seeking information corresponds with the results of some previous studies on the information seeking behaviour in entrepreneurship, e.g. the study conducted by Ikoja-Odongo, Ocholla, 2004. The reason for such practice refers to other people's experience in similar situations and shorter time to get reliable information. Precisely:

*ID47 ["I believed that my friends possess relevant experience in the same business and they were all willing to help".*

*ID53 ["When it comes to business, what matters the most is promptness and the promptest answers can be given by people who have already gone through the same problems".]*

The Internet is also a popular source of information, although not always a satisfactory one. The partial satisfaction with the Internet can be explained by the fact that it does not always provide comprehensive information on one site. People does not often know where to seek information nor can adequately evaluate the reliability of obtained information. Professional literature is hardly ever considered a source of information related to self-employment. It is interesting that none of the examinees went to a library to get informed about self-employment. When asked

why they did not go there, they revealed that they did not expect that they could get necessary information there and that it would take them too much time to get to the library:

*ID47 [“The library was the last place where I would search for information. Seeking information requires getting prompt answers and the library seemed to be a slow and hardly available solution.”.]*

*ID37 [The library? I don’t think so, we can compare it with print newspapers, but what’s the use of it? What I want to find out is already within my reach].*

#### 4.3.3. Barriers young people face when getting self-employed

The information seeking process implies many obstacles. The examinees saw the fact that the public information system does not offer appropriate support in regard to the dissemination of the information and knowledge on self-employment as a barrier in their intention to become entrepreneurs. Furthermore, they were forced to assess information reliability themselves and they did not have competence to do that. One examinee observed as follows:

*ID47 [Every particular institution is confined to its scope of activities and it does not want to interfere with the competences of other institutions since it is not sure what, how and why it is supposed to do something. Not so often the competences of different institutions overlap and then it came to different interpretations of the same thing, which required additional verification and clarification.]*

Moreover, what they found inconvenient is the fact that some institutions did not provide them with required information since the employees were not at all instructed about the information they are supposed to provide. Some survey participant indicated the following problem:

*ID 37 [“I could hardly wait to be asked this question since it is funny, sad and unfair that some people who work in public institutions are neither competent nor willing to share knowledge and help information seeking individuals. The best example thereof is the Department of Health and Social Welfare in Osijek where I sought some information from the head of the Department and she told me that she does not have a clue and that I’d better check the law and come to her office after the holidays to inform her what I have found out, so she could benefit therefrom, and finally rushed to wait for the delivery boy...”]*

*ID 24 [“A lack of information [in certain situations] usually results in absurd ideas: for instance, as a physiotherapist I was referred to a masseur training course (I attend such a course at faculty) in order to obtain a licence for trade registration.”]*

The need to seek information in several different places also represented an obstacle to the smoothness of the self-employment process. Examinees qualified it as a waste of time or an obstruction in the entrepreneurial process.

*ID 13 [“The system does not ensure proper support for the dissemination of information and knowledge and not all the relevant pieces of information can be found on one website or can be obtained from one person, so this whole thing requires a lot of walking and inquiries.”]*

A lack of work experience appears to be a barrier in this view too. Survey participants singled it out since it is their lack of work experience that makes it difficult for them to know where to seek information and who to refer to.

Most examinees partially agree with the assertion that they have already developed their own efficient strategies for getting answers to questions related to self-employment and that they do not need systematic support from others, which can entail that they, having been faced with a lack of assistance from supposedly available sources of information, had to make their own inquiries and to seek and evaluate information themselves.

## 5. Conclusion

A higher employment rate among young people in the Republic of Croatia would surely result in a higher level of the youth satisfaction with the manner of resolving existential issues and dealing with the dependence on parental financial aid or support. A higher youth employment rate would bring to great socio-psychological benefits for young people and their families, and the state could achieve higher economic growth and faster economic development. State subsidies encouraging youth self-employment should motivate and support young people in their intention to become entrepreneurs.

The conducted research suggests that young people seek various kinds of information in the entrepreneurial process. Information needs do not depend only on a desired business but also on a phase of the entrepreneurial venture. The results demonstrate that when wishing to get self-employed, young people seek information in different places, use different sources of information and regard interpersonal contacts as a highly valuable source of information. When seeking information, young people face numerous barriers. One of the main barriers is their lack of entrepreneurial experience, which results in a lack of skills to convey their information needs. Another obstacle to obtaining information is the fact that they are forced to seek information in several different places. Inadequate information provision and a lack of instructions and competences in some public institutions occur to be a further obstacle which young people need to deal with. What as well requires great efforts from young people in this context is information evaluation, for which they are not competent. The lack of a possibility to get all the information in one place, the need to evaluate obtained information on their own and the existence of various sources of relevant information are the things that contribute to a lengthy employment procedure, which may lead to a young people's negative perception of the state and society regarding the concern for their needs.

Solid information infrastructure can be a good basis and requirement for the utilization of public potentials and resources by young people. The provision of information services by public institutions and organizations involved into employment processes should be well-organized and -coordinated. Such services need to be provided by well-trained personnel. The process of providing information services should include information institutions such as libraries. Providing information services is one of the primary tasks of information institutions and as such these institutions may contribute to the development and usage of services provided in public institutions and organizations. What should be fostered in the context of youth employment possibilities is the mutual cooperation and interaction of state-owned institutions and organizations and the inclusion of information institutions in employment processes since this could in the end bring to greater satisfaction of information needs and better utilization of young people's potentials.

## REFERENCES

Bilić, N., Jukić, M. (2014). *Nezaposlenost mladih: ekonomski, politički i socijalni problem s dalekosežnim posljedicama za cjelokupno društvo (Youth Unemployment: an Economic, Political and Social Issue with Far-Reaching Consequences for the Whole Society)*. // Journal of Law and Social Sciences of the Faculty of Law of the J.J. Strossmayer University in Osijek,

Vol 30, No 2, pp. 485-505. URL: [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=195539](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=195539) (accessed 9 February 2017)

Bolarić-Škare M. (2012). *Poduzetništvo i samozapošljavanje - primjeri dobre prakse (Entrepreneurship and Self-Employment – Examples of Good Practice)*. // Entrepreneurial learning, Vol 2, No 2, pp. 303-310. URL: [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=192466&lang=en](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=192466&lang=en) (accessed 9 February 2017)

Central Bureau of Statistics. URL: [http://www.dzs.hr/Hrv/system/first\\_results.htm](http://www.dzs.hr/Hrv/system/first_results.htm) (accessed 15 February 2017)

Chaudhary, S., Kameswari, V.L.V. (2015). *Information Needs of Rural Women Entrepreneurs*. // New Media and Mass Communication, Vol 33, pp. 44-48. URL: <http://www.iiste.org/Journals/index.php/NMMC/article/viewFile/19220/19815> (accessed 10 February 2017)

Eurostat. Statistics Explained. *Unemployed statistics* [http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment\\_statistics#Youth\\_unemployment\\_trends](http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Youth_unemployment_trends) (accessed 10 February 2017)

Ikoja-Odongo, R., Ocholla, D. (2004). *Information seeking behaviour of the informal sector entrepreneurs: the Uganda experience*. // Libri, Vol 54, No 1, pp. 54-66. URL: [https://www.researchgate.net/publication/254813188\\_Information\\_Seeking\\_Behavior\\_of\\_the\\_Informal\\_Sector\\_Entrepreneurs\\_The\\_Uganda\\_Experience](https://www.researchgate.net/publication/254813188_Information_Seeking_Behavior_of_the_Informal_Sector_Entrepreneurs_The_Uganda_Experience) (accessed 10 February 2017)

Kuhlthau, C. *Information Search Process*. URL: <http://wp.comminfo.rutgers.edu/ckuhlthau/information-search-process/> (accessed 3 March 2017)

Mrnjavac, Ž., Bejaković, P. (2016). *Nezaposlenost mladih i mjere za njezino ublažavanje u Hrvatskoj (Youth Unemployment and Measures for Its Reduction in Croatia)*. // Political analyses, 27, pp. 32-38. URL: <http://hrcak.srce.hr/169899> (accessed 15 February 2017)

Riahi, S. (2010). *Youth Entrepreneurship: Ottawa's Portfolio in Talent Development*. URL: <http://timreview.ca/article/394> (accessed 10 February 2017)

Wilson, T.D. (1999). *Models in information behaviour research*. // The Journal of Documentation 55, 3, pp. 249-270.

Zrilić, N., Širola, D. (2013). *Razvoj poduzetništva mladih: neiskorišteni potencijal Hrvatske (Development of Youth Entrepreneurship: Croatia's Unused Potential)*. // Collection of Works of the University of Rijeka, Vol 1, No 1, pp. 95-111. URL: [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=152072](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=152072) (accessed 10 February 2017)

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## **CORRELATION BENEFITS IN MENTORING RELATIONSHIP**

### **UZAJAMNE PREDNOSTI ODNOSA U MENTORSTVU**

#### ***ABSTRACT***

*The topic 'Correlation Benefits in Mentoring Relationship' emphasizes the importance of a relationship between mentor and protégé and explores beneficial developments of mentoring models. Successful mentoring is a relationship between mentor and protégé where both partners accomplish mutual correlational benefits. The conception of mentoring originated in ancient Greece, when Odysseus entrusted his friend Mentor to teach and protect his son Telemachus.<sup>1</sup> Since then mentoring models have evolved to have a significant impact on knowledge transfer and professional development. Throughout medieval times in some parts of the world continuation of knowledge transfer was constrained by established conservative doctrines and opposition of authorities to freedom of thought.<sup>2</sup> The evolution of economy from feudalism into industrialization changed ways of communication and accelerated knowledge transfer. The latest era of computerization has revolutionized sharing of knowledge through instant retrieval of information and evolution of mass media communication. Millennials embraced computers and it opened new opportunities for the technologically savvy younger generation to advance through hierarchal organizational structure. Reverse mentoring emerged as an open-minded mentoring model, where IT competent younger generation leaders contribute to relationship through reversed mentoring of older generation executives. The further advancement through natural development of mentoring relationship is a transition from a reverse model into a reciprocal one. New mentoring models and mentor/protégé relationships are important part of changes in entrepreneurial climate and individual career development. Intergenerational knowledge transfer supports entrepreneurial strive to improve employee retention, excel in innovations and competitiveness, therefore increase enterprise's market share, and contribute to the accelerated economic growth. The purpose of the study is to analyze mentorship as part of entrepreneurial learning, especially in the context of multigenerational knowledge transfer. The additional aim of this paper is to compare different role of mentoring models in multigenerational relationships and how reciprocal model changes correlation benefits in a two-way mentoring relationship. Theoretical overview of two-way reciprocal mentoring relationship and correlation benefit findings in this paper confirm the hypotheses of positive overall effects to employees and to the overall prosperity of the company.*

*Multigenerational knowledge transfer models have variations in different fields i.e. industry, government, academia and education; and is in need of further research.*

**Key words:** *mentoring, leaders, knowledge transfer, entrepreneurial learning, economic growth.*

## **SAŽETAK**

*Tema 'Uzajamne Prednosti Odnosa u Mentorstvu' naglašava važnost odnosa između mentora i štíćenika i istražuje korisne efekte mentorskih modela. Uspješno mentorstvo je odnos između mentora i štíćenika, gdje oba partnera ostvaruju uzajamnu korisnost. Konceptija mentorstva se spominje u staroj Grčkoj, kad je Odisej povjerio svom prijatelju Mentoru da podučava i zaštiti njegovog sina Telemaha. (<https://www.greekmythology.com/Myths/Mortals/mentor.html>) Pretpostavljamo da su se od tada počeli razvijati mentorski modeli i mentorstvo. Tijekom srednjeg vijeka u nekim dijelovima svijeta konzervativne doktrine protivljenja u slobodi razmišljanja su ograničavale prijenos znanja. Ekonomska evolucija prijelaza od feudalizma u industrijalizacijsku eru je promijenila način komunikacije i ubrzala prijenos znanja. Nova era informatike je dovodi do revolucije širenja znanja u momentalnom pronalaženju informacija i ubranog razvoja masovnih komunikacijskih medija. Generacija 2000 tisuće godišnjaka i mladih generacija svakodnevno prihvaćaju računala i informacionu tehnologiju i svojim znanjem primjene nove tehnologije ravnopravno se uključuju u arhaičnu strukturu organizacija. Superiornost mlađih generacija u znanju i korištenju IT tehnologije je stvorilo reverzibilni model mentorstva. Mlađi lideri preuzimaju ulogu mentora u korištenju računala i edukaciji starijeg rukovodstva. Kolaboracija među generacijama unaprijedila je reverzibilni model mentorstva u noviji model dvosmjernog modela razmjene znanja i iskustava. Novi model odnosa mentora i štíćenika je važan dio promjena ekonomskog razvoja i napredovanja u karijeri oba partnera. Međugeneracijski prijenos znanja unapređuje poduzetništvo u poslovanju, zadržavanju zaposlenih, podupire inovacije i konkurentnost; i stoga povećava udio poduzeća na tržištu, te pridonosi bržem gospodarskom rastu. Svrha ovog istraživanja je analiza mentorstva kao dio edukacije u poduzetništvu, posebice u kontekstu multigeneracijskog prijenosa znanja. U radu se uspoređuju različite uloge mentorskih modela kroz višegeneracijske odnose. Korelacioni odnos dvosmjernog ili recipročnog mentorstva obrađen je u temi ovog rada. Teoretski prikaz dvosmjernog recipročnog mentorskog odnosa i empirijski nalazi u ovom radu potvrđuju pretpostavke pozitivnog efekta u odnosu zaposlenika i prosperitetu društva. Multigeneracionalni modeli prijenosa znanja imaju varijacije u različitim područjima industrije, vlade, akademske zajednice i obrazovanja; i potrebna su daljnja istraživanja teme uzajamnih prednosti odnosa u mentorstvu. Cilj rada je ukazati na potrebu korištenja mentorstva u stvaranju lidera u svim sferama modela razmjene znanja i iskustava, bez obzira o kakovim se poslovima radilo sa svrhom bržeg i kvalitetnijeg ostvarivanja postignuća, a kroz to i ostvarivanja bržeg gospodarskog rasta.*

**Ključne riječi:** *mentorstvo, lideri, prijenos znanja, poduzetnička edukacija, gospodarski rast.*

### **1. Development of reciprocal mentoring as a collaborative model**

Recognition of mentoring is on the rise since the late 1980s. Importance of mentoring excelled since Kram's influential work.<sup>3 4</sup> Mentoring relationships are recognized as one of the most effective way of transferring knowledge and experience in inspiring development of new leaders

and *'the opportunity to interact one-on one with members of senior management helps newer employees develop a more sophisticated and strategic perspective on the organization'*.<sup>5</sup> Theoretical research about positive benefits of mentoring has been researched in books, journal articles and research papers.<sup>6</sup> Traditional hierarchical mentoring model encompasses accomplished leaders as mentors to junior level employees. This one-way mentoring model is mostly beneficial to protégé. Rapid technological advances and generational diversity is transforming typical employee relationships. Reverse type mentoring is another model, where junior computer savvy employees mentor their senior managers and help them to learn skills to understand computerized information technology. This direct exposure of lower level employees to senior leaders led to reciprocal mentoring model as a two-way relationship for the benefits of both sides, especially beneficial to juniors in better understanding of the business operation.<sup>7</sup> Continuous extensive research created major advances in developing new mentoring models, which are implemented in entrepreneurial organizations and education institutions. Research papers, journal articles and books discuss positive benefits of mentoring.<sup>8</sup> In traditional hierarchical mentoring model the accomplished leaders are mentors to junior level employees. This one-way mentoring model is mostly beneficial to protégé.<sup>9</sup> The reciprocal model of mentoring progressed from reverse model and it has been recognized in research literature on development of knowledge transfer. *'...mentoring has a dual focus on the leadership development of both mentor and mentee. Millennial mentors have the opportunity to demonstrate capabilities as leaders through their coordination of tasks and goals in this relationship.'*<sup>10</sup> Rapid technological advances and generational diversity are transforming typical employee relationships. Developmental relationships are becoming one of the most important tools in cultivate new leaders.<sup>11</sup> Today multiple generations from aging boomers to young millennial are working side-by-side. Senior managers are challenged to become acquainted with new IT computerized technology. Computer savvy younger employees and senior management have mutual interest in learning from each other through reciprocal model of collaboration of knowledge exchange. Reciprocal mentoring is a two-way mutually beneficial correlation and gives opportunity to both participants to share knowledge and improve their competency.<sup>12</sup>

## **2. Data collection, measuring and analysis**

Scientific contribution of this research paper presents alternative correlation benefit analysis of cross-generational mentor/protégé model in reciprocal mentoring, as well as attitudes following completion of mentoring programs. Three distinct different companies are analyzed to explore conceptual understanding of entrepreneurial learning through mentoring process. The research paper has evolved from my own experience as an entrepreneur and as an executive being involved in managing and developing new talents for small and medium size companies in Canada. The research emphasis is on reciprocal mentoring model and which are benefits to individuals and organization. Case studies in this paper research indicate that reciprocal mentorship is naturally occurring in small and medium size companies, as in large companies is engineered and is part of human resources training policy. Research in this paper corroborate evidence that reciprocal mentoring model brings further correlation benefits to individuals, improves employee retention, as well as enhanced performance of the entire organization. The findings in this research should encourage executives, entrepreneurs and human resources managers to implement reciprocal mentoring model and conceptualize it as an important initiative. The research framework developed is based on observations, narrative exchange, interviews and qualitative methodology



with corroborative analysis of data collected. Data used for employee retention is sourced from available human resource records for each company. The paper research studied employee satisfaction feedback on how reciprocal mentoring changed attitudes, level of competence, change of inner-company communication and variations in level of employee retention. Therefore, to analyze qualitative results, it was the most practical to use semi-structured confidential narrative exchange and voluntary interviews based on pre-determined set of open questions. Reciprocal mentoring satisfaction questionnaire results are expressed in percentage of positive or negative change, such as:

- employee relationship %
- multi-generational collaboration %
- supervisor/subordinate collaboration performance %
- job satisfaction %
- company meeting expectations %
- employee retention (2 categories) %
- enhancement leadership skills %
- motivation to continue further education and training %
- employee attitudes %

Employee retention is one of the indicators of employee job satisfaction and survey questionnaire distinguishes two types of possible answers that suggest employee commitment to stay with a company. An employee has a choice to choose one of the answers. The first choice of answer is whether employee is currently searching for another employment elsewhere or employee is committed to stay with company.

### **Measuring Employee Retention Rate**

Employee retention rate indicates employee fluctuation and capacity of an organization to retain its employees. Employee retention rate can be calculated as follows: Total number of employees in the company number of employees minus number of employees who left the company divided by total number of employee and express as a percentage.<sup>13</sup>

$$\text{Retention Rate \%} = \frac{(\text{Total number of employees} - \text{Employees that left})}{\text{Total number of employees}} \times 100$$

Retention rate number is the company personnel stability indicator and is usually calculated for a period of one year. This number does not include fluctuation of number of employees that left and joined company within the same time period. Turnover rate can influence and compliment retention rate and is calculated by number of employees left divided by the average number of company employees during the same time period.<sup>14</sup>

**Employee participants survey**

The size of three firms have analyzed in this paper employ approximately 30 to 40 employees.

**Company #1 - is specialized in consulting engineering and fabrication.**

**Company #2 - is in precision machining/manufacturing.**

**Company #3 - is specialized in heating and ventilation equipment installation and service.**

In the field of demography generations in the study are defined by the year of birth and are further divided in two groups based on work job category and management position.<sup>15</sup>

**1) Age/Work Experience Groups:**

**Traditional Mentors Group - born 1946 to 1976**

**Digitally Savvy Junior Mentors Group - born 1977 to 2000**

In the field of job category employees are classified in three groups:

**2) Job Classification Groups:**

**Manager/Engineer**

**Skill Trade Employee**

**Apprentice**

*Table 1 Questionnaire form for participants of the reciprocal mentoring program*

|   | <b>Satisfaction Rate*</b> |
|---|---------------------------|
| Job classification: Circle applicable one | Manager / Engineer        |
|   | Skill Trade               |
|   | Apprentice                |
| Age: Circle applicable one                | Born before 1976          |
|   | Born after 1976           |
| Team morale                               | 1 2 3 4 5                 |
| Multi-generational collaboration          | 1 2 3 4 5                 |
| Supervisor/Subordinate collaboration      | 1 2 3 4 5                 |
| Job satisfaction                          | 1 2 3 4 5                 |
| The company achieves my expectations      | 1 2 3 4 5                 |
| Opportunity for career advancement        | 1 2 3 4 5                 |
| I am currently searching for another job  | 1 2 3 4 5                 |
| I am committed to stay with the company   | 1 2 3 4 5                 |
| My level of leadership skills             | 1 2 3 4 5                 |

|   |                           |
|---|---------------------------|
|   | <b>Satisfaction Rate*</b> |
| I am motivated me to pursue additional education & training | 1 2 3 4 5                 |
| Overall work environment                                    | 1 2 3 4 5                 |
| Additional comments / feedback**                            |                           |

\*The following scores are averages on a 5-point scale, where 1 is completely unsatisfied and 5 is very satisfied.

\*\*More additional comment write on a separate page

*Source: Authors*

Table #1 is created based on description of Employee Participants Survey. Results of survey are compiled in Table #3 and Table #4.

**Table 2 Employee Retention Rate (Comparison Before and Six Months After Reciproca Mentoring Program)**

|                                  | Company 1 | Company 2 | Company 3 |
|----------------------------------|-----------|-----------|-----------|
| Employee Retention Rate (before) | 40%       | 50%       | 57%       |
| Employee Retention Rate (after)  | 55%       | 59%       | 56%       |

\* Employees were expected to mark their response on a 5-point scale where 1 is completely unsatisfied and 5 is very satisfied.

\*\*The scores are calculated as average, based on replies of employees of all three companies analyzed.

\*\*\*Changes in Retention Rate comparison is calculated before implementation of mentoring program and after a period of six months following completion of the program.

*Source: Authors*

The data collected before and after the reciprocal mentoring program for each job classification is entered into tables and charts below. The results show positive significance of reciprocal mentoring implementation. Older apprentices born from 1946 to 1976 have been hired through government program of requalification of people whose work place became redundant. All three companies have implemented apprentice program for training and requalification of older employees, who were forced to change their vocation for a new job.

**Table 3 Data collected for participant ages born from 1946 to 1976**

| Data collected for mentoring program |             | Manager/Engineer      |                      | Skills Trade          |                      | Apprentice            |                      |
|--------------------------------------|-------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| Age: born 1946 to 1976               |             | Average Scores Before | Average Scores After | Average Scores Before | Average Scores After | Average Scores Before | Average Scores After |
| Questions                            |             |                       |                      |                       |                      |                       |                      |
| 1                                    | Team morale | 4                     | 4.3                  | 3.5                   | 3.7                  | 3.7                   | 3.8                  |

| Data collected for mentoring program |   | Manager/Engineer      |                      | Skills Trade          |                      | Apprentice            |                      |
|--------------------------------------|---|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| Age: born 1946 to 1976               |   | Average Scores Before | Average Scores After | Average Scores Before | Average Scores After | Average Scores Before | Average Scores After |
| 2                                    | Multi-generational collaboration                            | 3                     | 4                    | 3.7                   | 3.9                  | 3.8                   | 3.9                  |
| 3                                    | Supervisor/Subordinate collaboration                        | 3.5                   | 4                    | 3.2                   | 3.9                  | 3.5                   | 3.7                  |
| 4                                    | Job satisfaction  | 3.9                   | 4.2                  | 3.9                   | 4.1                  | 4.1                   | 4.3                  |
| 5                                    | The company achieves my expectations                        | 3                     | 3.7                  | 2.9                   | 3.1                  | 3.1                   | 3.2                  |
| 6                                    | Opportunity for career advancement                          | 4                     | 4                    | 2.5                   | 2.6                  | 2.5                   | 2.6                  |
| 7                                    | I am committed to stay with the company                     | 4                     | 4.2                  | 3.1                   | 3.4                  | 4.5                   | 4.6                  |
| 8                                    | My level of leadership skills                               | 4                     | 4.7                  | 3.3                   | 4                    | 3.5                   | 3.7                  |
| 9                                    | I am motivated me to pursue additional education & training | 3                     | 3.2                  | 4                     | 4                    | 4.6                   | 4.6                  |
| 10                                   | Overall work environment                                    | 4                     | 4.1                  | 3.6                   | 3.8                  | 3.9                   | 4                    |

\* Employees were expected to mark their response on a 5-point scale where 1 is completely unsatisfied and 5 is very satisfied. \*\*The scores are calculated as average, based on replies of employees of all three companies analyzed.

*Source: Author research results for three companies*

In Table 3 the score comparison is recorded before implementation of mentoring program and after completion of the program. The answers in employee survey rating show consistent improvement in all areas, except in answers to question for managers/engineers about opportunity for career advancement and also for skilled trade motivation to pursue education and training. The rating of the opportunity to career change for managers/engineers stayed the same and explanation might be that older employees did not feel motivated to change or advance in their career. An explanation for lack of motivation to continue further training for older age skilled trade was that their qualification reached the top. The most positive attitude changes have been recorded for managers/engineers feeling that company achieves their expectation and also that leadership skills improved following the mentoring program. The most positive attitude improvement for skilled trades have been recorded in supervisor/subordinate collaboration, as well as improvement in leadership skills.

**Table 4** Data collected for participant (ages born from 1977 to 2000)

| Data collected for mentoring program |                                      | Manager/Engineer      |                      | Skills Trade          |                     | Apprentice            |                      |
|--------------------------------------|--------------------------------------|-----------------------|----------------------|-----------------------|---------------------|-----------------------|----------------------|
| Age: born 1977 to 2000               |                                      | Average Scores Before | Average Scores After | Average Scores Before | Average Score After | Average Scores Before | Average Scores After |
| Questions                            |                                      |                       |                      |                       |                     |                       |                      |
| 1                                    | Team morale                          | 4.1                   | 4.3                  | 3.2                   | 3.7                 | 3.5                   | 3.7                  |
| 2                                    | Multi-generational collaboration     | 3.1                   | 4.1                  | 3.3                   | 3.6                 | 3.7                   | 3.9                  |
| 3                                    | Supervisor/Subordinate collaboration | 3.6                   | 3.9                  | 3.6                   | 3.7                 | 3.3                   | 3.7                  |

|    | Data collected for mentoring program                        | Manager/Engineer      |                      | Skills Trade          |                     | Apprentice            |                      |
|----|---|-----------------------|----------------------|-----------------------|---------------------|-----------------------|----------------------|
|    |   | Average Scores Before | Average Scores After | Average Scores Before | Average Score After | Average Scores Before | Average Scores After |
| 4  | Job satisfaction  | 3.7                   | 3.9                  | 3.3                   | 3.9                 | 4                     | 4.3                  |
| 5  | The company achieves my expectations                        | 2.9                   | 3                    | 2.5                   | 2.9                 | 2.6                   | 2.9                  |
| 6  | Opportunity for career advancement                          | 3                     | 3.1                  | 2.6                   | 2.9                 | 2.6                   | 2.7                  |
| 7  | I am committed to stay with the company                     | 2.5                   | 2.8                  | 3.5                   | 3.7                 | 3.9                   | 4.1                  |
| 8  | My level of leadership skills                               | 2.5                   | 2.9                  | 2.5                   | 2.7                 | 2                     | 2.2                  |
| 9  | I am motivated me to pursue additional education & training | 3.5                   | 4.1                  | 3.3                   | 3.7                 | 4                     | 4.5                  |
| 10 | Overall work environment                                    | 3.9                   | 4.3                  | 3.3                   | 3.5                 | 3.7                   | 3.9                  |

\* Employees were expected to mark their response on a 5-point scale where 1 is completely unsatisfied and 5 is very satisfied. \*\*The scores are calculated as average, based on replies of employees of all three companies analyzed.

Source: Author research results for three companies

In Tables 3 and 4 the score comparison is recorded before implementation of mentoring program and after completion of the program. The most positive attitude changes have been recorded for managers/engineers in supervisor/subordinate collaboration, improvement in leadership skills, motivation to pursue further education and recognition that overall work environment improved. Skilled trades indicated the most improvements in multi-generational collaboration, job satisfaction, desire to pursue further training, opportunity for career advancement and overall recognition that company achieved their expectation. Following mentoring program apprentices show most of attitude improvement in supervisor/subordinate collaboration and desire to continue further education and training.

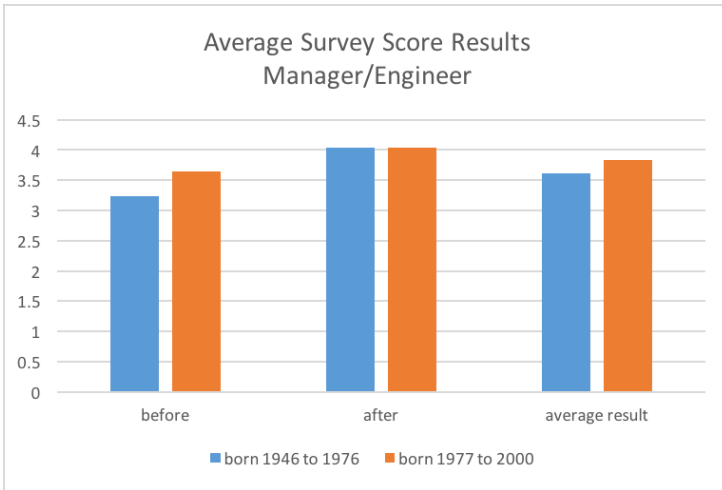
**Table 5** Average reciprocal mentoring survey (success results for all participants)

| Age               | Manager/Engineer |       |                | Skills Trade |       |                | Apprentice |       |                |
|-------------------|------------------|-------|----------------|--------------|-------|----------------|------------|-------|----------------|
|                   | before           | after | average result | before       | after | average result | before     | after | average result |
| born 1946 to 1976 | 3.24             | 4.04  | 3.62           | 3.37         | 3.72  | 3.55           | 3.71       | 3.84  | 3.76           |
| born 1977 to 2000 | 3.64             | 4.04  | 3.84           | 3.37         | 3.62  | 3.49           | 3.35       | 3.38  | 3.37           |

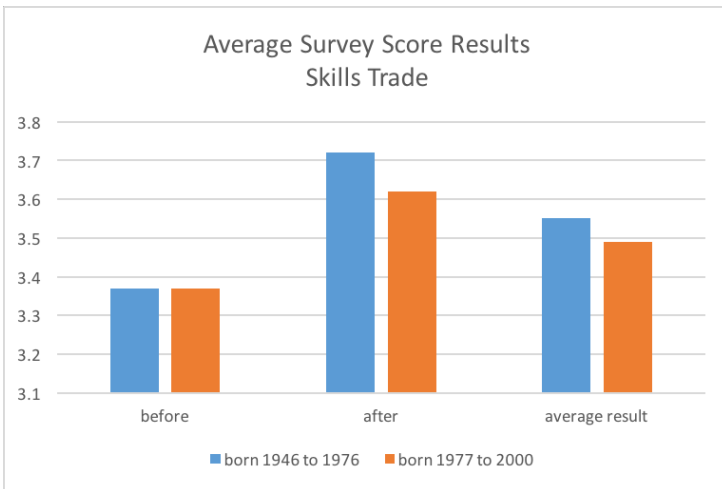
Source: Authors

In Table 5 the average success score of the mentoring program for all participants is recorded before implementation and after completion of the program. The average success rating show consistent improvement in all areas of employee attitudes (Graphs 1, Graph 2 and Graph 3).

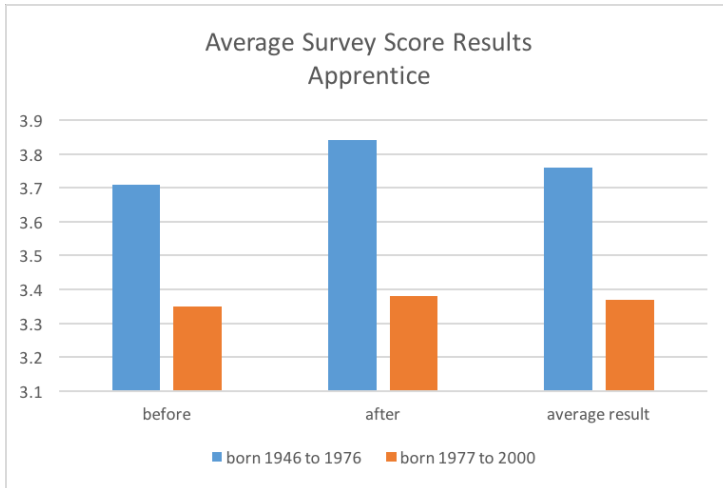
**Graph 1**



**Graph 2**



**Graph 3**



*Source: Authors*

Graph 1. Graph 2. and Graph 3. bar charts are created from data collected in Table 5 and results are explained following the Table 5.

### **3. Conclusion**

Most research articles with this topic are in the field of academic education, medical and virtual knowledge exchange. Theoretical research overview of multigenerational interactions in two-way reciprocal mentoring model is found to be relatively scarce in corporate environment. The contribution of this paper is to validate the importance of corporate program in reciprocal mentoring. In this article, as well as other research papers confirm that reciprocal mentoring model is an improvement to conventional models, promotes closer co-operation between employees and creates collaborative benefits to both mentor and protégé. The reciprocal mentoring implementation in corporate multigenerational environment is presented in this paper as an alternative to traditional mentoring models. The article contains a brief review of literature in the areas of mentoring and entrepreneurial learning. One of the benefits of reciprocal mentoring is increase in company innovation capability, as stated in the study conducted by Lin (2007).<sup>16</sup> Research papers about mentoring explored reciprocal relationship changes from face-to-face context to online knowledge exchange. 'This opens up many possibilities for the development of collaborative reciprocal mentorships on an international scale.'<sup>17</sup> 'Global managers engage in reciprocal learning processes to obtain new, innovative knowledge about other countries' environments and business practices.'<sup>18</sup>

Recently a new research defined wider application of reciprocal mentoring, as omni-directional relationship. 'In many ways, suggesting that mentoring relationships can be reciprocal



relationships where all parties have equal knowledge and expertise to gain and share...’ (McGowan, 2001, p. 2)’.<sup>19</sup> Thematic discourse analysis in this paper “Correlation Benefits in Mentoring Relationship” is used to examine mentoring of three entrepreneurial companies in the industrial service field. Material in the study measures success of learning experiences and is used to develop a conceptual model of mentoring performance analysis and measure accomplishments in employee relationship. Findings based on data analysis have shown that participation of professionals, skilled trades and different ages have positive correlation influence on outcome of formal reciprocal mentoring programs. The attitude of older group of employees show minor or no improvement following the completions of formal mentoring program. In general, the findings confirm the hypotheses that formal reciprocal mentoring program can be mutually beneficial to all involved and have positive overall correlation effects in employee attitude and company prosperity. Multigenerational knowledge transfer models have variations in different fields i.e. industry, government, academia and education; and is in need further research. Scientific theoretical research overview of reciprocal mentoring suggests how important is to continue further development of the model

## REFERENCES

- 
- <sup>1</sup> Greek Mythology.com <https://www.greekmythology.com/Myths/Mortals/mentor.html>
- <sup>2</sup> The Long History of Censorship Mette Newth: The National Archives and Records Administration Norway 2010)
- <sup>3</sup> Mentoring processes at work: Developmental relationships in managerial careers. Kram, Kathy E., Dissertation Abstracts International, Vol 41(5-B), Nov 1980, 1960-1961.
- <sup>4</sup> Mentoring and Career Outcomes: Conceptual and Methodological Issues in an Emerging Literature. in *The Handbook of Mentoring at Work: Theory, Research, and Practice*, Dougherty, T.W. & Dreher, G.F. (eds. Ragins, B.R. & Kram, K.E.) 51-94 (SAGE Publications)
- <sup>5</sup> Mentoring at Work, Wendy Marcinkus Murphy, Human Resources Management, July – August 2012, Vol. 51, No. 4, Pp. 561- 562.
- <sup>6</sup> Positive Relationships: Evidence Based Practice across the World, Cotugna & Vickery, 1998; Leh, 2005
- <sup>7</sup> Meister & Willyerd, 2010, <https://hbr.org/2010/05/mentoring-millennials>
- <sup>8</sup> Positive Relationships: Evidence Based Practice across the World, Cotugna & Vickery, 1998; Leh, 2005
- <sup>9</sup> Ballantyne, Green, Yarrow & Millwater, 1999; Clarke, 2004; Kochan & Trimble, 2000; Mullen, 2000, Reciprocal mentoring "in the wild": [http://dlconnect.usu.edu/Robertshaw\\_et al\\_RM\\_TPCK.pdf](http://dlconnect.usu.edu/Robertshaw_et al_RM_TPCK.pdf)

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[https://www.uky.edu/Centers/iwin/RTOCT12/Murphy\\_Reverse%20Mentoring\\_HRM21489.pdf](https://www.uky.edu/Centers/iwin/RTOCT12/Murphy_Reverse%20Mentoring_HRM21489.pdf)

<sup>11</sup> *Leadership development: a review in context*, Day, D.V. (2000), *Leadership Quarterly*, Vol. 11 No. 4, pp. 581-613. 'helps newer employees develop a more sophisticated and strategic perspective on the organization'

<sup>12</sup> *Ballantyne, Green, Yarrow & Millwater, 1999; Clarke, 2004; Kochan & Trimble, 2000; Mullen, 2000*, Reciprocal mentoring "in the wild":  
[http://dlconnect.usu.edu/Robertshaw\\_etal\\_RM\\_TPCK.pdf](http://dlconnect.usu.edu/Robertshaw_etal_RM_TPCK.pdf)

<sup>13</sup> <https://www.customerthermometer.com/employee-retention/>

<sup>14</sup> [http://hrcouncil.ca/documents/LMI\\_satisfaction\\_retention.pdf](http://hrcouncil.ca/documents/LMI_satisfaction_retention.pdf)

<sup>15</sup> Source: Statistics Canada 2015-12-21 Shifting demographics  
[https://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-311-x/2011003/tbl/tbl3\\_2-1-eng.cfm](https://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-311-x/2011003/tbl/tbl3_2-1-eng.cfm)

<sup>16</sup> Lin, H.F. (2007). Knowledge sharing and firm innovation capability: an empirical study. *International Journal of Manpower*, 28(3/4), 315-332.

<sup>17</sup> Martha A. Gabriel\* and Kandra J. Kaufield, "Reciprocal mentorship: an effective support for online instructors", *Journal Mentoring & Tutoring: Partnership in Learning* Vol. 16, No. 3, August 2008, 311-327)

<sup>18</sup> Miriam Moeller, Jane Maley, Michael Harvey, Marina Dabic, (2016), "People management and innovation in emerging market multinationals: A competency-based framework", *Journal of Management Development*, Vol. 35 Issue: 4, pp.530-548, doi: 10.1108/JMD-04-2015-0053

<sup>19</sup> "Omni-directional Mentorship: Redefining Mentorship as a Reciprocal Process of Teaching and Learning", Edward P. Clapp, Harvard Graduate School of Education.

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**CROATIAN HIGHER EDUCATION INSTITUTIONS AND THE  
BOLOGNA PROCESS 10 YEARS UPON ITS IMPLEMENTATION**

**SUSTAV VISOKOG OBRAZOVANJA REPUBLIKE HRVATSKE I  
BOLONJSKI PROCES 10 GODINA NAKON NJEGOVE  
IMPLEMENTACIJE**

***ABSTRACT***

*One of the main objectives of the Bologna Declaration is to enhance the quality of higher education based on the comparability of higher education systems of various countries by developing common standards and evaluation criteria in order to create an attractive European Higher Education Area (EHEA). This paper examines, based on the experience of individuals heading different higher education institutions (HEI) in Croatia, the extent to which the principles of the Bologna process have been implemented from its introduction up to date. The authors developed a questionnaire regarding the Bologna Declaration principles and distributed it to all HEI chairs. The 16 obtained responses indicate the existence of encouraging aspects but also of those limiting the achievement of “Bologna” objectives. The respondents claim that the implementation of the Bologna Declaration has contributed to and increased mobility, which is very valuable, but they also find that the common system of credits (ECTS) has not sufficiently enhanced the quality of study programs and the attractiveness of the European Higher Education Area.*

**Key words:** *Bologna process, higher education institutions (HEI), Republic of Croatia.*

## SAŽETAK

*Jedan od glavnih nastojanja Bolonjske deklaracije je razvijanje kvalitete temeljena na jednakost između sustava visokog obrazovanja različitih zemalja u cilju stvaranja europskog prepoznatljivog područja visokog obrazovanja. Ovaj rad istražuje u kojoj mjeri su čelnici visokoškolskih institucija uspjeli implementirati principe Bolonjske deklaracije od njezinog uvođenja do danas. S tom svrhom razvijen je anketni upitnik koji je prosljeđen svim čelnicima visokoškolskih institucija Republike Hrvatske. Dobiveno je 16 odgovora koji ukazuju na aspekte koji potiču, ali i one koji ograničavaju ostvarenje ciljeva Bolonjske deklaracije. Ispitanici smatraju da je implementacijom Bolonjske deklaracije došlo do porasta mobilnosti, dok sustav ujednačenog ocjenjivanja nije uspio unaprijediti kvalitetu studijskih programa i prepoznatljivosti europskog prostora visokog obrazovanja.*

**Ključne riječi:** *Bolonjski proces, visokoškolske institucije, Republika Hrvatska.*

### 1. Introduction

The Bologna declaration has been the main mandatory document for all European countries for the last 18 years. To be more precise "on 19 June 1999, one year after the Sorbonne Declaration, Ministers responsible for higher education from 29 European countries signed the Bologna Declaration. They agreed on important joint objectives for the development of a coherent and cohesive European Higher Education Area by 2010" (Realising the European Higher Education Area, 2003, p. 1).

The notion that the higher education system is, at the same time, one of the most representative and most inflexible systems is rather old. It is considered to be most representative as it brings together the most prestigious individuals, whose research and development achievements are essential for the growth of public and private organizations which generate the gross domestic product of a national economy. On the other hand, its lack of flexibility results from the fact that education and scientific research are mostly often funded by the state. It is in the human mind that, regardless of the degree of intellectual power, long-term secured funding creates a sense of security, and hence, a reluctance towards change. Certainly, there are many reasons to express such attitudes. Mencer (2007) for example, stresses two influences: a political influence and that of the legacy of economic activities which enhances development of future research projects and provides conditions to develop and change the structure of national economy. Historically viewed it can be said that the emergence and development of higher education came about as a result of social and political elitism and later on, economic pragmatism" (Mencer, 2007, p. 353).

The inflexibility of a higher education system is more a result of political influence than the system itself i.e. it is politically conditioned. The Bologna Declaration was signed in 1999 as a result of the several decade long efforts of individual politicians. For example, in June 1955, during the conference of the foreign ministers of the six European Coal and Steel Community states in Messina, Walter Hallstein, the representative of the then Federal Republic of Germany voiced the idea of the need to create a European university (Corbett, 2003, p. 4-5).

As already mentioned, the signing of the Bologna Declaration was preceded by political movements within which perhaps the most important were the dissatisfactions expressed by the ministers responsible for higher education in France, Germany and Italy during the 1970s. For example, the then French minister of higher education and science emphasized the insufficient capacity of the university to take on responsibility and thus forced institutional autonomy. He believed that this would stimulate innovation i.e. the responsibility for the work and development

of the university and thus the competitiveness of the national economy. The German and Italian ministers stressed the need to rationalize costs and losses occurring due to long-term studies. This may likely be an important reason behind the proposal of two cycle studies in line with the needs on the European labor market (Corbett, 2003, p. 8)

This is why the signing of the Bologna Declaration, soon colloquially termed the Bologna Process, is perceived as a result of two traditional influences: political and economic. Namely, the signatories of the Bologna Declaration i.e. the creators of the idea behind it, were the then ministers of education and science or authorized government representatives. The economic influence may be viewed in the fact that the Bologna studies should lead to the acquisition of competences and skills needed on the labor market, including the need for scientific research.

The reporting on the research results that follows arises from the incentives generated during mid-June to mid-October 2016. In fact, during this period, at the initiative of the Committee for Cooperation with Croatian Universities and Scientific Institutes (hereinafter: the Committee), the Croatian Academy of Sciences and Arts (hereinafter: the Academy) and the Croatian Rectors' Conference two very important conferences were held. The first one was held in Osijek on June 16, 2016. The conclusion of this conference is the adoption of the Osijek Declaration at the proposal of the President of the Committee, academician Ivo Kostović. The second meeting was held in Zagreb on October 11, 2016. After the introductory speech of the President of the Academy, academician Zvonko Kustić, academician Ivo Kostović said: "The aim of this discussion was the launch a reappraisal of the implemented changes in Croatian higher education, as Croatia is the only EU state that failed to conduct a review of the Bologna Process. At this meeting, the draft of the Osijek Declaration was adopted, which emphasized that the Bologna Process has not become fully operational and has not yielded desired results, especially with regards to the labor market. (Rodić, Šimeg, 2016, p. 15).

In fact, owing to the initiative that was created at the time of the said meetings, the authors decided to conduct field research which would include the heads of universities and other higher education institutions registered in the Registry of the Croatian Ministry of Science and Education.

In the initial phase of the research, the dilemma of designing an adequate sample arose. In an effort to avoid any misunderstandings, the authors opted to include all higher education institutions in the Republic of Croatia, which, with respect to their primary activity, are obliged to implement and maintain the postulates of the Bologna Declaration. The questionnaire used in the research was designed to incorporate the logic of the initial six principles (objectives) of the Bologna Declaration of 1999 and the three principles that were subsequently adopted by the European Ministers in charge of higher education in Prague in 2001. The two principles adopted in Berlin in 2003 will also be presented here but are not covered by this questionnaire. To conclude, the final list of principles (objectives) of the Bologna Declaration includes the following:

**Principle 1:** Adoption of a system of easily readable and comparable tertiary education degrees

**Principle 2:** Adoption of a system essentially based on two main cycles or two-cycle system

**Principle 3:** Establishment of a system of European Credit Transfer System credits (ECTS) in facilitating student mobility and curriculum development

**Principle 4:** Promotion of teacher and student mobility as well as research and administrative staff

**Principle 5:** Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies

**Principle 6:** Promotion of European dimensions with regards to curricular development, interinstitutional co-operation and integrated programs of study

**Principle 7:** Lifelong learning

**Principle 8:** Higher education institutions and students

**Principle 9:** Promoting the attractiveness of the European Higher Education Area

**Principle 10:** Doctoral studies

**Principle 11:** Synergy between the European Higher Education Area and the European Research Area.

The reasons for not including the last two adopted principles in our questionnaire lies in the fact that many of the higher education institutions in the Republic of Croatia currently do not have the capacity to organize postgraduate specialist and/or scientific doctoral studies and thus participate in strengthening the synergy and promotion of the European academic and research area. Namely, in authors' opinion, their inclusion could create dilemmas, which would most likely reduce their inclination to fill in the questionnaire.

## **2. The scope and the structure of the supply and demand on the market for higher education and research services in the Republic of Croatia**

The presentation of this research should be perceived as a pilot research. The stated results derive from the interest of three independent researchers who had an inclination towards this problem at some point in time. Namely, the Bologna Declaration has been evolving over decades. Its postulates had emerged primarily in political circles. However, its implementation was left to higher education institutions that responded to it diversely as there were no set guidelines. The only set obligation by the government was that it was to start in 2005/2006 and so it did. However, its realization is far from being a consistent implementation of conceived and adopted principles. Moreover, the different steps higher education institutions took in the implementation of the Bologna Declaration are understandable, because scientific freedom i.e. autonomy is the basic postulate of higher education. Therefore, at the time of its introduction, all those heading individual higher education systems continuously emphasized the autonomy of the universities and higher education institutions. However, the paradox here is, how can higher education institutions be autonomous when they are owned by the state. The contradiction of interests i.e. the clash in real logic is that on one side, we have the owner and the highly educated people being paid for running the business on behalf of the owner and on the other, the understandable efforts of HEIs' employees and heads striving to maintain intellectual freedom of creation and further transfer of knowledge - an autonomy, or, rather to say, a pseudo-autonomy of universities.

Therefore, principle-wise everything seems perfect. However, one should bear in mind that the objective of every form of education, especially higher education, is to create a highly educated individual ready to work, accept responsibility and independently create one's own professional path. In order to be able to analyze whether the principles of the Bologna Declaration have been implemented, especially in terms of preparing students to meet the needs of the labor market, we analyze the structure of the supply and demand on the higher education market in the Republic of Croatia. Namely, the educational system and scientific research should serve the work and growth of national companies, which are the creators of the gross domestic product.

Table 1 presents an overview of the structure of higher education institutions by major regions and scientific areas which represent the supply on the higher education market in the Republic of

Croatia while Table 2 presents the structure of companies in the Republic of Croatia by county and economic activity, as the demand on the same market.

**Table 1** The structure of Croatian higher education institutions by field of study and region (gravitational city)

| Field of science       | N  | City   | N  |
|------------------------|----|--------|----|
| Arts                   | 22 | Osijek | 17 |
| Biomedicine and health | 27 | Rijeka | 17 |
| Biotechnical sciences  | 19 | Zagreb | 51 |
| Humanities             | 22 | Split  | 20 |
| Interdisciplinary      | 45 | Others | 26 |
| Natural sciences       | 21 |        |    |
| Social sciences        | 66 |        |    |
| Technical sciences     | 56 |        |    |

Source: <http://mozvag.srce.hr/preglednik/pregled/en/>, (accessed on 25 February 2017).

The concentration is different among particular scientific area across counties. The offer of the higher education institutions in Croatia is concentrated on social, technical and interdisciplinary sciences. Also, important to note that higher education institution are primarily located in four major Croatian cities: Zagreb, Rijeka, Osijek and Split. On the other hand, the table 2 presents the structure of the Croatian economy according to the number of enterprises per county and economic activities. From the comparison of the two tables it is evident that the structure is not suitable enough to achieve fast and attractive growth. The most important higher education institutions and distribution of enterprises indicates the education and economic growth is primarily concentrated in biggest Croatian cities i.e. in the Zagreb area and on the coast, while the rest of counties remain isolated and with a lower rate of growth.

**Table 2** The structure of the Croatian economy according to the number of enterprises per county and their economic activity

| County                        | Economic activities |            |              |             |             |              |              |             |              |             |             |             |              |             |             |             |             |              |           | Total    |               |
|-------------------------------|---------------------|------------|--------------|-------------|-------------|--------------|--------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-----------|----------|---------------|
|                               | A                   | B          | C            | D           | E           | F            | G            | H           | I            | J           | K           | L           | M            | N           | P           | Q           | R           | S            | T         |          | U             |
| City of Zagreb                | 505                 | 52         | 4629         | 370         | 221         | 5530         | 16263        | 1600        | 4157         | 4251        | 814         | 2133        | 11171        | 2413        | 1072        | 887         | 2357        | 6907         | 0         | 0        | 65332         |
| Zagrebačka County             | 265                 | 18         | 1629         | 61          | 64          | 1363         | 3032         | 472         | 798          | 432         | 67          | 172         | 1235         | 279         | 192         | 167         | 573         | 1241         | 0         | 0        | 12060         |
| Bjelovarsko bilogorska County | 220                 | 5          | 416          | 43          | 31          | 282          | 587          | 99          | 284          | 75          | 12          | 19          | 301          | 58          | 79          | 111         | 165         | 458          | 0         | 0        | 3245          |
| Dubrovačko neretvanska County | 107                 | 9          | 289          | 18          | 50          | 557          | 871          | 283         | 671          | 138         | 9           | 333         | 498          | 374         | 100         | 75          | 352         | 595          | 0         | 0        | 5329          |
| Karlovačka County             | 201                 | 8          | 481          | 23          | 43          | 296          | 673          | 104         | 291          | 92          | 14          | 38          | 307          | 60          | 87          | 71          | 225         | 498          | 0         | 0        | 3512          |
| Koprničko križevačka County   | 189                 | 9          | 459          | 27          | 18          | 336          | 782          | 123         | 261          | 77          | 20          | 28          | 259          | 63          | 72          | 77          | 161         | 469          | 0         | 0        | 3430          |
| Krapinsko zagorska County     | 81                  | 10         | 494          | 28          | 24          | 412          | 612          | 106         | 180          | 92          | 17          | 37          | 267          | 57          | 89          | 89          | 171         | 401          | 1         | 0        | 3168          |
| Osiječko baramjska County     | 344                 | 4          | 671          | 77          | 63          | 586          | 1543         | 250         | 530          | 233         | 42          | 85          | 760          | 184         | 209         | 174         | 597         | 1448         | 0         | 0        | 7800          |
| Ličko senjska County          | 69                  | 7          | 140          | 22          | 26          | 124          | 193          | 66          | 175          | 29          | 1           | 24          | 79           | 48          | 41          | 28          | 112         | 234          | 0         | 0        | 1418          |
| Požeško slavonska County      | 48                  | 2          | 183          | 12          | 13          | 109          | 218          | 49          | 85           | 37          | 2           | 7           | 115          | 21          | 52          | 34          | 96          | 307          | 0         | 0        | 1390          |
| Istarska County               | 337                 | 27         | 1288         | 69          | 59          | 2263         | 3078         | 354         | 1375         | 389         | 40          | 1396        | 1512         | 934         | 219         | 143         | 708         | 1099         | 0         | 0        | 15290         |
| Primorsko goranska County     | 227                 | 13         | 1328         | 64          | 74          | 1779         | 3365         | 619         | 1603         | 450         | 80          | 726         | 1867         | 704         | 263         | 237         | 792         | 1629         | 0         | 0        | 15820         |
| Sisačko moslavačka County     | 227                 | 12         | 439          | 40          | 46          | 288          | 618          | 122         | 224          | 96          | 12          | 36          | 277          | 59          | 101         | 94          | 246         | 586          | 0         | 0        | 3523          |
| Brodsko posavska County       | 152                 | 10         | 435          | 24          | 29          | 345          | 566          | 117         | 180          | 86          | 30          | 22          | 271          | 54          | 88          | 75          | 204         | 458          | 0         | 0        | 3146          |
| Šplitsko dalmatinska County   | 340                 | 58         | 1773         | 100         | 113         | 2436         | 4297         | 808         | 2308         | 546         | 94          | 1211        | 2020         | 1210        | 385         | 256         | 1041        | 1992         | 0         | 0        | 20988         |
| Varaždinska County            | 124                 | 17         | 683          | 54          | 32          | 562          | 1169         | 241         | 285          | 217         | 50          | 105         | 597          | 111         | 143         | 95          | 276         | 634          | 0         | 0        | 5395          |
| Virovitičko podravska County  | 1                   | 3          | 175          | 38          | 18          | 98           | 297          | 57          | 63           | 29          | 6           | 10          | 124          | 12          | 50          | 43          | 153         | 216          | 0         | 1        | 1394          |
| Vukovarsko srijemska County   | 186                 | 1          | 354          | 47          | 31          | 269          | 558          | 97          | 180          | 69          | 20          | 26          | 221          | 61          | 130         | 97          | 263         | 592          | 0         | 0        | 3202          |
| Zadarska County               | 272                 | 32         | 551          | 54          | 49          | 794          | 1238         | 240         | 825          | 112         | 16          | 251         | 561          | 468         | 160         | 117         | 393         | 651          | 0         | 0        | 6793          |
| Međimurska County             | 111                 | 3          | 773          | 56          | 27          | 629          | 990          | 133         | 375          | 138         | 33          | 75          | 402          | 89          | 106         | 73          | 218         | 505          | 0         | 0        | 4736          |
| Šibensko knižinska County     | 150                 | 14         | 334          | 51          | 36          | 348          | 739          | 139         | 412          | 192         | 8           | 192         | 265          | 256         | 77          | 67          | 249         | 413          | 0         | 0        | 3942          |
| <b>Total</b>                  | <b>4156</b>         | <b>314</b> | <b>17524</b> | <b>1278</b> | <b>1067</b> | <b>19406</b> | <b>41689</b> | <b>6079</b> | <b>15262</b> | <b>7780</b> | <b>1387</b> | <b>6926</b> | <b>23109</b> | <b>7515</b> | <b>3724</b> | <b>3010</b> | <b>9352</b> | <b>21333</b> | <b>11</b> | <b>1</b> | <b>190913</b> |

Note: Classification of Business Entities according to the National Classification of Activities (NKD) of the Republic of Croatia (Official Gazette 58/07 and 72/07)

Source: <http://www.hgk.hr>, (accessed on 27 February 2017).



According to these two tables, the hypothesis of this paper arises: The structure of higher education supply in Croatia does not correspond to the demand on the national higher education market.

### **3. The research methodology and results**

One of the most important intentions of the Bologna declaration is to contribute to the establishment of a more complete and far-reaching Europe, being built upon and strengthening intellectual, cultural, social, scientific, technological and economical dimensions. However, the authors believe that is important to bear in mind the socio-cultural and economic differences between European countries, as well as the different levels of educational system development and the needs that arise from different industry structures, as well as from specific context conditions of each country. For this reason, ten years upon the introduction of the Bologna process in Croatia, it is important to discuss what has been done and achieved and what more has to be done in Croatian higher education institutions.

#### **3.1. The research instrument and sample characteristics**

The questionnaire is designed in line with the contents of each of the first nine principles aforementioned. The research instrument (questionnaire) is divided into two parts. The first part is presented in Table 3 and examines to which extent the heads of the higher education institutions in Croatia find that the principles of the Bologna Declaration have been implemented within the context of their HEIs i.e. the extent to which they find the statements regarding the principles to be true for their HEI. The questionnaire consists of 18 items with regard to the specific aspects of the Bologna principle implementation, with five possible answers ranging on a Likert scale from 1- *completely untrue* to 5- *completely true*. The Cronbach's alpha coefficient is  $\alpha=0,714$  which confirms the instrument's reliability. The second part of the research instrument collects demographic variables necessary for the statistical analysis.

The basic set is composed of individuals heading different higher education institutions in the Republic of Croatia. According to the Agency for Science and Higher Education in the Republic of Croatia, there are currently 49 active higher education institutions. Of these, there are 8 public universities, 11 public polytechnics, 3 public colleges, 2 private universities, 4 private polytechnics and 21 private colleges. Therefore, the sample is identified with the basic set, as it was forwarded to all those heading higher education institutions in the Republic of Croatia.

The questionnaire was embedded in the Limesurvey system, and the information about the purpose of research, as well as the link to access the questionnaire was forwarded by email to the official addresses of those heading individual higher education institutions.

Unfortunately, there were respondents who accessed the questionnaire, but did not complete it. There were a total of 22 accesses recorded with 16 correctly completed questionnaires (a return rate of 32.65%). In the first week of sending the questionnaires, 11 responses were obtained. After sending a reminder email and 21 days of the first mail, 11 more responses were obtained.

The research results indicate that higher education institutions having a smaller number of students, participated the most in the research. Four higher education institutions have less than 600 students, three have from 601 to 1,200 students and three institutions have over 1,200 students. Six respondents failed to provide answers to the question regarding the number of students enrolled in their higher education institutions. The same number of respondents did not answer the question regarding the ownership over their institutions. Namely, 10 HEIs provided responses regarding ownership of which 7 are public and 3 are privately owned HEIs.

As the structure of constituent members (faculties/department) of higher education institutions differ according to scientific areas, it should be noted that according to the obtained results, the highest share is held by social sciences (18 constituents) and technical sciences (10 constituents). Less representative are biotechnical sciences (5), humanities (5), artistic areas (3), interdisciplinary areas (3) and natural sciences (2). As a rule, public HEIs have constituents covering a larger number of scientific areas, while smaller, generally private HEIs, offer their students tertiary education in one or, at the most, two scientific areas. The most common combinations offered include social sciences of economic or legal orientation and technical sciences such as, transport, IT and textile technology. As far as distribution is concerned, the obtained data indicates that the largest number of students is enrolled in social science study programs and programs in natural sciences. Furthermore, the survey data shows that the average number of undergraduate students is 552, graduate students 120, students enrolled in specialist master studies 47 and the average number of doctoral students is 12. The results relate to the average number of students by level of study, i.e. they do not take into account the scientific area or HEIs that do not offer study programs at all levels. This primarily relates to specialist and doctoral studies which are offered only at a smaller number of HEIs in Croatia. The constituents offering social science study programs have the highest student-teacher ratio (32:1) and are followed by constituents in interdisciplinary areas (20:1), natural sciences (20:1), humanities (17:1), technical sciences (16:1) and arts (6:1). By looking at the average number of students per teacher in all areas of science in the Republic of Croatia, the average is 20 students per teacher. Such a structure is logical given that social, natural, humanistic and technical scientific areas are the ones most directly incorporated in the economic activities of a country.

### 3.2. The empirical results

The average scores regarding the extent, to which particular Bologna Declaration principles have been implemented according to responses provided by the highest HEIs' management, are presented in Table 3. The third column of the table shows the respondent's average score regarding the respective item i.e. the specific aspect within the principle. The last column of the table, column 7, shows the mean for the respective principle as a whole and refers to the set of items describing the principle in questions and not particular items.

*Table 3 The average scores regarding the extent to which the Bologna Declaration principles have been implemented per individual aspects and the principle as a whole*

| Principle   | Item   | Mean | Min. | Max. | Std. Dev. | Mean per principle |
|-------------|--|------|------|------|-----------|--------------------|
| Principle 1 | Uniformity of academic degrees and diploma supplements allow for direct comparability of students' knowledge   | 4,06 | 3    | 5    | ,574      | 3,89               |
|             | The common system of student evaluation contributes to the increase of international competitiveness and employability of Croatian students abroad               | 3,94 | 2    | 5    | ,929      |                    |
|             | The common system of student evaluation contributes to the increase of international competitiveness and employability of foreign students in Croatia.           | 3,53 | 1    | 5    | 1,125     |                    |
| Principle 2 | Study programs offered by individual constituents are two-cycle programs: undergraduate and graduate.  | 4,53 | 2    | 5    | ,874      | 4,44               |
|             | The graduate programs offer students specific competences and skills that are important for increasing their competitiveness, and thus employment opportunities. | 4,19 | 3    | 5    | ,544      |                    |

| Principle          | Item  | Mean | Min. | Max. | Std. Dev. | Mean per principle |
|--------------------|---|------|------|------|-----------|--------------------|
| <b>Principle 3</b> | The ECTS system allows for comparability of curricula workload and their recognition at another institutions which contributes to the mobility of students in terms of studies and employment opportunities.                    | 4,00 | 3    | 5    | ,730      | <b>3,38</b>        |
|                    | The ECTS system is applied to study programs offered as lifelong learning programs  | 2,75 | 1    | 5    | ,931      |                    |
| <b>Principle 4</b> | The introduction of the Bologna Declaration has increased student mobility in terms of studies at other HEIs and internship programs (student practice).  | 3,81 | 2    | 5    | ,750      | <b>3,60</b>        |
|                    | The introduction of the Bologna Declaration has increased teacher mobility.   | 3,63 | 3    | 5    | ,619      |                    |
|                    | The introduction of the Bologna Declaration has increased administrative staff mobility.  | 3,38 | 1    | 4    | ,806      |                    |
| <b>Principle 5</b> | The introduction of the Bologna Declaration has increased the cooperation among higher education institutions of different countries.   | 4,06 | 3    | 5    | ,574      | <b>3,88</b>        |
|                    | The Bologna Declaration fosters balanced development and quality assurance of HEI curricula because it fosters the application of comparable criteria and methodologies in developing study programs.                           | 3,69 | 2    | 5    | ,873      |                    |
| <b>Principle 6</b> | The introduction of the Bologna Declaration has increased the number of integrated programs of study.   | 3,19 | 2    | 4    | ,655      | <b>3,35</b>        |
|                    | The introduction of the Bologna Declaration has increased the number of research and projects initiated and conducted with other higher education institutions in the Republic of Croatia.                                      | 3,31 | 1    | 4    | ,946      |                    |
|                    | The introduction of the Bologna Declaration has increased the number of research and projects initiated and conducted with other foreign higher education abroad.   | 3,56 | 1    | 5    | ,892      |                    |
| <b>Principle 7</b> | The development of lifelong learning programs increases the competitiveness of students / employees, enhances the application of technological solutions and enhances social cohesion, equal opportunities and quality of life. | 3,69 | 2    | 5    | ,873      | <b>3,69</b>        |
| <b>Principle 8</b> | Students are active participants in developing the HEIs educational strategy and study programs.  | 3,50 | 1    | 5    | 1,211     | <b>3,50</b>        |
| <b>Principle 9</b> | The Bologna Declaration contributes to the development of guidelines for managing and enhancing the quality of higher education institutions in terms of guided and balanced development of curricula and evaluation systems.   | 3,81 | 1    | 5    | ,981      | <b>3,81</b>        |

*Source: Authors' calculations*

The chairs of higher education institutions have expressed unsatisfactory ratings regarding the establishment of a common system of credits, which is the base for curricular development, inter-institutional co-operation, mobility schemes and integrated programmes of study, training and research. Furthermore, they state that the students are insufficiently engaged in the development of objectives and strategies, and believe that the quality of programs and accreditation and certification mechanisms are not efficient enough to achieve the objectives of the Bologna Declaration. The following table summarizes the extent of each principle's implementation across HEIs in different scientific areas.

**Table 4** Pearson's correlations among Bologna Declaration principles and their implementation in each specific science area

| Scientific area                    | P 1     | P 2 | P 3   | P 4     | P 5   | P 6   | P 7 | P 8 | P 9    |
|------------------------------------|---------|-----|-------|---------|-------|-------|-----|-----|--------|
| Social sciences                    | -,773** |     |       |         | ,562* |       |     |     | -,722* |
| Natural sciences                   |         |     | ,737* |         |       |       |     |     |        |
| Technical sciences                 |         |     |       |         |       |       |     |     |        |
| Biomedicine and Health             |         |     |       |         |       |       |     |     |        |
| Humanities                         | -,789** |     |       | -,677** |       |       |     |     |        |
| Artistic area                      | -,714*  |     |       | ,643*   |       |       |     |     |        |
| Interdisciplinary areas of science | -,714*  |     |       |         |       | ,658* |     |     | -,703* |
| Interdisciplinary artistic areas   |         |     |       |         |       |       |     |     |        |

Note: P= Principle; \* p<0,05; \*\* p<0,01

Source: Authors' calculations

Principle 1 (tertiary education degrees) is linked to four of the eight scientific areas (social, humanities, art and interdisciplinary sciences). Principles number 3, 4, 5, 6 and 9 are linked only to specific scientific areas (one, max. two). Principle 3 shows a statistically significant correlation with natural sciences including physics, chemistry, biology and geology. Principle 3 as already mentioned, relates to the European Credit Transfer System credits (ECTS) as a means of facilitating student mobility and curriculum development. International teams involved in research and mutual projects rallying “brains” across boundaries are quite often in areas such as physics, chemistry and biology. The mobility of teachers, students and research staff is the Bologna Declaration principle most significantly correlated with humanities and arts, while other scientific areas still do not record a satisfactory level of international mobility. The principle regarding the development of comparable quality assurance criteria and methodologies is correlated with social sciences, which are as such further correlated with Principle 1, i.e. the implementation of a system of directly comparable degrees. Inter-institutional cooperation and integrated study programs, according to the results of this study, are most commonly present in interdisciplinary fields of science, while the promotion of the attractiveness of the European Higher Education principle has been most successfully implemented within constituents involved in social sciences and interdisciplinary areas of science. The reason for this probably lies in the proportionately greater number of constituents in these areas of science, in relation to the number of constituents in other scientific areas. Principle 2 (the two- cycles system), Principle 7 (lifelong learning strategies), and Principle 8 (student engagement) are not statistically correlated with any specific area of science. Furthermore, the attitudes of those heading HEIs in regard to the level of implementation of the Bologna Declaration principles statistically do not differ in terms of ownership i.e. whether they are state or private nor according to their size i.e. the number of enrolled students.

#### 4. Conclusion

The Bologna Declaration evolved during decades of an extremely complex political, social, cultural and economic environment. The Bologna Declaration was aimed "to achieve equality within the context of historical, cultural, linguistic, geographic and economic differences." For these reasons, higher education represents a content which deserves and is given significant attention in the European Union (Mencer, 2007). Namely “building on our rich and diverse European cultural heritage, we are developing an EHEA based on institutional autonomy, academic freedom, equal opportunities and democratic principles that will facilitate mobility,

increase employability and strengthen Europe's attractiveness and competitiveness (London Communiqué, p.1).

The higher education system in the Republic of Croatia adopted the Bologna Declaration in 1999. The pre-Bologna four year study program was, to a lower or higher extent, extended to meet the two-cycle criteria (3+2). As a result, the three-year Bachelor degree has not been adequately recognized on the Croatian market. The postgraduate specialist programs and the Bologna doctoral study programs are also not recognized on the labor market and are perceived as less serious alterations of previous degrees and degrees required only for pursuing careers in higher education and scientific institutions. Whatever the case may be, the Bologna Declaration and its principles contributed to the development of Croatian higher education. The research results indicate a satisfactory level of the implementation of Principle 2- two cycle system (4.437), Principle 1- comparable tertiary education degrees (3.896), Principle 5- co-operation in quality assurance (3.875) and Principle 9- promoting the attractiveness of the EHEA (3.813). The HEI chairs find the implementation of other principles to be less satisfactory (average score below 3.7). Moreover, it should be pointed out that the implementation of Principles 3 and 4 (ECTS and mobility), as the main prerequisites for comparing the quality of different higher education systems and the exchange of experience in order to develop specific competencies attractive to the economic sector, is ranked as the least satisfactory.

Therefore, further research should evolve around: (1) determining the needs of the market and drawing a distinction between undergraduate and graduate programs in order for them to be recognizable on the labor market; (2) establishing the adequate (higher) criteria for entering PhD programs; (3) implementing the concept of functional organized universities; (4) on assessing the utility of existing study programs for the market especially in view of those offered at public higher educational institutions.

## REFERENCES

Corbett, A. (2003): *Europe: A treat or an opportunity for national systems of higher education?*, paper presented at the Society for Research in Higher Education, Seminar on the white paper and the Bologna agreement: are they compatible?, July 1.

Mencer, I., Jelenc, L. (2004): *A Quality Management in European Higher Education Area*, An Enterprise Odyssey: Building Competitive Advantage, University of Zagreb, Graduate School of Economics and Business Education.

Mencer, I. (2007.): *Bolonjska deklaracija kao poticaj približavanja visokog obrazovanja europskih zemalja europskom tržištu rada*, Ekonomska politika Hrvatske 2008., Hrvatsko društvo ekonomista, Opatija.

Mencer, I. (2005): *Osiguranje kvalitete i visokoškolske ustanove u Republici Hrvatskoj*, Ekonomski pregled, Hrvatsko društvo ekonomista, Zagreb.

Rodić, I., Šimeg, M. (2016.), *Bolonja između obrazovanja, znanosti i politike*, Školske novine 33, objavljeno 25. listopada 2016., Zagreb.

*From Berlin to Bergen, General Report of the Bologna Follow-up Group (2005)*, Bergen, <http://www.ehea.info/cid101762/ministerial-conference-bergen-2005.html>, (accessed on 17 February 2017).

**London** *Communique* (2007),  
<https://www.coe.int/t/dg4/highereducation/EHEA2010/London%20Communique%20-%2018-05-2007.pdf> , London, (accessed on 30 March 2017).

**Realising the European Higher Education Area, Communique of the Conference of Ministers responsible for Higher Education in Berlin (2003)**, <http://www.enqa.eu/wp-content/uploads/2013/03/BerlinCommunique1.pdf>, (accessed on 25 March 2017).

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## **SOCIO-ECONOMIC ATTITUDE OF STUDENTS TOWARDS INVESTMENT IN THE EDUCATION OF LEARNING FRENCH AS A FOREIGN LANGUAGE IN THE PROCESS OF EVER RISING IMMIGRATION**

### **DRUŠTVENO-EKONOMSKI ODNOS STUDENATA O ULAGANJU U OBRAZOVANJE I UČENJA FRANCUSKOG KAO STRANOG JEZIKA U PROCESU 'VJEČNE' IMIGRACIJE**

#### ***ABSTRACT***

*The United States, the European Union, and countless other states and political bodies are struggling to define attitudes and policies towards immigrants and immigration in the 21<sup>st</sup> century. The knowledge, skills and inclinations of the European workforce are a major factor in the EU's innovation, productivity and competitiveness. The debate over learning a new language is often a heated one. Language can be seen as a mechanism for integration and acculturation. In order to participate fully in the national and social life of the country, immigrants use linguistic signs and symbols. French is considered a very important socio-economic factor in the process of socialization of migrants. Digital society implies not only a transformation of the traditional way of living and the economic, industrial, educational and labor changes but also alternation of a personal and individual way of living and the question of the "new" partnership in education. The aim of this study is to determine the perception of students about investing in the education of migrants in learning French as a foreign language, to explain the necessity of development of socio-economic competences of migrants, to determine which socio-economic competences migrants need to acquire in order to integrate and to enter the working world. This research could be an example to the developing economy of Eastern Croatia, particularly for strengthening the impact of the support of entrepreneurial institutions that help the development of the economy of education in order to determine the schism between the labor market needs and the creation of "new" professions. The study was conducted on N = 104 students of the University of Toulouse in France. The research was conducted during the winter semester in the academic year 2016/2017, from 11<sup>th</sup> of November until 17<sup>th</sup> of January. Research results show that students feel that it is necessary to invest in*



*the education of migrants in order to prevent the destruction of (inter)national identity, as well as to facilitate the realization of the process of socialization and to reduce unemployment. Learning French as a foreign language is the key factor for Europe and especially Eastern Croatia for the development of human capital, socio-economic competences and also for the development of management of the human potential. Considering this, studying French language in Eastern Croatia could have a major role as a possible factor in preventing high unemployment and emigration from Eastern Croatia.*

**Key words:** *globalization, Everlasting Migration, socio-economic and digital competences, technology in education, entrepreneurial institutions.*

### **SAŽETAK**

*Sjedinjene Države, Europska unija te bezbroj drugih država i političkih tijela bore za definiranje stavova i (obrazovne)politike prema imigrantima i imigracije u 21. stoljeću. Znanja, vještine i sklonosti Europske radne snage su glavni faktor u inovacije, produktivnosti i konkurentnosti EU-a. Debata o učenju stranog jezika često je prioritetna tematika. Jezik se može vidjeti kao mehanizam za integraciju i akulturacije. Za potpuno sudjelovanje u nacionalnom i političkom životu zemlje, doseljenici se koriste znakovima i simbolima jezika. Francuski jezik se smatra vrlo važan društveno-ekonomski faktor u procesu socijalizacije migranata. Digitalno društvo podrazumijeva transformaciju tradicionalnog načina života i ekonomske, industrijske, obrazovne i promjena rada, kao i promjene osobnog i individualnog načina života, ali i pitanje o "novom" partnerstvo u obrazovanju. Cilj ovog istraživanja bio je utvrditi percepciju studenata o ulaganju obrazovanja migranata u učenju francuskog kao stranog jezika, objasniti nužnost razvoja socio-ekonomske kompetencije migranata, utvrditi koje razine socio-ekonomskih kompetencija migranti bi trebali steći kako bi se lakše integrirali, te što brže mogli uključiti u svijet rada. Istraživanje bi moglo biti primjer za razvoj gospodarstava u istočnoj Hrvatskoj, a posebno može poslužiti kao primjer za jačanje utjecaja poslovnih potpornih institucija koje pomažu razvoju ekonomiji obrazovanja, kako bi se utvrdio lakše raskol između potreba tržišta rada i stvaranja tzv. „novih“ zanimanja. Istraživanje je provedeno na N = 104 studenata visokog učilišta u Francuskoj na Sveučilištu u Toulouseu. Provedeno je tijekom zimskog semestra 2016/2017 akademske godine, od 11. studenog do 17. siječnja. Rezultati istraživanja pokazuju da studenti smatraju da je vrlo važno i potrebno ulagati u obrazovanje migranata, posebice u učenju francuskog jezika kako bi se donekle spriječilo rušenje (inter) nacionalnog identiteta, ali i kako bi se olakšala realizacija samog procesa socijalizacije i smanjila nezaposlenost. Učenje francuskog kao stranog jezika je za Europu, posebice za istočnu Hrvatsku bitan faktor u razvoju ljudskog kapitala, razvoju socio-ekonomske kompetencije ali i razvoju menadžmenta ljudskih potencijala. Pri tome učenje francuskog jezika u istočnoj Hrvatskoj bi mogao imati veliku ulogu kao mogući čimbenik u sprječavanju visoke stope nezaposlenosti i iseljavanja iz istočne Hrvatske.*

**Ključne riječi:** *globalizacija, Vječna imigracija, socio-ekonomska i digitalna kompetencija, tehnologija u obrazovanju, poduzetničke institucije*

*»What is the most comprehensive in the language is not the word itself but the tone, volume, modulation and the pace at which series of words is pronounced.«*

*Friedrich Nietzsche (1908: 245)*

## 1. Introduction

In the early 1970s Habermas (1971) defined competence as the main goal of socialization. According to him, competence is not a reaction to the stimulation determined by a process development, but one linguistically set order about sense and intention of a term that is presented in the concept of the communicative competence. This includes not only the use of language but also all other types of behavior (e.g. gestures).

According to Baacke (1973, 1997, 1998) language competence includes communicative and media competence. Communicative competence is a general form (model) by which people learn how to live together and how to act “towards out”. In this way the “reality” is maintained by communication acts. “This general communicative competence begins with learning of the mother tongue and continues throughout the life” (Baacke, 1998, 34). Pragmatic communication theory deals with the interpretation of symbols in a social context while semantic describes it. Pragmatic level of the interpretation of symbols includes two main aspects: content aspect and discursive aspect (words, forms, symbols) (Hüther; Schorb; Brehm-Klotz, 1990).

Since today we live in the society of the so called “Everlasting Migration” it is necessary and essential to decode a foreign language in order to facilitate socialization in the society. Population migrations are not particular for the USA and the member countries of the EU. They are not even particular for contemporaneity. It has always been so that a great number of migrants left their home countries and migrated to other countries in search for better opportunities or seeking protection from oppression and violence. Statistics show that today around 150<sup>1</sup> million people don't live in the country they were born in or the country of their citizenship. They use not only English, but also French and German language. Many of them are not even registered as international migrants because they live and work illegally in other countries, sometimes permanently and sometimes temporarily. International migrations have become global phenomenon which includes a wide range of countries of origin, transit countries and target countries, as well as different migrant groups. A highly qualified worker from Singapore works in Australia, a refugee from Afghanistan works in Iran, a woman from Nigeria is sold in Italy, a farm worker from Mexico works in the USA, an illegal Chinese worker cooks in a restaurant in London and an unregistered Romanian works as a construction worker in Croatia. All of these are examples of international migrants. International migration is a complex problem and an important economic and political security factor of each country. Most countries today are a part of the global migration system in which migration policy of one country has an impact on another country. Therefore, dealing with a problem requires strong cooperation between different countries. So, is it possible for the Republic of Croatia, which is an organic part of Europe, to be outside of the context of these global trends? It is completely clear that this is not possible. That is shown by the image of migration in and through Croatia. In the last 12 years there have been experienced two types of migration movements in these areas, both voluntary and forced. Until the end of the war at the end of 1995, there were almost exclusively large-scale forced migrations. During the 1992, over 800 000 refugees and displaced persons were registered in the Republic of Croatia. However, with the political stabilization of this part of Europe, there has been registered not only a number of tourists, business people and other desirable migrants but also those who have illegally entered or resided on this territory. Moreover, although the figures above indicate a rapidly growing influx of illegal migrants, it is necessary to bear in mind that a small number of them actually permanently stays in Croatia. The Republic of Croatia, along with other countries in transition, with its still underdeveloped economy is not a country appealing to those who are searching for

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<sup>1</sup>[http://artefact.mi2.hr/\\_a01/lang\\_hr/report\\_katanec\\_hr.htm](http://artefact.mi2.hr/_a01/lang_hr/report_katanec_hr.htm)

better opportunities somewhere else. So our country is one of the countries on the way to a certain destination, or in other words a transit country, especially if we think of Slavonia and Baranja. But unfortunately, statistics show that only 30% of the total number of the people who embark on a journey to their “dreamland” succeed in successfully reaching their wanted destination. A great number of people, given that these are the people who have not previously met all the requirements for entering the targeted country and requirements for crossing the territory of transit countries, are stopped at some part of their journey. They are then returned to the country they came from or one in which they have been before the country in which they have been discovered to be illegal immigrants. Developing the competence of migrants should be just the thing for the development of the so-called digital economy which could help in entering the world of job market. However, what is essential is the knowledge of the language of the country to which they migrated. But today, when Croatia faces the emigration of 200 000 people in their prime, it seems that the exodus will mainly hit Slavonia and Baranja. For example, only in Osijek about 6 000 people have applied for departure from Croatia.<sup>2</sup> All the aforementioned reasons just confirm that this research could be an example for development of economy in eastern Croatia. It can be set as an example particularly for strengthening the impact of the entrepreneurial supporting institutions which help develop the economy of education, in order to easily determine the schism between labor market needs and the creations of the so-called “new professions”. It could help to the whole Croatia, and particularly Osijek-Baranja County to enter the world of the digital economy. The digital economy in Croatia exists, but it is not as good as one would want it to be. Both the country and the official educational system have failed in the Croatian story about the fourth industry. Of 28 EU Member States, Croatia takes 24<sup>th</sup> place considering the Development Index of the digital economy.<sup>3</sup> Changes in the educational system could be one of the fundamental indicators, as well as raising the awareness of the knowledge of the EU languages and an example of migrants’ knowledge of the language of the country to which they migrated. Within this context it would be of great importance to learn French language as a foreign language, which is in addition to English, also language of the EU.

## 1.1. Methodology

The research was conducted at N=104 students from the institution of higher education institutions in France at the University of Toulouse (Fr. *Les universités, grandes écoles et organismes de recherche de Toulouse Midi Pyrénées*). The aforementioned research was carried out during the winter semester of the academic year 2016/2017 up from November 11<sup>th</sup> to January 17<sup>th</sup>. The average age of the subjects at the time of the research was 23 to 34 years. The sample was random and included the online questionnaire. The used methodology was quantitative methodology in the SPSS data processing. In the process of descriptive statistics it was used: calculating frequency, percentage, Chi-square ( $\chi^2$ ) and correlation coefficient (Cramer's V ( $\rho_c$ ) coefficient).

### 1.1.1. The aim of the research

To examine and determine the perception of final year students’ perceptions of investing in migrants’ education of learning French as a foreign language, to explain the necessity of development of socio-economic competences of migrants and also to determine which levels

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<sup>2</sup><https://www.tportal.hr/vijesti/clanak/Slavonia-izumire-preko-6000-osoba-prijavilo-iseljavanje-s-podrucja-osijeka-20150531>

<sup>3</sup>Report from Bruxelles, March 2<sup>nd</sup> 2017

of socio-economic competences migrants should acquire in order to be easier integrated and included in the world of digital economy.

### 1.1.2. Results

In this part of the questionnaire, students have assessed their own perceptions *on investing in education of migrants* through significance aspect of learning French as a foreign language because of the easier socialization and involvement in the working world. Eight statements were offered in total (Table 1).

**Table 1** Data representation of students on the significance of investing in education for learning French as a foreign language

| Variable   | 1          | 2          | 3           | 4           | 5           | N=Total       | $\chi^2$ | *df | *p    |
|--|------------|------------|-------------|-------------|-------------|---------------|----------|-----|-------|
| Because of easier communication (general socialization and integration in the society)       | 2 (1.92%)  | 8 (7.69%)  | 21 (20.19%) | 20 (19.23%) | 53 (50.96%) | N=104<br>100% | 14.236   | 4   | 0.001 |
| Opening and/or engaging in entrepreneurial institutions                                      | 3 (2.88%)  | 7 (6.73%)  | 44 (42.30%) | 16 (15.38%) | 34 (32.69%) | N=104<br>100% | 27.412   | 3   | 0.055 |
| For easier use of educational technology and softwares for the digital economy development   | 6 (5.79%)  | 6 (5.76%)  | 16 (15.38%) | 19 (18.26%) | 57 (54.80%) | N=104<br>100% | 19.236   | 2   | 0.012 |
| For the purpose of permanent education and further education                                 | 7 (6.73%)  | 10 (9.61%) | 13 (12.5%)  | 19 (18.26%) | 55 (52.88%) | N=104<br>100% | 24.152   | 2   | 0.011 |
| For the purpose of suppressing the gray economy  | 10 (9.61%) | 7 (6.73%)  | 16 (15.38%) | 21 (20.19%) | 50 (48.07%) | N=104<br>100% | 6.521    | 3   | 0.035 |
| For easier collecting of pieces of information on the activities related to the labor market | 4 (3.84%)  | 5 (4.80%)  | 19 (18.26%) | 29 (27.88%) | 47 (45.19%) | N=104<br>100% | 13.235   | 4   | 0.058 |

(Key: Every statement in the original scale of Likert type was used with items: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = mostly agree and 5 = strongly agree)

Source: authors

Table 1 shows that 57 (54.80%) students (M= 0.37, SD=0.44) most often see the purpose of investing in the education for learning French through variable of easier usage of digital technology and development of the digital economy. Furthermore, 55 students (54.80%) (M=0.45, SD=0.41) think that the purpose of learning French is because of the permanent and further education. In the third place is variable of *easier communication (general socialization-integration in the society)* (N=53, 50.96%, M=0.54, SD=0.57). That means that students hold the opinion that it is important to know the language of the destination countries is not only important because of the easier socialization and suppression of the gray economy, but they also see it as the way to include migrants in the working world and development of the digital economy. A statistically significant correlation ( $\chi^2=139,12$ , df=2,  $p<.05$ , Cramers V=.19) is received and it shows that students who also learn English are often more aware of the significance and the role of learning French for the development of the economy and society. Furthermore, testing statistical significance has shown that the majority of students consider that it is very important to invest in education in order to reduce the unemployment rate (considering statistical significance it is less than 1%,  $p\leq 0.01$ ). Table 2 points to the necessity

of development of socio-economic competences of migrants and it also determines which socio-economic competences are the most necessary for migrants to integrate themselves in the world.

**Table 2** Student opinion on the type of the socio-economic competences migrants should acquire

| Variable   | 1              | 2              | 3              | 4              | 5              | N=Total       | $\chi^2$ | *df | *p    |
|--|----------------|----------------|----------------|----------------|----------------|---------------|----------|-----|-------|
| To raise awareness of corporate social responsibility. To encourage the development of entrepreneurial personality traits. | 18<br>(17.30%) | 18<br>(17.30%) | 12<br>(11.53%) | 32<br>(30.76%) | 24<br>(23.07%) | N=104<br>100% | 14.236   | 4   | 0.051 |
| To raise awareness of one's own workforce (age, sex, level of education).  | 6 (5.76%)      | 10<br>(9.61%)  | 13<br>(12.50%) | 21<br>(20.19%) | 54<br>(51.92%) | N=104<br>100% | 19.236   | 1   | 0.032 |
| Creativity and originality   | 10<br>(9.61%)  | 11<br>(10.57%) | 24<br>(23.07%) | 16<br>(15.38%) | 22<br>(21.15%) | N=104<br>100% | 54.234   | 5   | 0.054 |
| Opening and/or engaging in entrepreneurial institutions  | 18<br>(17.30%) | 18<br>(17.30%) | 20<br>(19.23%) | 19<br>(18.26%) | 29<br>(27.88%) | N=104<br>100% | 27.412   | 3   | 0.055 |
| E- orientation   | 4 (3.84%)      | 5 (4.80%)      | 8 (7.69%)      | 30<br>(28.84%) | 57<br>(54.80%) | N=104<br>100% | 19.236   | 2   | 0.012 |
| Entrepreneurial skills   | 5 (4.80%)      | 5 (4.80%)      | 10<br>(9.61%)  | 35<br>(33.55%) | 49<br>(47.11%) | N=104<br>100% | 24.152   | 2   | 0.056 |
| Self-assurance   | 0 (0.00%)      | 4 (3.84%)      | 15<br>(14.42%) | 41<br>(39.42%) | 44<br>(42.30%) | N=104<br>100% | 6.521    | 3   | 0.057 |
| Adaptation to change   | 1 (0.96%)      | 1 (0.96%)      | 16<br>(15.38%) | 31<br>(29.80%) | 55<br>(52.88%) | N=104<br>100% | 13.235   | 4   | 0.041 |
| Willingness to accept reasonable risks   | 20<br>(19.23%) | 23<br>(22.11%) | 12<br>(11.53%) | 19<br>(18.26%) | 30<br>(28.84%) | N=104<br>100% | 14.251   | 1   | 0.061 |
| Identifying and understanding one's own values, talents, skills and inclinations   | 6 (5.76%)      | 30<br>(28.84%) | 15<br>(15.38%) | 21<br>(20.19%) | 31<br>(29.80%) | N=104<br>100% | 17.321   | 2   | 0.055 |
| To raise awareness of the significance of progress and entering the world of digital economy                               | 0 (0.00%)      | 1 (0.96%)      | 4 (3.84%)      | 41<br>(39.42%) | 58<br>(55.76%) | N=104<br>100% | 15.213   | 5   | 0.021 |

(Key: Every statement in the original scale of Likert type was used with items: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = mostly agree and 5 = strongly agree)

Source: authors

Table 2 indicates which kinds of socio-economic competences are the most significant for a migrant during his/her stay and existence in France. In the first place it is important to raise awareness of the significance of advancement and entering the world of the digital economy (N=58, 55.76%, M=0.61, SD=0.59), then development of e-orientation (N=57, 54.80%, M=0.59, SD=0.47). Variable of adaptation to changes (N=55, 52.88%, M=0.31, SD=0.51) is in the third place and in the fourth place is variable that says that it is important to raise awareness of characteristics of their own work force (age, sex, educational level) (N=54, 51.92%, M=0.31, SD=0.55). A statistically significant correlation ( $\chi^2=149.12$ , df= 3, p<.05, Cramers V=.17) has been gained between students who rose awareness of the significance of establishing migrants' own educational level and importance of progress and entering the world of digital economy. All of the above could be an indicator of unemployment suppression and reducing the growth of the gray economy, as well as leaving the country. This research could be a model example of how the development of certain socio-economic competences in Croatia, especially in Osijek-Baranja County (the so called "the Crisis County") could be eradicated with changes to the educational system. It could be done so in order to easily keep track of the labor market needs and because of preventing schism between education supply and demand in the working

world. Also, structural unemployment is usually explained by the differences between the structures of work supply and demand. In the Croatian context, especially in Osijek-Baranja County, it is necessary to pay attention to two dimensions of this difference: the mismatch of knowledge, skills and competences as well as the spatial mismatch between supply and demand. If the research shows that it is very important to study French as a foreign language because of the easier entrance in the world of work and socialization, then the changes should be introduced into the educational system from which professions which are coordinated with the labor market needs are created.

**Table 2.1.** Student opinion on the type of socio-economic competences which migrants should acquire, given the academic year

|  | 1           | 2           | 3    | 4     | 5     | 6     | 7     | 8     |
|--|-------------|-------------|------|-------|-------|-------|-------|-------|
| 1 To raise awareness of the significance of the progress and entering the world of digital economy | <u>1.00</u> | 0.30*       | 0.40 | 0.19* | 0.50* | 0.06  | 0.31* | 0.03  |
| 2 Students of the first year of graduate program   | 0.49*       | <u>1.00</u> | 0.66 | 0.18* | 0.35* | -0.11 | 0.35* | -0.07 |

\*p < 0.01

Source: authors

The results above show that the calculated correlations have shown that there is a connection between students who have already had experience in the digital economy (working in entrepreneurial institutions) with the variable *to raise awareness of the significance of the progress and entering the world of digital economy* ( $r=0.88, p \leq .05$ ). With the students of the second year of undergraduate study no significant correlate of experience in the entrepreneurial institutions has been found. On the other side, the first year students correlate satisfaction in the work of entrepreneurial industries ( $r=0.43, p \leq .05$ ).

## 2. Discussion

One of the most important trends in the labor market is the mismatch of labor market needs and the education system that has long been a negative trend not only in the EU but also in Croatia, especially in Osijek-Baranja County. Too high a number of "unwanted" occupations only accumulates the number of unemployed people who then have the only chance for employment through new or additional qualifications. In order to reach conclusions regarding the labor market, it is important to consider the overall socio-economic situation in Croatia together with local particularities and existing potentials and deficiencies.

Considering the aforementioned, this research can be a great guideline because it has opened up some of the questions, like how can leaving country be suppressed, inclusion of immigrants in the working world, significance of the development of the digital economy with the growth of entrepreneurial institutions, changes in the educational system, significance of learning French in the Osijek-Baranja County (for the economic growth and sustainable development, for the prevention of the unemployment rate etc). The research shows how the French example of connecting the economy of education, labor market, economy and technology is a useful compound that leads to success. Research results show that students feel that it is very important to invest in the education of migrants, especially in learning French in order to a prevent the

destruction of the (inter)national identity to a certain extent but also to facilitate the implementation of the socialization and to reduce the unemployment. Learning French as a foreign language is an important factor in the development of the human capital, development of socio-economic competences but also in development of human resources management for Europe and especially for Eastern Croatia. In doing so, learning French in eastern Croatia could play a major role as a possible factor in preventing the high unemployment rate and emigration from Eastern Croatia.

## REFERENCES

Baacke D. (2007): *Medienpädagogik*. Unveränderte Neuauflage. Tübingen: Max Niemeyer Verlag.

Baacke, D. (1973): *Kommunikation und Kompetenz – Grundlegung einer Didaktik der Kommunikation und ihrer Medien*. München: Juventa Verlag.

Baacke, D. (1987): *Jugend und Jugendkultur*. Weinheim–München: Juventa Verlag.

Baacke, D. (1997): *Medienpädagogik: Grundlage der Medienkommunikation*. Tübingen: Niemeyer Verlag.

Baacke, D.; Ferchhoff, W.; Vollbrecht, R. (1997): Kinder und Jugendliche in medialen Welten und Netzen. In: Fritz, J.; Fehr, W. (Hrsg.), *Handbuch Medien: Computerspiele. Theorie, Forschung, Praxis*. Bonn: Bundeszentrale für politische Bildung, 31–57.

Habermas, J. (1971): Vorbereitende Bemerkungen zu einer Theorie der kommunikativen Kompetenz. In: Habermas, J.; Luhmann, N (Hrsg.), *Theorie der Gesellschaft oder Sozialtechnologie?*. Frankfurt a. Main: Suhrkamp, 101–141.

Habermas, J. (1981): *Theorie des kommunikativen Handelns*. 2 Bände. Frankfurt a.M.

Habermas, J. (1990): *Strukturwandel der Öffentlichkeit. Untersuchung zu einer Kategorie der bürgerlichen Gesellschaft. Mit einem Vorwort zur Neuauflage 1990*. Frankfurt/Main: Suhrkamp.

Hüther, J.; Schorb, B.; Brehm-Klotz, Ch. (Hrsg.) (1990): *Grundbegriffe der Medienpädagogik: Wörterbuch für Studium und Praxis*. Ehningen bei Böblingen: Expert Verlag.

Hüther, J; Schorb, B. (2005): *Grundbegriffe Medienpädagogik*. IV. Auflage. München: Kopaed Verlag.

### Internet Resource:

Baacke, D. (1998): Medienkompetenz im Spannungsfeld von Handlungs kompetenz und Wahrnehmungs kompetenz. Vortrag an der Pädagogischen Hochschule Ludwigsburg am 8.12.1998. Available on: <http://www.ph-ludwigsburg.de/medien1/baacke.pdf> [8. 12. 1998.] <https://www.portal.hr/vijesti/clanak/Slavonia-izumire-preko-6000-osoba-prijavilo-iseljavanje-s-podrucja-osijek-a-20150531> [Last Accessed on February 18<sup>th</sup> 2017]



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**RE-PROCESSING OF ALOPOIETIC TO AUTOPOIETIC  
ORGANIZATION**

**RE-PROCESIRANJE IZ ALOPOIETSKE U AUTOPOIETSKU  
ORGANIZACIJU**

**ABSTRACT**

*How to develop autopoietic organization in theory and practice, with negation of negation of alopoeitic organization? The aim of research is development of organization by connecting: 6 scientific disciplines, 5 criteria and 4 kinds of development. Our purpose is to make a qualitative jump from alopoeitic to autopoietic organization and society as a whole. Joy, happiness and love should prevail instead of existing emotions of fear, anger and sadness, which Maslow defines as a condition to reach the 5<sup>th</sup> level, expressed in an individual as self-actualization. To achieve human philosophical, scientific, religious and technological creativity with inventiveness is our final aim. Qualitative phenomenological method and method of dialectic, supported by quantitative mathematical and statistical techniques, are used in the research. We used “top-down” and “bottom-up” principles. As a challenge of present we re-processed the book “Methodology of Social Science” with motivation questions. We developed a model named “The Tree of Development”, as a model of an autopoietic organization. The result of an individual is to create life in love and freedom of activity. This is proved by the equation of development for complete progress of moral, intellectual, social, physical and financial capital. We confirm one of the factors of economy on optimal allocation of sources with this, where rate of repayment in human and physical capital is important. Autopoietic approach in self-organization is confirmed by the ABCD model. To position autopoietic organization we developed the Holistic Autopoiesis University – HAU, the aim of which is to develop and not to block self-actualization of students, as practice shows.*

*Development of organic self-organization on existent mechanical organization, which is the consequence of Cartesian paradigm. The gap between the material and non-physical is connected again to a whole by an autopoietic organization. In psycho-social dynamics relations are improved: giving and getting. Through the ABCD model we discover the distinction of envy and unfairness of organization. Material and non-physical contribution of an individual in all spheres, with less stress but more love and freedom. Less hate and more harmony create social wellbeing. Investing in people who will contribute with their knowledge and motivation to*

*universal progress. We see production of doctoral works as the most important production in individual social circle, as “top-down” principle. With motivation and knowledge, the possibility of synergy is created, as well as optimal principles for self-learning in the web of creative teams as the most important aspect of self-organization. The model of an autopoietic organization “The Tree of Development”, linking together: 6 scientific disciplines, 5 criteria and 4 kinds of development. The ABCD model as autopoietic approach and HAU for self-organization. We expect that FOŠ will be the first autopoietic institution, in the sense of HAU in Slovenia and the world. Limitations is the old and still valid organization paradigms that are blocking up life in love and freedom, and obstruct human creative potential.*

**Key words:** *autopoiesis, alopoeitic, moral, intellectual, social, physical and financial capital.*

## SAŽETAK

*Kako razviti autopoietisku organizaciju u teoriji i praksi, sa negacijom negacije alopoeitske organizacije? Cilj istraživanja je razvitak organizacije sa povezivanjem: 6 znanstvenih disciplina, 5 kriterija i 4 vrste razvitka. Naša namjera je napraviti kvalitativni skok iz alopoeitske u autopoietisku organizaciju i društvo kao cjelinu. Umjesto sadašnjih emocija straha, srdžbe i tuge, potrebno je, da nadvladaju radost, sreća i ljubav, što Maslow definira kao uvjet, da se postiže 5. stupanj, koji se kod pojedinca izražava kao samo-aktualizacija. Dostići čovjekovu filozofsku, znanstvenu, duhovnu i tehnološku kreativnost sa inovacijama, naš je konačni cilj. U istraživanju su upotrijebljene kvalitativne fenomenološke metode i metode dijalektike, koje su utemeljene sa kvantitativno matematičnim i statističkim tehnikama. Upotrebili smo »top-down« i »bottom-up« princip. Kao izazov sadanjeg vremena sa motivacijskim pitanjima re-procesirali smo knjigu »Metodologija društvene znanosti«. Razvili smo model »Stablo razvitka«, kao model autopoietične organizacije. Rezultat pojedinca je kako ostvariti život u ljubavi i slobodi djelovanja. Što dokazivamo sa jednakštom razvitka za cjelovit napredak moralnog, intelektualnog, socijalnog, fizičkog i finansijskog kapitala. Sa time potvrđujemo jednog od čimbenika ekonomije u optimalnoj alokaciji virova, gdje je važna stupnja povratka u čovjekov i fizički kapital. Autopoietički pristup u samo-organizaciji potvrđujemo sa modelom ABCD. Za razvitak autopoietične organizacije razvijamo holističku autopoietisku univerzu HAU (Holistic Autopoiesis University). Cilj HAU je razvijati i ne blokirati samo-aktualizaciju studenata, kao donosi praksa.*

*Razvitak organske samo-organizacije, na postojećoj mehaničkoj organizaciji, koja je posljedica kartezijanske paradigme. Rupu razdvojenosti materijalnog i duhovnog avtopoietična organizacija ponovno povezuje u cjelinu. U psiho-socijalnoj dinamici pridobiju odnosi: davanja i uzimanja. Skroz model ABCD otkrivamo distinkciju zavisti i (ne)pravičnosti organizacije. Materijalni i ne-materijalni doprinos pojedinca u svim okolinama, sa manje stresa, a više ljubavi i slobode. Manje antagonizma i više harmonije, što doprinosi društveno blagostanje. Ulaganje u ljudi, koji budu sa svojim znanjem i motivacijom doprinos ka obćem napretku. Kao najvažniju proizvodnju u neki društveni sredini vidimo proizvodnju doktorskih radova, kao princip top-down. Sa motivacijom i znanjem ostvari se mogućnost sinergije i optimalnih principima za samo-učenje u mreži stvaralačkih timova, kao najvažniji vidik samo-organizacije. Model autopoietične organizacije »Stablo razvitka«, koji povezuje 6 znanstvenih disciplina, 5 kriterija i 4 vrste razvitka. Model ABCD kao autopoietiski pristup i HAU za samo-organizaciju. Očekivamo, da bude FOŠ prva autopoietiska institucija, u smislu HAU u Sloveniji i svijetu. Ograničenja su stare i još uvijek punovažne organizacijske paradigme, koje blokiraju život u ljubavi i slobodi, jer kočiju čovjekov kreativni potencijal.*

**Ključne riječi:** *autopoieza, alopoeieza, moralni, intelektualni, socijalni, fizički i finansijski kapital.*

## 1. Introduction

When we think about circularity and about circle, the question arises: What is circularity and what is the circle itself? Many authors wrote that it is a natural principle operating in our world. (Aristotle, 2012, Jantsch 1980, Capra 1986, Ovsenik 1999, Lauc 2000, Kordeš 2004) The principle of circularity was researched by Chilean biologists who were the first to name it »autopoiesis«, as a definition of the living, and introduce the theory of autopoiesis. (Maturana & Varela, 1980) Luhmann (1995) says that the autopoiesis theory in social systems presents a conceptual revolution in sociology (pp. 3-6) In case that systems combine with social environment of reinterpretation, psycho-social circles close, as written by Lauc (2000, p. 25). If we look at the autopoietic system as a creative circle, we see that the only task is persistence. (Kordeš, 2004, pp. 180-181). Is the re-process actually an autopoietic process? What is re-processing and how do we define it in organization and society? These are the questions Lauc has been dealing with all his life. His working and scientific opus was rounded up in the book »*Metodologija društvenih znanosti*« (»Methodology of Social Sciences«), published in 2000, in which he discusses principles of autopoietic organization.

Today, in 2017, we can daily observe more and more alopoietic organizations, bureaucratic environments, and sense that the society does not pay attention to humans, to their living and creative life. The reasons for such a state can be recognized in alopoiesis, defined by Lauc as negation of autopoiesis. (2000, p. 13) When studying the principle of »autopoiesis«, we developed a discussion with the author, making notes and recording audio interviews. As a challenge of present time we re-processed the life work of Lauc with motivation questions, mainly in the aspect of how to make the change from alopoietic to autopoietic organization. *Why?* The existence of human is conditioned on co-existence and harmony of human society; we need collective work of all people, where we ourselves are important, as well as our values. (Ećimović, 2016, p. 38) Connection and interdisciplinarity are a base of autopoietic organization with important values of love, truth and freedom, which gives the creative potential to an individual, organization and whole society. (Lauc, 2000) The aim of our contribution is to present the re-processing of Lauc's findings, which rounded up and closed the circle of circle from 2000 until today, through new prism of post-modern society.

## 2. Theoretical background

### 2.1. »The Tree of Development« as an autopoietic model of organization

In his lifelong work and research, Lauc (2000) found out that *self-organization* is a base of development of every society. During his studies, he began to understand the forces of causes and purpose and established that negative groups are more mutually self-organized than positive ones. On these forces human personal, organizational and social development is based, as his findings show. He suggested a hypothesis that by studying *biology* (biosphere) we recognize the forces of causes and with the help of *philosophy* (noosphere) the forces of consequences. He carried out research in a *natural way* and put biology and philosophy into the mental framework of autopoietic organization (p. 9). This coincides with our approach since in the article by Balažić Peček (2016) we put as the base of an organization the methodology in accordance with natural laws and principles of activity of Nature and human beings. Lauc presents a concrete model of autopoietic organization in which biology and philosophy represent a frame of the model. He is convinced that it is possible to control the laws of every organization by the knowledge of *psychology*, *technology*, *economics* and *law*. If we add *sociology*, *politology* and *philosophy of science and art*, we would round up the entire knowledge for solving social problems. The author deepened the empirical research in the sense of how to assure the organization as maximally efficient, based on humane relations and with minimal environment impact (2000, pp. 9-10) Beck (2001) adds that visible threats that can be corrected are not so

worrying. More important are momentarily invisible threats to a human, which will show as harmful in future generations. For these social observations should be set today in theory as well as in practice. (p. 244) Philosopher Ećimović (2016) says that he is the first scientist who introduced a *modern scientific presentation of nature* of our planet and systematic base of nature in general. (2016, p. 3)

In a critical way Lauc (2000) emphasizes economic and political problems and as a consequence states that the society has not devoted enough to *autopoietic production*, through which we would be able to create topmost products and services. He is convinced that incorrect solutions are looked for in the world and that this gives us a *chance* that from the current *chaos* autopoietic organization is formed. At the moment, the potential of *will* for development is present, which, unfortunately, does not include *moral values, knowledge, relations* and other factors of development. Since the gap is bigger and bigger, the space for immoral behaviour is getting larger. As an opportunity for personal and social development, he suggests that from chaos the autopoietic organization is built, which is based on cooperation of six teams: biology, philosophy, psychology, technology, economics and law, which are creatively connected. This is a model he later names » *The Tree of Development* «. On this background, it will be easier to understand the connection between inorganic and organic, organs and organism, organism and organisation. He stresses that only when we understand natural forces, we can research spiritual forces and philosophy of work itself. Only on these foundations we will be able to develop motivation, knowledge and relations, and we will be able to improve the *efficiency of an organization, humanity and freedom* as crucial attributes of the third century, adds Lauc (pp. 12-13) Inside the model of autopoietic organization Lauc (2000) defines five criteria: *economics, ecology, ethics, esthetics, ecumenism*, which are important for circular process of deciding for processing and re-processing in an organization, leading to the final goal of creating good, real and beautiful in the process of production. (p. 248) Circular process realizes four kinds of development as the highest aspects of autopoietic development: *personal, organizational, economic and cultural*. (ibid., p. 164)

Lauc (2000) defines *autopoiesis* as a web of self-production, combined from elements which create and realize themselves with their interlinked activity. On the other side, he defines *alopoiesis* as negation of autopoiesis. (p. 13) If the essence is the reason for existence, the law of negation of negation is the law which follows the movement of reality. He emphasizes that based on the experiments of strictness and mildness, he found out how many activities are irrelevant. Only self-referencing of a person is important, with principles of *self-education, self-learning and self-organization*; everything else is a waste of time, energy, money and nerves. (ibid., pp. 74-75) Lauc says that in production self-referencing is the element which ensures »JIT (just in time) « and »zero defect«, since the quality of an organization shows itself in the *transformation* of an idea into a product. Organization has the ability to create a suitable product in a way that it is good, real and beautiful. He points out that harmonized process is of key importance in free action of the force of love as a driving power of progress. (2000, pp. 414-443)

## **2.2. Biological aspects of autopoietic organization reflect in economics and law**

Lauc (2000) is sure that modern problematics of mankind is approached by in an alopoeitic and not autopoietic way. He asks himself how much is *West* determined with *East and South with North*, of course in world circumstances and vice versa. He also notices that relations in macro-organization are the same as inside every organization and inside basic organization unit. In the cell theory, the law of self-organization can be found, which can help the theory of social development because the existent capitalistic and state institutions are unnatural, mechanic and inorganic, the author criticizes. He states that in a good organization everything runs smoothly and that organism is more free if it is *concordant* and *complete*. Only the living is a subject and not living is an object where the laws of thermodynamics are valid, the principles of lower level

are unnatural. (pp. 35-39) Malić (1976) mathematically exactly defines and explains thermodynamics and entropy in his work »Kibernetiska termodinamika« ("Cybernetic Thermodynamics"), and also talks about living systems.

Lauc (2000) is also aware of the importance of *metabolism* as a life process since he establishes that this is a continuous process of activity which enables growth and multiplication. In connection with metabolism he also mentions anabolism and catabolism, which are responsible for the metabolism process itself. He explains that they are counter active by this example: if anabolism prevails, it is *growth*, while on the contrary we are heading towards *decay* and *death*. If a human would consider these natural principles, efficiency, humanity and harmony would prevail, which would ensure health against disease, inefficiency, inhumanity and antagonism, stresses the author. (pp. 42-43) Djurđica is aware of the limitations of the existent paradigms and suggests that a common view on the activity of organism is found, by considering all known factors about organism operation. He supposes that such a finding will bring new findings about functions of an organism in relation with the environment. At the same time, he stresses that this knowledge must be used for health or for maintaining health. (2013, p. 71)

In the conclusion about biological impact Lauc (2000, pp. 43-45) states that an organism is a "machine" which produces itself totally autonomously with internal interactions based on self-referencing. He is aware that respecting natural laws solves only a part of problems, it is also necessary to find perfect technology for a precise transformation process. By understanding the game of coincidences and necessity the humankind faces new projects in biotechnology. This is confirmed by Železnikar (2015) with his calculation of information hierarchy in a conscious information system, named ICS (Informational Conscious System). The author states that this is a complex web of information components: cognitive, emotions, attention, awakening, motivation, homeostasis, habits and experience. He names this phenomenon of levels »*entropion*«, which he defines by a formula. (pp. 73-77)

Provocative is Lauc's finding (2000) that classic science does not accept a dialogue with Nature in which it sees a human as a stranger on the Earth. He is convinced that with new findings a human and Nature can develop a *spontaneous free organization*. He perceives the cell as a highly organized biological activity, which brings order and activity to all processes. If we wish to develop free democracy, we should encourage freedom, which is already somehow "frozen" in Nature. If we succeed to release these sleepy potential powers, we can be richly awarded for that, concludes the author. (pp. 45-48)

Lauc (2000) believes in the »*win-win*« game, in *work* and *love*, in synergy, which we ourselves can form with the help and principles of autopoiesis. It can be formed as a web of self-production, which Maturana and Varela already wrote about; elements with their mutual activity realize the web, as well as autopoiesis itself. In the conclusion, he emphasizes one more characteristic, happening in the circle of transformations and that can be sensed in the Nature. When a human will see *circles* and *circles of circles* in Nature, the actual time of connection between a human and Nature will take place. He tries to explain these laws from the view of philosophy. (pp. 48-50) Fayerabend (2008, p. 2) does not understand intellectuals who strictly divide science and art, since he is sure that there is no zone of "pure science" and "pure art" but these two are intertwined. Capra (2002, p. 117) is sure that artists and creative people know how to control unpredictability and loss of control. Lauc (2000) does not present philosophy as something unreachable to a person but directly points out the fact that when morals is recognized as the most important category of development of our society, we will soon create possibilities for successful economic and political development. (pp. 58-59)

It is important that everyone brings *love* from their home, *from their parents*, says Lauc (2000). In the education process the professors are only catalysators from Eros and Agape. He determines that most people are still turning around in the vicious circle of Eros and Tanatos, as

they allow the alopoeitic environment to ruin them. Considering that, he asks himself how to produce oneself into a constantly better and higher creative subject. He finds important the following: self-education, self-learning, self-organization, so that we develop into self-referencing beings. He points out that the *process* begins in the *heart* and that it is necessary that every heart knows what law is. He remarks that this is a great battle for more honesty in every team member and that this is at the same time the preliminary condition that on such a *moral base* (in)formal games and autopoiesis paradigm are formed. (pp. 60-63) Djurdica (2013, pp. 65-67) also thinks about the education of an individual and stresses that for the society unprepared individuals, who are not acceptable for social relations, also live and behave in an unadjusted way.

In legal theory and practice Z. Lauc (2016) moves forward and realizes that it is necessary to make a Copernican change, which needs to be *recognized, acknowledged, developed and changed* at first. Here we are talking about the circle of learning, presented by the author in "Old Philosophy", which is alopoeitic, and "New Philosophy", which is autopoietic. In addition, he explains that the autopoiesis theory enables acception of positive and elimination of negative. Because the theory of autopoiesis arises from cell, he is aware that the cell is the right entity which can self-treat law as a closed system of communication, and which is the only one that can legally perform communication outside the existence. (pp. 583-588)

Lauc (2000) says that one can *honestly love* only what is *honestly respected*. If we are not able to love better people than us, we should at least respect them. (pp. 75-78) Pavuna (2016) points out as well that self-liberation is the way to forgive ourselves, consequently love ourselves, our parents, homeland, life and the world around us, and that we are a part of open society. Lauc (2000, pp. 78-80) notes that if a person can not overcome failures and save their morals, they are not capable of *developing autopoietic society*. He makes a point that the joining of »bottom-up« and »top-down« principles is necessary because the circle of *feeling, thinking, speaking and acting* as a process is operatively closed.

In the freedom of *creation* we can develop *moral, intellectual and social* capital. When talking about a human being itself, he says the aim is that all parts of the organism are the means as well as the goal (ibid., pp. 81-91) Tesla's self-observance of the thinking process is described in literature (Tesla, 2013, p. 101): »Thinking activity, which is not a consequence of conscious will at first but a consequence of pressure and suffering, became familiar to me with time and finally brought me to the finding that I am nothing else but an automat *without free will* in mind and acts, responding only to forces from the environment. «

We are interested in how to develop autopoietic organization in theory and practice, with the negation of negation of alopoeitic organization. Where to start developing and training individuals for human community, which will contribute to moral society?

### 3. Method

In the research we used qualitative phenomenological methods and dialectic methods, supported by quantitative mathematical and statistical techniques. We used the »top-down« and »bottom-up« principles. As a challenge of our time we carried out interviews with the author in 2016 and 2017. With up-to-date questions we re-processed the book »*Metodologija društvene znanosti*« (»Methodology of Social Sciences«) in the sense of how to make the move from alopoeitic to autopoietic society. We used method interview is modelled after Oswick and Grand with article: »Re-Imagining Images of Organization: A Conversation With Gareth Morgan.«

The principle of »autopoiesis« is complexely intertwined, particularly when we add the sociological moment to the biological one. Lauc (2000) points out that *feelings* have to be



transformed into thoughts so that *love*, *truth* and *freedom* become the basic attributes of the chaos theory, and that the key to freedom is in morality. In the continuation he expresses the question (p. 13): "How can we self-produce ourselves into creative subjects?" On the ground of long-term research he confirms the thesis that a human develops into a *self-referencing* being, based on the processes of: *self-education*, *self-learning* and *self-organization*. Harari (2015) adds that only for maintaining laws, habits, procedures and manners, a conscious effort of every individual is needed, otherwise the society culture is quickly destroyed. Lauc puts forward two important elements: *love* and *freedom*, and explains that the first rescues the forces of *chaos* and wars, whereas the other brings *well-being* in the sense that this is not working time but free time, the right of every individual (pp. 160-161) Morgan (2004) studies metaphors or images of organization from the view of psychic cage or mental prison where subconsciousness is at the same time *creative* and *destroying* power. He believes that the secret human side will always exist and that it is necessary to take into account subconscious human dimension for successful and comprehensive development. (pp. 215- 218)

#### 4. Results and discussion

##### 4.1. Reprocessing the book »Metodologija društvene znanosti« - »Methodology of Social Sciences« (MDZ)

With the author of the book, Emeritus Prof. Ante Lauc, PhD I carried out numerous discussions and the interview below represents a basic synthesis. We present a part of common research of autopoietic organization in the sense of creating a moral and highly productive society (Lauc & Balažić Peček, 2016-2017).

*Tanja*: Your MDZ attracts attention already with its cover, showing a picture of Plato with the principle of »top-down« and Aristotle with the reverse principle »bottom-up«. Why did you decide for this picture and why did you present exactly these two principles?

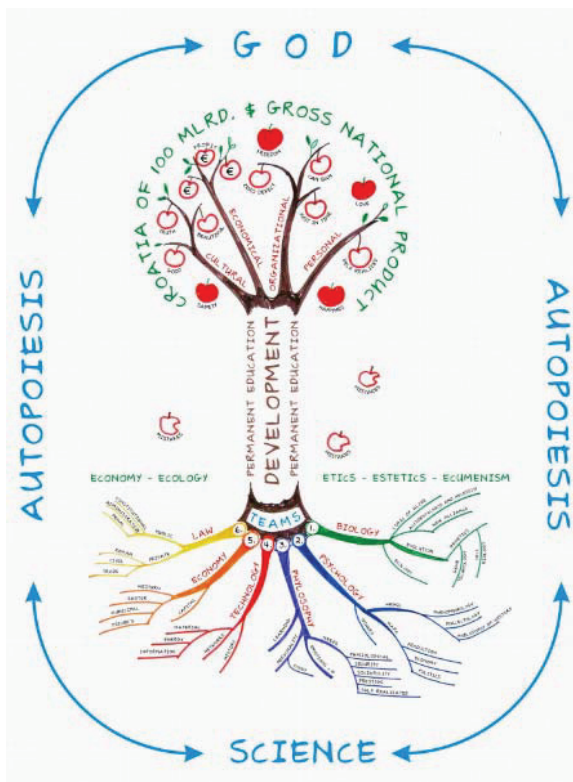
*Prof. Lauc*: To enlighten all teachers and students that only with »top-down« and »bottom-up« principles a whole can be reached. Also Plato and Aristotle were not able to join synergy, that is why this is a reminder to new generations that they, through wish and knowledge, try to achieve synergy for new ideas and concepts, unknown to us.

*Tanja*: You developed the model "*The Tree of Development*" as a model of autopoietic organization and society, as your scientific and social contribution of your life work - Picture 1. What would you change about this model today?

*Prof. Lauc*: Nothing. I would put it in every team, organization, institution to be used in everyday problematics and most of problems would be solved. An individual, especially an expert, is very focused on their discipline and does not have the necessary width to understand the whole. The situation is worse with non-experts who with their power of connection gain strength and prevent creative work of experts. In economy it would be necessary to actively and continuously connect technics, economics and law. Thus good, real and beautiful solutions would be reached. But there is no manifestation yet, everything is latent.



Picture 1 "The Tree of Development" as a model of autopoietic organization



Source: Lauc: Metodologija društvenih znanosti. Sveučilište J.J. Strossmayera u Osijeku, Pravni fakultet, 2000

Tanja: In MDZ you realize that it is important that everyone brings love from their home, from their parents. You notice that most people are still turning around in a vicious circle of Eros and Tanatos. Can you explain this?

Prof. Lauc: Love is the essence of life. If you do not get it from parents, it is difficult to replace that later. If you look at the reality, this is the cause of sadness, envy, disrespect, which leads to separation, instead of living in synergy, which would make people happy, healthy and satisfied creators.

Tanja: Are these the reasons for alopoeitic society?

Prof. Lauc: Yes. If people respected better people than themselves, the world would operate differently. As one of the main problems I perceive envy and fear, the consequence of which shows as alopoeitic society, since the moral and social expansion cannot be achieved.

Tanja: Your "The Tree of Development" also includes law. Is this the "final point", the area of science that could make a Copernican change? Of course in connection with the other five disciplines.

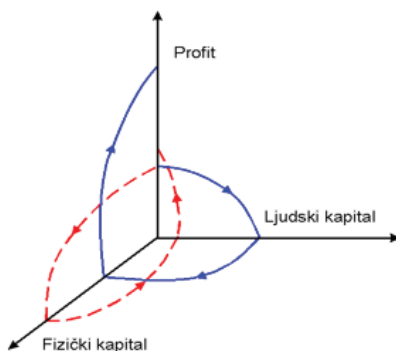
Prof. Lauc: With this the circle of circles would close and Hegel's philosophy would be proven in practice. Without an efficient holistic approach, which directs the development of society (individual, organizational, economic and cultural), and without such a law we are lawless

society. I see the goal in culture, which is a synthesis of science, art, high technology and spirituality.

*Tanja:* At first sight your "The Tree of Development" seems logical since it shows analogy of nature and natural principles. However, how should this development start in practice?

*Prof. Lauc:* It is significant that we invest in human capital so that every individual with their knowledge and motivation contributes to general progress of society. This is mainly about personal satisfaction of an individual and wider community, which is possible only if it has a sense of life.

**Picture 2** Autopoietic and alopoietic economics. Autopoietic is profit, based on investments in human capital, shown with blue curve. Alopoietic is investment of physical capital, shown with red curve



Source: Lauc: Metodologija društvenih znanosti. Sveučilište J.J. Strossmayera u Osijeku, Pravni fakultet, 2000, p. 307

*Tanja:* You developed an equation of development:  $Y = aX_1 + bX_2 + cX_3 + dX_4 + eX_5 + fX_6$ . (Lauc, 2000, p. 308) What did you discover by it, is it still valid today?

*Prof. Lauc:* In my long-term research I discovered autopoietic investment (blue curve in Picture 1). I supposed that moral capital is the most important and proved it with the level of variance which is over 85%. All the other variables were confirmed in the order. It is simply necessary to invest in people, so that they invest in physical capital with higher motivation, knowledge and team organization. Creating new capital is far larger than we could imagine and the equation is so simple that it could not be simpler. Of course it is valid from 2000 on, when MDZ was published, and still today. I notice that the situation in society is much worse than before.

*Tanja:* In a human you noticed a deficit of connection between heart, head and hands, and you say that there is not enough mental work. How did you establish this and how can you explain this?

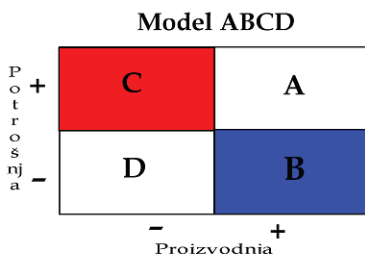
*Prof. Lauc:* I carried out action researches so that I could be assured in, what is called in science, morphology. The essential category is a person, that what he feels he also thinks, what he thinks, he speaks and what he speaks, he does and this is a circle of freedom of an individual.

*Tanja:* Can we connect this unhealthy foundations with your ABCD model?

*Prof. Lauc:* Exactly. If we look at the ABCD model, we notice that our society created the most dangerous C individuals who got used to a nice life without work. The paradox is that they always want more. That is the reason why smart, honest and cultural people are left with work and humbleness, and in this way enable the "successful" ones to be dishonest. Developed countries have a reverse diagonal and are successful because they respect national wealth as

human capital. I am sure that this is the path out of this unpleasant situation or from "crisis" felt on our ground.

*Picture 3 ABCD model - as a model of production and consumption*



*Source: Lauc: Metodologija društvenih znanosti.  
Sveučilište J.J. Strossmayera u Osijeku, Pravni fakultet, 2000, p. 311*

*Tanja:* According to your explanation of the ABCD model we can conclude that our society operates in a counter diagonal as in developed countries. Considering your research, what is the key element for a diagonal to turn and how much time would we need for such a transformation?

*Prof. Lauc:* It is necessary to systematically connect human, physical, financial capital as a rate of return capital. We can talk about potential on three levels: moral capital (theory of emotions, motivation, etc.), intellectual capital (theory of learning, thinking, creativity, etc.) and social capital (team work, culture as synthesis of religion, science, art and high technology).

*Tanja:* You have been developing HAU (Holistic Autopoiesis University) for some time now. How do you see the development of FOŠ (Fakulteta za Organizacijske Študije = Faculty of Organisation Studies) inside this scientific connection? What role do Novo mesto and Slovenia have in this?

*Prof. Lauc:* Production or development of doctoral students is most important for development of autopoietic society. Thus it is necessary to direct and join all given synergy in creating such a programme, and that on these doctoral works the autopoietic society is based. FOŠ can be one of the bases of HAU which will develop and not block self-actualization of students, as practice shows. Personally, I wish and expect FOŠ to be the first autopoietic institution in the sense of HAU in Slovenia and the world. Novo mesto is surrounded by the Krka River as a "uterus", where conditions for a beginning of new are formed. The effects will not be visible only in Slovenia but also in the world, as a web of self-organization of the best and transformation to autopoietic society.

## 5. Conclusion

We developed a "The Tree of Development" as a model of autopoietic organization. The result of an individual is to create life in love and freedom of action. This is proven by equation of development for the entire progress of moral, intellectual, social, physical and financial capital. With this we confirm one of the economic factors about optimal allocation of sources where the rate of return into human and physical capital is important. The autopoietic approach in self-organization is confirmed with the ABCD model. To position the autopoietic organization we are developing the Holistic Autopoiesis University, HAU. We are developing organic self-organization on the existent mechanic organization, which is the consequence of the Cartesian paradigm. The gap between material and spiritual is again unified in a whole by the autopoietic organization. In psycho-social dynamics relations of giving and getting gain. Through the ABCD model we discover the distinction between env and (un)fairness of organization. Moreover, on

the base of research and studies, a synthesis of research work was created in the interview between both co-authors.

We are dealing with material and non-material contribution and potential of an individual in all environments, with less stress, but more love and freedom. Less antagonism and more harmony, which brings about social welfare. Investing in people who will - with their knowledge and motivation - contribute to general progress. As the most important production in individual social group, we see production of doctoral works, as a "top-down" principle. With motivation and knowledge the possibility of synergy is created, as well as optimal principles for self-learning in the web of creative teams as the most important aspect of self-organization. The contribution to science is a model of the autopoietic organization, the "*The Tree of Development*", combining 6 scientific disciplines, 5 criteria and 4 kinds of development. The ABCD model as autopoietic approach and HAU for self-organization. We expect that FOŠ will be the first autopoietic institution in the sense of HAU in Slovenia and the world. Limitations in society are old and still valid organizational paradigms which block up the life in love and freedom, and hinder human creative potential.

## REFERENCES

Ambrož, M., Bukovec, B. (2015). *Fears of modern society*. Innovative issues and approaches in social sciences, ISSN 1855-0541, Jan. 2015, vol. 8, no.1, str. 163-179. doi: 10.12959/I ssn.1855-0541.IIASS-2015-nol-art10.

Aristotel, (2012). *O nastajanju in propadanju*. Slovenska matica, Ljubljana.

Balažic Peček, T. (2015). *Spirala življenja kot fenomen zavestnega ustvarjanja*. (The spiral of life as a phenomenon of conscious creation). *Revija za univerzalno odličnost*, 4 (4), (142-154).

Balažic Peček, T. (2016). *Naravni modeli mišljenja kot izziv človeka pri etičnih konceptih v organizaciji* (Natural models of mind as a challenge of a person in ethical concepts in an organization). 35. Mednarodna konferenca o razvoju organizacijskih znanosti: Trajnostna organizacija, Slovenija, Portorož, 16.-18. marec 2016, (str. 56-69), Maribor: Fakulteta za organizacijske vede.

Balažic Peček, T., Lauc, A., Železnikar, A. P., & Bukovec, B. (2016). *Samo-upravljanje kot element avtopoietске organizacije* (Self-management as a building block of autopoiesis organization). Šesti interakademski skup katedri za menadžment zemalja jugoistočne Europe i naučna konferencija: »Suvremeni poduzetnički menadžment i organizacija u digitalnoj eri u zemljama u tranziciji: prepreke i mogućnosti«, Bosna i Hercegovina, Banja Luka, 07.-08. oktobar 2016, str. 119-130, UDK: 005.5:331.107.

Balažic Peček, T., & Bukovec, B. (2017). *Razsežnost principa "autopoiesis" v organizaciji in družbi*. (Dimension of the »Autopoiesis« Principle in Organization and Society). *Revija za univerzalno odličnost*, 5 (1), (39-54).

Beck, U. (2001). *Družba tveganja: Na poti v neko drugo moderno*. Zavod za odprto družbo, Ljubljana.

Capra, F. (1986). *Vrijeme preokreta: Znanost, društvo i nastupajuća kultura*. ČGP Delo, OOUR Globus, Izdavačka djelatnost, Zagreb.

Capra, F. (1996). *The Web of life: A New Scientific Understanding of Living Systems*. Anchor Books, New York.

- Capra, F. (2002). *The Hidden Connections: Integrating the Biological, Cognitive, and Social Dimensions of Life into a Science of Sustainability*. Doubleday, New York.
- Capra, F., & Luisi, P. L. (2014). *The System View of Life: A Unifying Vision*. Cambridge university press, United Kingdom.
- Djurđica, B. (2013). *Kaj je življenjsko-kozmična energija: Elikzir za življenje na zemlji*. Alternativa, Ljubljana.
- Ećimović, T. (2016). *Univerzalna vzgoja in izobraževanje in Filozofija trajnostne sonaravne prihodnosti Slovencev*. Mestna knjižnica, Izola.
- Harari, Y. N. (2015). *Sapiens: Kratka zgodovina človeštva*. Mladinska knjiga, Ljubljana.
- Jantsch, E. (198). *The Self-Organization Universe: Scientific and Human Implications of the Emerging Paradigm of evolution*. British Library Cataloging in Publication Data, Oxford.
- Kordeš, U. (2004). *Od resnice k zaupanju*. Studia humanitatis, Ljubljana.
- Lauc, A. (2000). *Metodologija društvenih znanosti*. Sveučilište J.J. Strossmayera u Osijeku, Pravni fakultet. Grafika, Osijek.
- Lauc, A. *Personal interviews and correspondence with the author* (Šibenik, Novo mesto, Banja Luka, Osijek, Beograd, Novi Sad, 2016).
- Lauc, A., & Balažić Peček, T. (2016-2017). *The notes research of the autopoietic organization*.
- Lauc, Z. (2016). *Moralitet-Legimitet-Legalitet: zbirka radova*. Sveučilište J.J. Strossmayera, Pravni fakultet. Grafika, Osijek.
- Legradić, R., & Lauc, A. (1977). *Dijalektička teorija i praksa društva*. Biblioteka ekonomskog fakulteta u Osijeku, Osijek.
- Luhmann, N. (1995). *Social Systems*. Stanford University Press, Stanford, California.
- Luhmann, N. (2004). *Luhmann's theory of autopoietic social systems*. Münchner betriebswirtschaftliche Beiträge, *Munich Business Research*.
- Malić, D. (1976). *Kibernetska termodinamika: Zakonitosti i metode*. Gradževinska knjiga, Beograd.
- Maturana, H. R., & Varela, F. J. (1980). *Autopoiesis and cognition: The realization of the Living*. D. Riedell publishing company, London.
- Maturana, H. R., & Varela, F. J. (1998). *Drevo spoznanja*. Studia humanitatis, Ljubljana.
- Morgan, G. (2004). *Podobe organizacije*. Fakulteta za družbene vede, Ljubljana.
- Ovsenik, J. (1999). *Stebri nove doktrine organizacije, managementa in organizacijskega obnašanja*. Moderna organizacija, Kranj.
- Oswick, C., & Grant, D. (2015). *Re-Imagining Images of Organization: A Conversation With Gareth Morgan*. Article in Journal of Management Inquiry, June 2015. DOI: 10.1177/1056492615591854.
- Pavuna, D., *Personal interviews and correspondence with the author* (Karlovac, Zagreb, 2016).
- Peti-Stanić, A. (2014). *Veliki suvremeni slovensko-hrvatski i hrvatsko-slovenski rječnik*. Mozaik knjiga, Radin, Zagreb.
- Tesla, N. (2013). *Moji izumi (My inventions)*. Založba Sanje, Ljubljana.
- Vasquez, C., & Benavente, R. D (2016). *Revisiting Autopoiesis: Studying the Constitutive Dynamics of Organization as a System of Narratives*. Management Communication Quarterly, 30(2) 269-274. doi:10.1177/0893318915620492.
- Zeleny, M. (1981). *Autopoiesis Today*. Cybernetics forum. The publication of publication of American society for cybernetics. 10(2&3) 3-13.
- Železnikar, A. (2015). *Informational Consciousness and Half-Consciousness*. Humankybernetik Band 56 · Heft 3, *Akademia Libroservo / IfK*.

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**CONFLICT MANAGEMENT STRATEGIES: WHAT TO EXPECT FROM  
ECONOMICS AND BUSINESS STUDENTS IN THE WORKPLACE?**

**STRATEGIJE UPRAVLJANJA KONFLIKTIMA: ŠTO MOŽEMO  
OČEKIVATI OD STUDENATA EKONOMSKIH FAKULTETA NA  
RADNOM MJESTU?**

**ABSTRACT**

*The purpose of this paper is to identify the implementation of conflict management strategies in the population of final year students of economics and business administration. In order to identify student preferences, we used the Dutch Test for Conflict Handling (DUTCH), which has previously been proven as a reliable and valid measurement instrument with good psychometric qualities. The questionnaire consists of 20 items grouped in five sections pertaining to five conflict management strategies: problem solving, yielding, forcing, avoiding, and compromising. Besides detecting general student preferences regarding conflict management strategies, the goal was to examine whether there are statistically significant differences with regard to respondents' gender, study program and the degree of career ambition.*

*Results based on the sample of 107 final year students of the Faculty of Economics University of Rijeka, Croatia showed that problem solving and compromising were the most widely used conflict management strategies, while yielding was used the least. Significant differences in implementing conflict management strategies were detected with regard to the study program. Furthermore, female students were found to have the strongest preference towards the strategies of problem solving and compromising, while male students prefer forcing as strongly as compromising and problem solving.*

*Business schools have the obligation to prepare students for modern business environment in which many concepts have been revisited and revised. Fragmentation has been replaced by integration of capabilities, capacities and resources, and increased interdependence leading to co-sourcing, partnerships, alliances and various other short and long-term cooperation agreements. Understanding behavioral patterns among individuals studying economics is very important because they will be future managers and leaders. Considering their conflict*

*management behavioral preferences, it can be concluded that the surveyed students exhibit the right attitude and are therefore well prepared for their future working conditions and demands.*

**Key words:** *Conflict, Conflict management strategies, Senior year students, Dutch Test for Conflict Handling (DUTCH), Cooperation, Problem solving.*

## SAŽETAK

*Svrha ovoga rada je istražiti primjenu strategija upravljanja konfliktima studenata završne godine studija ekonomskoga usmjerenja. Kako bi se utvrdile preferencije studenata prema strategijama upravljanja konfliktima korišten je tzv. "Dutch Test for Conflict Handling (DUTCH)", za koji je u prethodnim istraživanjima utvrđeno da predstavlja pouzdan i valjan mjerni instrument dobrih psihometrijskih svojstava. Upitnik se sastoji od 20 stavki grupiranih u pet grupa koje se odnose na pet strategija upravljanja konfliktima: rješavanje problema, udovoljavanje, dominacija, izbjegavanje i kompromis. Osim utvrđivanja općih preferencija studenata s obzirom na strategije upravljanja konfliktima, cilj je bio ispitati postoje li statistički značajne razlike u primjeni strategija upravljanja konfliktima s obzirom na spol, studijski program i ambiciju ispitanika. Ispitano je 107 studenata Ekonomskoga fakulteta Sveučilišta u Rijeci, Hrvatska.*

*Rezultati su pokazali da ispitani studenti/ce najčešće primjenjuju strategije kompromisa i rješavanja problema, dok su strategiju udovoljavanja (popuštanja) koristili/e najmanje. Utvrđene su značajne razlike u izboru strategija upravljanja konfliktima s obzirom na studijski smjer. Osim toga, studentice su iskazale najveću preferenciju prema strategijama rješavanja problema i kompromisa, dok studenti, uz te strategije, jednako preferiraju i strategiju dominacije.*

*Ekonomski fakulteti imaju obvezu studente pripremiti za suvremene poslovne uvjete koje obilježavaju brojne promjene. Tako su fragmentaciju zamijenile integracija kapaciteta, znanja i vještina te iznimna međuovisnost koja dovodi do partnerstava i strateških saveza, odnosno raznih kratkoročnih i dugoročnih sporazuma o suradnji. Razumijevanje obrazaca ponašanja studenata ekonomije i poslovne ekonomije vrlo je važno jer će to biti budući menadžeri i vođe. S obzirom na iskazane preferencije prema načinu upravljanja konfliktima, može se zaključiti da ispitani studenti imaju ispravan pristup te su stoga dobro pripremljeni za buduće radne izazove.*

**Ključne riječi:** *Konflikti, Strategije upravljanja konfliktima, Studenti završne godine, Dutch Test for Conflict Handling (DUTCH), Suradnja, Rješavanje problema.*

## 1. Introduction

Business schools have the obligation to prepare students for modern business environment in which many concepts have been revisited and revised. Fragmentation has been replaced by integration of capabilities, capacities and resources, and increased interdependence leading to co-sourcing, partnerships, alliances and various other short and long-term cooperation agreements. Understanding behavioral patterns among individuals studying economics is very important because those students will be future managers and leaders. However, data regarding student preferences towards competitive and cooperative behavior is scarce.

Competition can be defined as "mutually exclusive goal attainment", in which one party's success implies the other party's failure (Kohn, 1986). Many markets are still highly competitive. However, the dominant feature of global economy today is *coopetition* or



simultaneous competition and cooperation (Luo, 2007). It means that competition and cooperation exist at the same time between partners that are competing in one area or areas of business and cooperating in the other or others. Many companies jointly develop new products and collaborate in areas such as R&D and engineering, while competing in other areas such as input procurement or other product categories. Collaboration enables partners to share resources and risk, while achieving mutual advantages. Coopetition therefore reflects a high concern for self and a high concern for others.

Deutsch (1949) proposed a model of behavioral dichotomy consisting of two aspects: competition and cooperation. This model was later supplemented by Managerial grid designed by Blake and Mouton (1964). Managerial grid also has two dimensions: “concern for production” and “concern for people”. Rahim and Bonoma (1979) renamed those two dimensions as “concern for self” and “concern for others”. Both dimensions can be high and low, resulting in specific behavioral patterns used to identify possible conflict management strategies. Research examining conflict management behavior of students is scarce. This study therefore has two objectives: (1) to identify student preferences with regard to conflict management strategies, and (2) to identify if student preferences for specific conflict management strategies are dependent on their gender, study program and the degree of career ambition.

## **2. Conflict management strategies: theory and practice**

Conflicts are unavoidable in social relations. Putnam and Poole (1987, 552) define conflicts as “the interaction of interdependent people who perceive opposition of goals, aims, and values, and who see the other party as potentially interfering with the realization of these goals”. Conflict management refers to approaches that individuals take in situations that they perceive as conflicting. Combinations of two dimensions “concern for self” and “concern for others” results in five different behavioral styles or strategies: integrating, obliging, dominating, avoiding and compromising (Rahim and Bonoma, 1979).

Integrating reflects both a high concern for self and a high concern for others. Involved parties express the tendency towards cooperative behavior and proceed with the intention to reach a mutually favorable solution. Both parties tend to satisfy their own interests but also respect the interests of others. They engage in a dialogue about their preferences and priorities and are willing to make trade-offs in favor of mutually valuable goals (Carsten, 2001). This approach requires a strong commitment by all parties. That is why it is also referred to as collaboration, cooperation, negotiation or problem solving (Edwards and Walton, 2000). When compromising, parties have moderate concern for both the self and the others and are interested in reaching a mutually acceptable outcome. Compromising is suggested when the issue under dispute is complex. Parties then decide to give up some of their interests in order to avoid investing additional effort.

Avoiding is an approach in which a party shows a low concern for both the self and the others and tries to avoid or ignore the problem, and withdraw from the situation. Sometimes individuals resort to the strategy of avoiding to establish and/or maintain group cohesion. Avoiding is also associated with situations characterized by power imbalance. Avoiding can therefore result in anger and frustration. It was also found to reinforce competitive conflict (Baker *et al.*, 1988). Huang (2010) found that conflicts could not be resolved by avoiding, despite the intention of participants to maintain harmony. Dominating (forcing, contending) reflects a high concern for self and a low concern for others. Each party promotes their own goals at the expense of the goals of others (Huang, 2010). In such a situation parties often perceive their goals as negatively

related. They engage in discussions and persist with arguments that favor their position, with the goal to take control of the situation (Serrano, 2012). Lastly, yielding (obliging) reflects a low concern for self and a high concern for others. The obliging party is focused on meeting the interests of the other party or parties, while neglecting their own. Power imbalance has been found to raise the likelihood of implementing this strategy (Rahim, 1983).

Previous studies related to gender-related differences in conflict management are inconclusive. Some studies have suggested that women are more likely to pursue a cooperative approach, while others have found women to be more competitive (Rahim, 1983). Results from the academic environment are especially important in the context of this research. Gonan Božac *et al.* (2015) conducted a study at the University “Juraj Dobrila” in Pula, Croatia, and found that female employees showed a stronger inclination towards strategies of compromising and obliging compared to their male counterparts. On the other hand, women were found to be more competitive in a study on the sample of postgraduate students in the University in Malaysia, while male students predominantly implemented the strategy of avoiding (Gbadamosi *et al.*, 2014). Carsten *et al.* (2001) found no gender related differences in the sample of 78 psychology students. Considering inconsistencies in previous findings, we posit the following hypothesis:

*Hypothesis 1: There are statistically significant gender-related differences in employing conflict management strategies.*

Students focus on different aspects while studying economics and business administration, which is reflected in their choice of the study program. However, economics and business education is known for stimulating competitive behavior. Economic models and business trends apostrophize the importance of maximizing shareholder wealth and continuous increase of business and financial indicators. That is why we do not anticipate differences in conflict management preferences among students of economics and business administration.

*Hypothesis 2: There are no statistically significant differences in choosing conflict management strategies in students of economics and business with regard to the study program.*

Behavior of business students has been found to be more influenced by self-interest compared to other graduates (Brown *et al.*, 2010). The reason can be found in their life expectations that are related to career development and the desire to accumulate material wealth. Aspirations toward business success and financial abundance can be related to increased competitive behavior. That is why we anticipate differences in conflict management preferences among students of economics and business administration relative to the degree of their career ambition.

*Hypothesis 3: There are statistically significant ambition-related differences in choosing conflict management strategies.*

### **3. Methodology**

#### **3.1. Sample and procedure**

We conducted our survey on the sample of final (fifth) year students (second year of the graduate study) from the Faculty of Economics, University of Rijeka, Croatia. In total, 168 full time students were enrolled in the final study year and 107 participated in our research, which indicates the response rate of 63.7%. Seniors were surveyed during the last week of their last semester, prior to working on their final thesis (January 2017). 68 respondents were female

(63.55%). Most of the students were enrolled in the study program Finance and banking (29%), followed by International business (17.8%), Entrepreneurship (16.8%), Management (15.9%), Marketing (11.2%), and EU economy (9.3%).

### 3.2. Measures

We used the Dutch Test for Conflict Handling (DUTCH), updated and revised by Carsten *et al.* (2001). This measurement instrument was selected due to its excellent psychometric qualities. Questionnaire consists of 20 items grouped in five sections pertaining to five independent conflict management factors, as verified by Carsten *et al.* (2001): problem solving, yielding, forcing, avoiding, and compromising. Respondents were asked to rate each statement on the five-point Likert scale where one indicated “not at all” and five “absolutely yes”. Scores on each of the factors could range between 5 and 20. Questions were presented in random order. The questionnaire started with a series of introductory questions examining respondents’ demographic profile in terms of their gender, study program, areas in life in which they experience conflicts, and the degree of career ambition. The latter was measured on the single-item scale ranging from one to five, with five signifying the highest degree.

### 3.3. Analyses

In order to inspect the structure of DUTCH, factor analysis (principal component analysis, PCA) was conducted by using Varimax rotation and eigenvalue>1 extraction criteria. Hypotheses were tested by using four-way analysis of variance (ANOVA), with conflict management strategies, gender, study program, and the degree of career ambition as independent variables and DUTCH test scores as the dependent variable. Partial eta squared coefficients were calculated to determine the effect size. Post-hoc analyses were conducted by performing Tukey’s HSD tests. Analyses were performed by using software packages STATISTICA 7 and IBM SPSS 21.

## 4. Results

The results show that family was reported by the majority of participants (68.22%) as the area in life in which they experience conflicts the most, followed by relationships with friends (57.94%), emotional relationships (53.27%), faculty (42.06%), and work (38.32%). Career ambition was high ( $M=4.10$ ;  $SD=0.81$ ). The great majority of respondents reported very high (34.6%) or high (44.9%) ambition, while 16.8% reported average and only 3.7% low ambition. None of the participants reported very low ambition. Because of such asymmetry, ambition was treated as a three-category variable after merging groups of low and average ambition.

Internal consistency for the five DUTCH scales was determined by calculating reliability coefficients (Cronbach’s alpha). Cronbach’s alpha for problem solving, yielding, forcing, avoiding, and compromising was 0.74, 0.73, 0.73, 0.58, and 0.71, respectively. Factor analysis resulted in five factors that explained 60.10 percent of total variation in the data set. The five-factor solution constitutes a good representation of the interrelations among 20 items of the DUTCH model, which is consistent with empirical results by the majority of other authors (e.g. Rahim and Magner, 1994; Carsten *et al.*, 2001), who determined that the five-factor model has a better fit with data than other models. Means and standard deviations for each conflict management strategy with respect to gender are shown in Table I.

**Table 1** Descriptive statistics for conflict management strategies with respect to gender

| Students of the Faculty of Economics, University of Rijeka, Croatia<br>(N=107) |              |              |              |
|--|--------------|--------------|--------------|
| Strategy / Gender  | Total sample | Mean (SD)    |              |
|  |              | Males        | Females      |
| Problem solving  | 15.32 (2.62) | 14.55 (2.66) | 15.78 (2.50) |
| Compromising   | 15.30 (2.65) | 14.72 (2.70) | 15.64 (2.59) |
| Forcing  | 13.83 (2.89) | 14.68 (2.66) | 13.33 (2.91) |
| Avoiding   | 13.43 (2.62) | 13.50 (3.04) | 13.39 (2.37) |
| Yielding   | 12.30 (2.63) | 12.52 (2.56) | 12.16 (2.55) |
| All strategies (AVG)   | 14.04 (1.71) | 14.00 (2.01) | 14.06 (1.52) |

Source: authors' calculations

After descriptive, factor and reliability analyses, we tested for the differences in employing conflict management strategies across the overall sample. ANOVA showed significant main effect of conflict management strategies ( $F=15.07$ ;  $p<0.01$ ; partial  $\eta^2=0.17$ ). Post-hoc analysis revealed that the strategies of compromising and problem solving are used significantly more often than the remaining three strategies. Furthermore, Tukey's HSD test revealed that forcing and avoiding are significantly more preferred than yielding.

We were particularly interested in the interaction between gender and conflict management strategies, as suggested by Hypothesis 1. The interaction was significant ( $F=3.86$ ;  $p<0.05$ ; partial  $\eta^2=0.05$ ). Post-hoc analysis showed that male students prefer compromising, forcing and problem solving. No significant differences between these three strategies were detected. It was found that male students employ these strategies significantly more often than yielding. Tukey's HSD test revealed a different pattern for female students: they preferred problem solving and compromising significantly more than forcing, yielding, and avoiding (descriptive statistics presented in Table 1).

Next, we tested Hypothesis 2 regarding preferences for conflict management strategies with respect to the study program of surveyed students (Table 2). Contrary to the proposed hypothesis, the interaction between study programs and conflict management strategies was significant ( $F=1.83$ ;  $p<0.05$ ; partial  $\eta^2=0.11$ ). Post-hoc analysis revealed that students of Finance use yielding significantly less than any other strategy. Students of Marketing prefer problem solving significantly more than forcing, yielding and avoiding. They also use compromising significantly more than avoiding. Students of Management significantly prefer problem solving and compromising to yielding, while students of International business significantly prefer problem solving to yielding. Students of Entrepreneurship as well as students of EU economy did not significantly prefer any conflict management strategy.

**Table 2** Means and standard deviations for each conflict management strategy with respect to study program

| Students of the Faculty of Economics, University of Rijeka (N=107) |                     |                     |                     |                     |                        |                     |
|--|---------------------|---------------------|---------------------|---------------------|------------------------|---------------------|
| Mean (SD)  |                     |                     |                     |                     |                        |                     |
| Strategy / Study program   | Finance             | Marketing           | Management          | Entrepreneurship    | International Business | EU Economy          |
| Problem solving  | 15.45 (2.62)        | 16.75 (2.67)        | 16.53 (2.37)        | 13.28 (2.30)        | 15.42 (2.55)           | 14.60 (1.35)        |
| Compromising   | 15.42 (3.12)        | 15.75 (3.02)        | 16.41 (2.06)        | 14.06 (1.83)        | 14.89 (2.83)           | 15.50 (1.84)        |
| Forcing  | 14.13 (2.90)        | 12.42 (3.00)        | 14.71 (1.96)        | 14.17 (2.94)        | 13.21 (2.84)           | 13.70 (3.80)        |
| Avoiding   | 14.71 (2.73)        | 12.08 (1.83)        | 14.47 (2.35)        | 12.39 (2.62)        | 12.79 (2.10)           | 12.40 (2.50)        |
| Yielding   | 11.71 (2.72)        | 12.75 (3.47)        | 13.41 (2.06)        | 11.72 (2.37)        | 12.21 (1.69)           | 12.90 (3.60)        |
| <i>All strategies (AVG)</i>  | <i>14.28 (1.90)</i> | <i>13.95 (1.91)</i> | <i>15.11 (1.02)</i> | <i>13.11 (1.41)</i> | <i>13.71 (1.39)</i>    | <i>13.82 (2.03)</i> |

Source: authors' calculations

Hypothesis 3, which suggested differences in employing conflict management strategies with respect to career ambition, was not confirmed. The interaction between ambition and conflict management strategies was not significant ( $F=0.78$ ;  $p>0.05$ ; partial  $\eta^2=0.02$ ). Other effects and interactions obtained within ANOVA were not reported because none of them was statistically significant nor relevant for hypotheses testing.

## 5. Discussion and conclusion

Our research revealed that the surveyed students experience conflicts in many areas of their lives, mostly in their families and with friends. The study showed that the most widely used conflict management strategies were problem solving and compromising, followed by dominating and avoiding, while yielding was used rarely. Gender-related differences as suggested by Hypothesis 1 were confirmed. Contrary to Hypothesis 2, certain differences in choosing conflict management strategies were found among different study programs: while students of Entrepreneurship and EU economy did not significantly prefer any strategy, students of Finance were found to use yielding significantly less than any other strategy. Furthermore, students of Marketing preferred problem solving to forcing, yielding and avoiding as well as compromising to avoiding. Students of Management preferred problem solving and compromising to yielding, while students of International business significantly preferred problem solving to yielding. Ambition did not affect DUTCH test scores, not even through interaction with other independent variables. This finding could be explained by low variability of ambition in the sample.

University education, especially studies of economics and business, is crucial for developing future leaders. Results show that the students of the Faculty of Economics, University of Rijeka have the right attitude and are therefore adequately prepared for participating in the modern business characterized by a high level of interactions and interdependency. The results can be related to the findings by Mundate *et al.* (1994), who found that managers in Spain also exhibit inclination towards the integrative style. However, it would be interesting to follow students' progress and compare their behavioral preferences after they gain a few years of working experience with behavioral preferences expressed in this study. The results would show whether their conflict management preferences would be stable over time or are in fact a product of situational contingencies, which is more likely. De Dreu *et al.* (2000) found that an incentive

structure, positive mood, and instructions by constituents increase concern for others and therefore the inclination towards obliging and cooperative behavior. Considering their conflict management behavioral preferences, it seems that at this point the students are well prepared for their future working conditions and demands.

However, results indicate a relatively high degree of implementation of the strategy of compromising. In addition, male students expressed a relatively high preference for the strategy of forcing. Generally, compromising and consensus are not considered beneficial business and social behaviors because they can prevent emergence of alternative ideas and perspectives. Modern challenges demand from universities to prepare students for working conditions characterized by an increased need for cooperation and joint problem solving towards achievement of complex and often interrelated goals. Courses should therefore be designed in the way to promote variety and inclusiveness. Group discussions should be stimulated to enable students to understand the nature and constituents of various problems, their implications for different stakeholders, and fit with other issues and situations. After thorough analysis and an exchange of ideas, students should be stimulated to produce problem-solving ideas and assess their applicability and validity in specific situations by considering both short- and long-term implications. That is especially important for the students of Entrepreneurship, who did not show great preference for the strategy of problem solving.

Data in this study were obtained by using self-report measures, which raises concerns about common-method bias or common-method variance (Podsakoff *et al.*, 2003). However, a post hoc Harman's one-factor analysis revealed that one factor accounted for only 24.71 percent of the total variance, while five-factor solution obtained with eigenvalue>1 extraction criterion accounted for 60.10 percent of the total variance. Therefore, common method variance should not be considered a concern in this study.

Although data were collected at the University of Rijeka, Croatia, transferability of results and their implications to other European countries and their business schools may not be of concern. First, the instrument has strong theoretical background and has been validated by other authors. Second, study programs of economics and business administration in academic institutions in the EU have a high degree of correlativeness and correspondence. It is therefore likely that students have developed similar preferences regarding their choice of conflict management strategies due to the similar study environment and the convergence of socio-cultural values. However, the study would benefit from replication in other countries.

## REFERENCES

- Baker, G., Gibbons, R. and Murphy, K. J. (2002): *Relational Contracts and the Theory of the Firm*, Quarterly Journal of Economics, Vol. 117, pp. 39-84.
- Blake, R. R. and Mouton, J. S. (1964): *The Managerial Grid*, Gulf, Houston, TX.
- Brown, T., Sautter, J., Littvay, L., Sautter, A. and Bearnes, B. (2010): *Ethics and personality: Empathy and narcissism as moderators of ethical decision making in business students*, Journal of Education for Business, Vol. 85, pp. 203-208.

Carsten, K., De Dreu, W., Evers, A., Beersma, B., Kluwer, E. S. and Nauta, A. (2001): *A theory-based measure of conflict management strategies in the workplace*, Journal of Organizational Behavior, Vol. 22, pp. 645-668.

De Dreu, C. K. W., Weingart, L. R. and Kwon, S. (2000): *Influence of social motives on integrative negotiation: a meta-analytical review and test of two theories*, Journal of Personality and Social Psychology, Vol. 78, pp. 889-905.

Deutsch, M. (1949): *A theory of cooperation and competition*, Human Relations, Vol. 2. pp. 129-51.

Edwards, C. and Walton, G. (2000): *Change and conflict in the academic library*, Library Management, Vol. 21, No. 1, pp. 35-41.

Gbadamosi, O., Ghanbari Baghestan, A. and Al-Mabrouk, K. (2014): *Gender, age and nationality: assessing their impact on conflict resolution styles*, Journal of Management Development, Vol. 33, No. 3, pp. 245-257.

Gonan Božac, M., Rupčić, N. and Angeleski, I. (2015): *Transformacija menadžmenta konflikata prema procesu upravljanja odnosima: primjer akademske zajednice*, in Vuković, K., Brčić, R. and Klačmer Čalopa, M., ed.: Entrepreneurial Society: Current Trends and Future Prospects in Entrepreneurship, Faculty of Organization and Informatics, University of Zagreb, Varaždin, pp. 200-212.

Huang, J.-C. (2010): *Unbundling task conflict and relationship conflict*, International Journal of Conflict Management, Vol. 21, No. 3, pp. 334-355.

Kohn, A. (1986): *No Contest: A Case Against Competition*, New Age Journal, September/October, pp. 18-20.

Luo, Y. (2007): *A cooperation perspective of global competition*, Journal of World Business, Vol. 42, pp. 129-144.

Munduate, L., Ganaza, J., Alcaide, M. and Peiró, J. M. (1994): *Conflict management in Spain*, in Rahim, M. A. and Blum, A., ed.: Global Perspectives on Organizational Conflict, Praeger, New York, NY, pp. 103-34.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. and Podsakoff, N. P. (2003): *Common method bias in behavioral research: a critical review of the literature and recommended remedies*, Journal of Applied Psychology, Vol. 88, No. 5, pp. 879-903.

Putnam, L. L. and Poole, M. S. (1987): *Conflict and negotiation*, in Jablin, F. M., Putnam, L. L., Roberts, K. H. and Porter, L. W., ed.: Handbook of Organizational Communication: An Interdisciplinary Perspective, Sage, Newbury Park, CA, pp. 549-99.

Rahim, M. A. and Bonoma, T. V. (1979): *Managing organizational conflict: a model for diagnosis and intervention*, Psychological Reports, Vol. 44, No. 3, pp. 1323-44.



Rahim, M. A. (1983): *Rahim organizational conflict inventories: Professional manual*, Consulting Psychologists Press, Palo Alto, CA.

Rahim, M.A. and Magner, N. R. (1994): *Convergent and discriminant validity of the Rahim Organizational Conflict Inventory – II*, Psychological Reports, Vol. 74, pp. 35-38.

Serrano, C. M. (2012): *Affective choice of conflict management styles*, International Journal of Conflict Management, Vol. 23, No. 1, pp. 6-18.

### **Acknowledgements**

The authors wish to thank Edita Gaica for her invaluable help in coordinating students during the pursuit of data collection. This work has been fully supported by the University of Rijeka under the project number 13.02.1.3.06.

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**FOREIGN LANGUAGE SKILLS AS A COMPETITIVE ADVANTAGE  
FOR EMPLOYMENT IN EASTERN CROATIA**

**VJEŠTINE STRANOG JEZIKA KAO PREDNOST PRI ZAPOŠLJAVANJU  
U ISTOČNOJ HRVATSKOJ**

***ABSTRACT***

*Language is a sophisticated, yet basic tool in our ability to communicate. Foreign language skills, which enhance the ability to communicate with people from around the world, have become valuable due to the requirements of the multicultural and multilingual labor market. Foreign languages are taught at higher education institutions (HEI) in Croatia, as twenty-first century graduates are expected to have acquired the skill of at least one foreign language. The aim of this research is to develop an understanding of foreign language skills, which are needed in general, but also considered and valued as an advantage for employment in Eastern Croatia. In the research conducted in April 2015, a questionnaire (for three subgroups - employers, students and HE educators from Eastern Croatia) was used to evaluate the perception of the importance of foreign language skills. Although the research demonstrates that foreign language skills are regarded as a highly-valued skill mainly due to the fact that businesses in Eastern Croatia compete in international markets and are export oriented, a disparity is noticed as students gave foreign language skills a slightly higher importance for employability than educators and employers. Knowing how to communicate in a foreign language makes graduates competitive and contributes to a more successful career. Both the academic and business sector might benefit from the results about the necessity of foreign language skills gained in this research. While our world is changing rapidly, the only thing that remains is the language which is the instrument for the future. The*

*need for foreign language skills is higher than ever, and the skill itself should therefore be cared for.*

**Key words:** *foreign language skills, graduates, employability, employers, higher education institution (HEI).*

## SAŽETAK

*Jezik je sofisticiran, premda osnovni alat u našoj sposobnosti komuniciranja. Vještine stranog jezika koje unaprjeđuju sposobnost komuniciranja s ljudima diljem svijeta, postale su dragocijene zbog potreba multikulturalnog i multijezičnog tržišta rada. Strani se jezici uče na visokoškolskim institucijama u Hrvatskoj te se od studenta dvadest i prvog stoljeća očekuje posjedovanje usvojenih vještina barem jednog stranog jezika. Cilj je ovog istraživanja razviti razumijevanje za vještine stranog jezika, koje su potrebne ne samo općenito, nego se i cijene kao prednost pri zapošljivanju u istočnoj Hrvatskoj. U istraživanju provedenom u travnju 2015. godine korištena je anketa (za tri podgrupe - poslodavci, studenti te profesori visoko obrazovnih institucija iz istočne Hrvatske) kako bi se procijenila percepcija važnosti vještina stranog jezika. Premda istraživanje prikazuje da se vještinama stranog jezika pridaje visoka važnost većinom zbog činjenice da se poslovi u istočnoj Hrvatskoj natječu na internacionalnim tržištima te su orijentirane prema izvozu, primjećen je raskorak među podgrupama jer su studenti vještinama stranog jezika dali neznatno veću važnost pri zapošljivosti od profesora i poslodavaca. Sposobnost komuniciranja na stranom jeziku čini studente konkurentnima te doprinosi uspješnijoj karijeri. Akademski i poslovni sektor mogu profitirati od rezultata o potrebi vještina stranog jezika koji su istraženi u ovom istraživanju. Premda se naš svijet brzo mijenja, jedino što ostaje je jezik koji je instrument za budućnost. Potreba za vještinama stranog jezika veća je nego ikada, a sama vještina bi se trebala njegovati.*

**Ključne riječi:** *vještine stranog jezika, studenti, zapošljivost, poslodavci, visokoobrazovne institucije*

## 1. Introduction

International business communication is achieved by only one means, language. It has become crucial to global business effectiveness to understand the complicated relationship between foreign language skills and their effect on day-to-day operations (Brannen et al, 2014). As Itani (2014) noticed, foreign language skills represent a key career competence today because of internationalization, reduced job security, and a shift in career ownership to the individual. Furthermore, Stöhr (2015) mentioned that graduates with foreign language skills grease the wheels of international business relations. It is important to notice that without foreign language skills, businesses in the world, and especially businesses in Croatia cannot compete on the multilingual multinational market. In addition, Stöhr (2015) noticed that specifically English language has become the key qualification in many occupations. However, the question of ensuring and acquiring language skill in Croatia is still not sufficiently articulated. Are all students as well as graduates equipped with enough foreign language knowledge to be able to acquire skills which they will then use for future employment in businesses with international contacts? Higher education institutions in Croatia provide different foreign language classes and it is up to students to work on acquiring foreign language skills during their HE in order to become more competitive for employment.

Since the world has become immensely technology infused, the businesses even in a small country such as Croatia have to keep up the pace of growth and change if they want to prosper and should therefore strive for not just local but also international success. Based on our experience, companies need employees with IT skills, international awareness and foreign language skills in order to be internationally successful.

The aim of this research was to compare the perception of foreign language skills from employers', educators' and students' perspective as well as to compare the assessed contribution of teaching at HEI to the development of mentioned skills. Research in Croatia on the influence of foreign language skills for employment is rather limited. This paper contributes the existing body of literature by comparing employers' educators' and students' assessment of importance of foreign language skills for employment, as well as their evaluations of the contribution of teaching at HEI to acquisition of foreign language skills.

The paper consists of an introduction with four research hypotheses, detailed literature review on foreign language skills, employability skills and employers' view of foreign language skills, followed by methodology used for the research, results and discussion. Further study, as well as limitations are mentioned in the conclusion.

For this research the following hypotheses have been constructed:

- H1: Employers in Croatia value the importance of foreign language skills.
- H2: Students, educators and employers in Croatia have different perceptions of the importance of foreign language skills for employment.
- H3: Employers in Croatia rate the importance of foreign language skills higher than students and/or educators.
- H4: Employers in Croatia are satisfied with the contribution of teaching at HEI to the development of foreign language skills.

## **2. Literature Review**

The need for communication among businesses worldwide is higher than ever because companies need to compete in international markets (Fernandez-Sanchez, 2016). It is foreign language skills in particular that serve as a medium for international communication. Research on the need of foreign language skills dates back as early as 1998 (T. Evers et al, 1998). During their HE, graduates are expected to acquire the skill of foreign languages not only because the skill aids to their competitiveness in the labor market but, according to employers, it also enriches their personality by enabling them to resolve problems quicker and make decisions more easily (Born Global, 2014).

### **2.1. Foreign Language Skills**

Interestingly, in the beginning of 2000's foreign language skills were regarded as the least important skill for employability (Bennet, 2002), therefore it is not surprising that during that time period graduates were regarded as being the worst at foreign languages, initiative and self-confidence. Nonetheless, after less than a decade the situation changed drastically. Foreign language skills have become an essential requirement for future graduates (Eurobarometer, 2010). Acquisition of foreign language skills gives competitive advantage to both the individual and the company that the individual works for. Foreign language skills have, in the past decade, been given high emphasis for employability among graduates due to the needs of language variety in the labor

market. Also, the mere ability to communicate in a foreign language is considered to be the key to accomplishing a prosperous career (Fernandez-Sanchez, 2016). The need for foreign language skills in business is evident from numerous multicultural and multilingual partnerships in countries around the world. Therefore, if there is active participation in the knowledge society and economy, communication in languages other than the mother tongue should be enabled. However, in 2007 a study reported 11% of SMEs across wider Europe to be losing export business on account of the lack of language skills (CILT, 2007). With businesses expanding and goods being exported onto foreign markets, the necessity for graduates with foreign language skills is growing apparent. Since graduates are the future of a company, their communication skills in foreign language are tools for creating a more lucrative outcome for the company they work for.

## **2.2. Employability Skills**

Employability skills, or as Lee (2001) puts it job-getting skills, are skills that are relevant for securing and preserving jobs. International experience, foreign-language skills and intercultural competencies are all considered an advantage for graduate employability (Messelink, 2015). They are core skills that consist of generic and discipline-specific skills required for performance in a work situation (Bridgstock, 2009). In addition, graduate recruiters believe that graduates should contribute to the company 'from day one' (Atkins, 1999). International and overseas professional work experience adds to graduate employability as well as demonstrating entrepreneurial qualities, such as innovative approaches, creativity and collaboration. Apart from skills and attributes, there are also plenty of inter-related competences which promote employability such as open-mindedness, adaptable graduates (Little, 2010), proactive graduates who use critical thinking (Harvey et al., 2002), and graduate's awareness of opportunities in the labor market (Rothwell and Arnold, 2007). Some of the many skills employers in European Union believe that the HEI should develop in students are a deeper understanding and respect for global issues, more favorable attitudes toward other cultures, stronger intercultural communication skills, improved personal and professional self-image, better foreign language skills, self-confidence, ability to handle ambiguity, insight into their own value systems and overall maturity (Cai in Salisbury et al. 2009).

## **2.3. Employers' View on Foreign Language Skills**

The road to a successful international career is facilitated by language skills. Foreign language skills are important and especially useful in strengthening relationships with clients, customers and suppliers and aiding staff mobility within the organization (Born Global, 2014). Nevertheless, year after year employers point out to the low quantity of foreign language skills of the new graduates which are further accompanied by low levels of international cultural awareness. According to Eurobarometer (2010) employers who have international contacts consider foreign language skills highly important for recruiting graduates (58% for those with more than 50% of "international" day-to-day operations, compared to 17% for those with no international contacts), but also see international mobility and language skills as important capabilities in a new graduate (Archer and Davidson, 2008). As Kelly (2016) stated, in order to work efficiently we need to be able to communicate effectively, which is why graduate recruiters consider 'communication skills' to be their key requirement in recruiting staff. English language skills are clearly needed in interactive service jobs (Kurekova, 2015), but language skills and the ability to use new technologies for example, have been identified as most important for the development of marketing degree curriculum, according to an investigation of marketing graduates in Portugal (Mansour and Dean, 2016). HEI are responsible for "delivering employable global graduates" (Messelink, 2015) and that is the reason why today's 21<sup>st</sup> century graduate should have foreign language skills acquired throughout the HE. A recent research (Božić, Pintarić, 2017) was

conducted at the Faculty of Electrical Engineering, Computer Science and Information Technology at the Josip Juraj Strossmayer University of Osijek establishing that as much as 81,9% of employers expect graduates to have an advanced knowledge of foreign language skills, especially the English language.

### 3. Methodology

The purpose for this empirical research was to examine how important foreign language skills are for student employability from the perspective of Croatian employers, students and educators, and to find out how much they value the contribution of teaching at HEI to the development of foreign language skills. This assessment is presented in order to raise the awareness among educators and students at all levels, regarding the advantage of the foreign language for employment.

The survey used for this research was modelled by two previously conducted surveys in Europe: the European Commission’s Eurobarometar 2010 titled “Employers’ perception of graduate employability” and the UK Commission’s Employer Skills Survey 2013: UK results (Winterbotham et al., 2014). The questionnaire entailed a seven-point Likert scales as answers, one being not important and seven being extremely important. In total, 625 interviewees (students, educators and employers) participated. 67% were students from the Josip Juraj Strossmayer University of Osijek, 21.4% were employers and 11.5% were educators from the University.

### 4. Results and Discussion

The survey examined the importance of foreign language skills and the contribution of teaching at HEI in Eastern Croatia to the development of graduates’ foreign language skills. Although certain agreement is noticed in opinions regarding the importance of foreign language skills and the contribution of teaching at HEI to the development of graduates’ foreign language skills, considerable differences are also evident.

As expected, all three groups of interviewees value the importance of foreign language skills much more than contribution of teaching at HEI to the development of foreign language skills.

As can be seen from the Table 1, foreign language skills were rated by both students (6.25) and employers (6.04) as highly important for employment. Surprisingly, educators assessed the importance of foreign language skills lower, with a mean of 5.93. The contribution of teaching at HEI to the development of foreign language skills is valued higher by educators (4.93) and employers (4.68) than by students, who rate the contribution of teaching at HEI lower with a score of 4.51. Employers ranked the contribution of teaching at HEI among the highest to development of foreign language skills, similar to educators (Rank 9) whereas students believe HE teaching contributes to other skills more than to foreign language skills.

**Table 1** Assessment of Importance for Employability and Contribution of HEI to the Development of Foreign Language Skills

|   | Employers |          |      | Students |          |      | Educators |          |      | p Value* |
|---|-----------|----------|------|----------|----------|------|-----------|----------|------|----------|
|   | Mean      | Std.Dev. | Rank | Mean     | Std.Dev. | Rank | Mean      | Std.Dev. | Rank |          |
| Importance of foreign language skills for employability                       | 6.04      | 1.07     | 9    | 6.25     | 1.15     | 1    | 5.93      | 0.91     | 7    | 0.0091   |
| Contribution of teaching at HEI to the development of foreign language skills | 4.68      | 1.61     | 3    | 4.51     | 1.69     | 13   | 4.93      | 1.39     | 9    | 0.3940   |

\*p-value is given for Kruskal-Wallis ANOVA test

The next section discusses similarities and differences in rating given to foreign language skills and some other employability skills evaluated in the survey. In Table 2, a comparison of the importance of foreign language skills and grade point average from employers', students' and educators' perspective is shown. As expected all three groups of interviewees rated the importance of foreign language skills much higher than grade point average. Foreign language skills (6.04) are significantly more important to employers than grade point average (3.95). Students rate foreign language skills with an average value of 6.25, while GPA with 3.96. Educators value GPA much higher than students and employers with an average value of 5.30, but still lower than foreign language skills (5.93).

**Table 2 Comparison of the Importance of Foreign Language Skills and Grade Point Average**

|   | Employers |          |      | Students |          |      | Educators |          |      | p Value* |
|---|-----------|----------|------|----------|----------|------|-----------|----------|------|----------|
|   | Mean      | Std.Dev. | Rank | Mean     | Std.Dev. | Rank | Mean      | Std.Dev. | Rank |          |
| Importance of foreign language skills for employability   | 6.04      | 1.07     | 9    | 6.25     | 1.15     | 1    | 5.93      | 0.91     | 7    | 0.0091   |
| Importance of Grade Point Average (GPA) for employability | 3.95      | 1.66     | 33   | 3.96     | 1.56     | 33   | 5.30      | 1.21     | 28   | 0.0000   |

\*p-value is given for Kruskal-Wallis ANOVA test

Table 3 shows the comparison of the contribution of teaching at HEI to the development of foreign language skills and skills of critical thinking from employers', students' and educators' perspective. While employers rate the contribution of HEI to developing foreign language skills with 4.68, they are censorious regarding critical thinking (3.85). Students also rank foreign language skills higher (4.51) than they do critical thinking (4.08). As expected, educators value the contribution of HEI to the developing of both skills more (4.93 for foreign language skills and 4.30 for critical thinking) than do employers and students.

**Table 3 Comparison of the Contribution of Teaching HEI on Foreign Language Skills and Critical Thinking**

|   | Employers |          |      | Students |          |      | Educators |          |      | p Value* |
|---|-----------|----------|------|----------|----------|------|-----------|----------|------|----------|
|   | Mean      | Std.Dev. | Rank | Mean     | Std.Dev. | Rank | Mean      | Std.Dev. | Rank |          |
| Contribution of teaching at HEI to the development of critical thinking       | 3.85      | 1.60     | 19   | 4.08     | 1.50     | 27   | 4.30      | 1.33     | 28   | 0.3081   |
| Contribution of teaching at HEI to the development of foreign language skills | 4.68      | 1.61     | 3    | 4.51     | 1.69     | 13   | 4.93      | 1.39     | 9    | 0.3940   |

\*p-value is given for Kruskal-Wallis ANOVA test

At the level of 5%, differences between employability skills can be seen in Table 4. Rank of foreign language skills compared to problem solving, willingness to learn, IT usage, teamwork, critical thinking and public speaking is provided. Employers rank foreign language skills (Rank 9) slightly more important than teamwork (R 11), and much more important than critical thinking (R 25) and public speaking (R 28), yet give a higher rank for employability to problem solving (R 1), willingness to learn (R 3), and IT usage (R 8). Foreign language skills are ranked the highest by students (R 1) followed by willingness to learn (R 2), IT usage (R 3), problem solving (R 4), public speaking (R 6), and teamwork (R 8). Critical thinking was ranked (R 30) among the least important employability skills with students. Educators rank foreign language skills (R 7) much higher than teamwork (R 13), critical thinking (R 16), and public speaking (R 24), but rank willingness to learn as highly important for employment (R 3), followed by problem solving (R 4) and IT usage (R 5).



**Table 4 Comparison of Importance of Various Employability Skills**

|                      | Employers |          |      | Students |          |      | Educators |          |      | p Value* |
|----------------------|-----------|----------|------|----------|----------|------|-----------|----------|------|----------|
|                      | Mean      | Std.Dev. | Rank | Mean     | Std.Dev. | Rank | Mean      | Std.Dev. | Rank |          |
| Problem solving      | 6.30      | 0.97     | 1    | 6.15     | 1.08     | 4    | 6.00      | 0.98     | 4    | 0.1823   |
| Willingness to learn | 6.16      | 0.95     | 3    | 6.16     | 0.99     | 2    | 6.03      | 0.89     | 3    | 0.5633   |
| IT usage             | 6.08      | 1.04     | 8    | 6.16     | 0.99     | 3    | 5.93      | 0.83     | 5    | 0.1939   |
| Foreign language     | 6.04      | 1.07     | 9    | 6.25     | 1.15     | 1    | 5.93      | 0.91     | 7    | 0.0091   |
| Teamwork             | 5.99      | 1.04     | 11   | 6.03     | 1.16     | 8    | 5.77      | 0.90     | 13   | 0.1272   |
| Critical thinking    | 5.45      | 1.20     | 25   | 5.20     | 1.27     | 30   | 5.73      | 1.11     | 16   | 0.0270   |
| Public speaking      | 5.21      | 1.37     | 28   | 6.09     | 1.18     | 6    | 5.43      | 1.04     | 24   | 0.0000   |

\*p-value is given for Kruskal-Wallis ANOVA test

Table 5 represents the comparison of employers', students' and educators' perception of contribution of teaching at HEI to the development of foreign language skill, subject knowledge, IT usage, teamwork, public speaking, critical thinking and intelligence. Contribution of teaching at HEI to the development of foreign language skills (R 3) is together with subject knowledge (R 1) and IT usage (R 2) valued the highest by employers. Meanwhile, students rank the contribution of teaching at HEI to the development of foreign language skills (R 13) as high as the acquisition of subject knowledge (R 10), but higher than to shaping critical thinking (R 27) or to reinforcing intelligence (R 29). Similarly, compared to other employability skills, educators value the contribution of teaching in HEI to development of foreign language skills higher (R 9) than to reinforcing intelligence (R 26) or critical thinking (R 28).

**Table 5 Comparison of Contribution of Teaching at HEI to the Development of Various Employability Skills**

|                   | Employers |          |      | Students |          |      | Educators |          |      | p Value* |
|-------------------|-----------|----------|------|----------|----------|------|-----------|----------|------|----------|
|                   | Mean      | Std.Dev. | Rank | Mean     | Std.Dev. | Rank | Mean      | Std.Dev. | Rank |          |
| Subject knowledge | 4.91      | 1.54     | 1    | 4.65     | 1.36     | 10   | 5.63      | 0.85     | 2    | 0.0004   |
| IT usage          | 4.87      | 1.54     | 2    | 5.03     | 1.45     | 3    | 5.37      | 1.13     | 3    | 0.4577   |
| Foreign language  | 4.68      | 1.61     | 3    | 4.51     | 1.69     | 13   | 4.93      | 1.39     | 9    | 0.3940   |
| Teamwork          | 4.68      | 1.61     | 4    | 5.53     | 1.29     | 1    | 5.33      | 1.09     | 4    | 0.0001   |
| Public speaking   | 4.51      | 1.57     | 8    | 5.49     | 1.43     | 2    | 5.63      | 1.07     | 1    | 0.0000   |
| Critical thinking | 3.85      | 1.60     | 19   | 4.08     | 1.50     | 27   | 4.30      | 1.33     | 28   | 0.3081   |
| Intelligence      | 3.46      | 1.71     | 30   | 3.96     | 1.70     | 29   | 4.38      | 1.35     | 26   | 0.0133   |

\*p-value is given for Kruskal-Wallis ANOVA test

Concerning the hypothesis set for this research the following conclusions can be made: employers, students and educators have different perceptions of the importance of foreign language skills for employment, therefore the second hypothesis has been confirmed. The first hypothesis has also been proven as employers in Croatia value the importance of foreign language skills. The third hypothesis has been rejected as the results show that students in Croatia consider foreign language skills more important for employability than employers. Finally, from the data presented one can conclude that employers are quite satisfied with the contribution of teaching at HEI to the development of foreign language skills in students, so the fourth hypothesis is also accepted.

In line with the literature review, the findings of this study indicate that foreign language skills offer a competitive advantage for employment, not only for the new graduates themselves, but also for the company and all stakeholders in the process of the acquisition of foreign language skills, i.e. students, educators, need to be aware of that.

## 5. Conclusion

Aim of this research was to show how important foreign language skills are for employment from the perspective of employers, students and educators. In this research, employers' perception is given more emphasis due to the fact that employers are the ones who recruit graduates, their opinion is crucial when considering employability.

Despite the fact that the sample is not large and does not portray all the corporations that employ graduate students in Eastern Croatia, the study has a number of implications. First, students need to be aware of the changes regarding foreign language skills which they should be acquiring during HE because it will be an advantage for them while applying for their future jobs. Secondly, based on the findings educators might decide to redesign their courses and put more emphasis on developing foreign language skills. This will improve the quality of the teaching at HEI, better prepare students for the labor market and therefore raise the level of their satisfaction with education at HEI. Finally, employers will, thanks to the changes, be more pleased as the new graduates will have a set of skills needed on the workplace.

Further research is needed which will include other HEI in comparison. Also, comparison of employers' perception of importance of foreign language skills with other countries in the European Union could be insightful and should therefore be explored.

## REFERENCES

- Archer, W. and Davison, J. (2008): *Graduate Employability: What Do Employers Think and Want?*, The Council for Industry and Higher Education (CIHE), London
- Bennett, Roger (2002) *Employers' Demands for Personal Transferable Skills in Graduates: a content analysis of 1000 job advertisements and an associated empirical study*, Journal of Vocational Education & Training, 54:4, 457-476, DOI: 10.1080/13636820200200209
- Born Global. (2014). *Summary of Interim Findings*. The British Academy.
- Brannen, Mary Yoko, Piekkari, Rebecca and Tietze, Susanne (2014). *The Multifaceted Role of Language in International Business: Unpacking the Forms, Functions and Features of a Critical Challenge to MNC Theory and Performance*. Journal of International Business Studies 45, 495–507. doi:10.1057/jibs.2014.24
- Bridgstock, Ruth (2009) *The Graduate Attributes We've Overlooked: Enhancing Graduate Employability Through Career Management Skills*, Higher Education Research & Development, 28:1, 31-44, DOI: 10.1080/07294360802444347
- Cai, Yuzhuo, (2013). *Graduate Employability: A Conceptual Framework for Understanding Employers' Perceptions* High Educ 65:457–469. DOI 10.1007/s10734-012-9556-x, Springer Science+Business Media B.V. 2012
- CILT (2007). *Effects on The European Economy of Shortages of Foreign Language Skills in Enterprises*. [http://ec.europa.eu/languages/documents/doc423\\_en.pdf](http://ec.europa.eu/languages/documents/doc423_en.pdf)

El Mansour, B. and Dean, J.C. (2016) *Employability Skills as Perceived by Employers and University*. Faculty in the Fields of Human Resource Development (HRD) for Entry Level Graduate Jobs. *Journal of Human Resource and Sustainability Studies*, 4, 39-49. <http://dx.doi.org/10.4236/jhrss.2016.41005>

Eurobarometer (2010), *Survey of the European Commission's Eurobarometer "Employers' Perception of Graduate Employability" Employers' Perception of Graduate Employability*

Fernández-Sánchez, R. (2016). *Why Languages Make Business Sense*. In E. Corradini, K. Borthwick and A. Gallagher-Brett (Eds), *Employability for Languages: A Handbook* (pp. 11-15). Dublin: Research-publishing.net. <http://dx.doi.org/10.14705/rpnet.2016.cbg2016.456>

Frederick T. Evers, James C. Rush, and Iris Berdrow. *The Bases of Competence: Skills for Lifelong Learning and Employability*. (2001). DOI: 10.1002/1532-1096(200022)11:2<203::AID-HRDQ9>3.0.CO;2-M

H.E. Messelink, J. Van Maele & H. Spencer-Oatey (2015) *Intercultural Competencies: What Students in Study and Placement Mobility Should Be Learning*, *Intercultural Education*, 26:1, 62-72, DOI: 10.1080/14675986.2015.993555

Harvey, L., Locke, W. and Morey, A. (2002): *Enhancing Employability Recognising Diversity*, Universities UK, London

Itani, S., et al. (2014). *The Meaning of Language Skills for Career Mobility in The New Career Landscape*. *Journal of World Business*, <http://dx.doi.org/10.1016/j.jwb.2014.08.003>

Kelly, M. (2016). Foreword In E. Corradini, K. Borthwick and A. Gallagher-Brett (Eds), *Employability for Languages: A Handbook* (pp. xix-xx). Dublin: Research-publishing.net. <http://dx.doi.org/10.14705/rpnet.2016.cbg2016.454>

Kureková Lucia Mýtina, Beblavý Miroslav, Haita Corina & Thum Anna-Elisabeth (2015). *Employers' Skill Preferences Across Europe: Between Cognitive and Non-Cognitive Skills*, *Journal of Education and Work*, DOI: 10.1080/13639080.2015.1024641

Lee Harvey (2001) *Defining and Measuring Employability*, *Quality in Higher Education*, 7:2, 97-109, DOI: 10.1080/13538320120059990

Little, B. (2001): *Reading Between the Lines of Graduate Employment*, *Quality in Higher Education*, Vol. 7, No. 2, pp. 121-129

M. J. Atkins (1999) *Oven-Ready and Self-Basting: Taking Stock of Employability Skills, Teaching in Higher Education*, 4:2, 267-280, DOI: 10.1080/1356251990040208

Rothwell, A. and Arnold, J. (2007): *Self-Perceived Employability: Development and Validation of a Scale*, *Personnel Review*, Vol. 36, No. 1, pp. 23-41

Stöhr, Tobias. (2015) *The Returns to Occupational Foreign Language Use: Evidence From Germany*. *Kiel Institute for the World Economy, Germany Labour Economics* 32 (2015) 86–98 <http://dx.doi.org/10.1016/j.labeco.2015.01.004>

Sveučilišni glasnik, supplement to Glas Slavonije, Božić, Pintarić. *Employers Expect Developed Communication Skills from Their Future Employees*. 10<sup>th</sup> March 2017, number 23

Winterbotham M., Vivian D., Shury J., Davies B., Kik, G (2014) *The UK Commission's Employer Skills Survey 2013: UK Results*, Evidence Report 81 Rotherham UKCES 2014 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/327492/evidence-report-81-ukces-employer-skills-survey-13-full-report-final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/327492/evidence-report-81-ukces-employer-skills-survey-13-full-report-final.pdf) (accessed March 2017)

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**THE INFLUENCE OF SUBJECTIVE NORMS ON STUDENTS'  
INTENTIONS FOR ENGAGING IN UNETHICAL BEHAVIOUR**

**UTJECAJ SUBJEKTIVNIH NORMI NA NEETIČNO PONAŠANJE  
STUDENATA U VISOKOM OBRAZOVANJU**

**ABSTRACT**

*The researches of academic dishonesty and students' unethical behaviour have increased in the past two decades. Questions is: why students behave unethically and what factors influence on their unethical behaviour. In this research authors used theory of planned behaviour to predict intentions of students' unethical behaviour. The theory of planned behaviour explains how to predict planned and deliberate behaviour. For this purpose, it is necessary to investigate the attitudes towards specific behaviour, subjective norms (beliefs about how others look at this behaviour) and perceived behavioural control toward this behaviour. Knowledge of these three elements enables to predict the intentions of behaviour, which are highly correlated with the actual behaviour. Based on this, the goal of this paper is to validate the use of a modified Theory of Planned Behaviour for predicting students' unethical behaviour observing the influence of subjective norms on students' intentions for engaging in unethical behaviour in higher education. The study was conducted through a questionnaire among students of undergraduate and graduate studies. In data analysis, descriptive statistics analyse of variance (ANOVA), regression analysis and correlation analysis were used. Research results show statistically significant positive correlation between subjective norms (the influence of family and friends) and the student's intentions of engaging in unethical behaviour. Positive correlations are shown between subjective norms (family) and students' mother's and father's level of education and between subjective norms (friends) and students' year of study. Negative correlation is shown between both groups of subjective norms and students class attendance. Results from regression analysis reveal significant positive relationship between student's intentions of unethical behaviour in higher education and subjective norms relating to the impact of family and friends of respondents. Implications of research findings are discussed in the paper.*

**Key words:** *subjective norms, intentions, unethical behaviour, students, higher education.*

## SAŽETAK

*Istraživanja o akademskom nepoštenju i neetičnom ponašanju studenata porasla su u zadnja dva desetljeća. Postavlja se pitanje zašto se studenti ponašaju neetično i koji faktori utječu na njihovo neetično ponašanje. U istraživanju autori su koristili Teoriju planiranog ponašanja kako bi predvidjeli namjere studenata vezane uz neetično ponašanje. Teorija planiranog ponašanja objašnjava na koji način se mogu predvidjeti planirana i promišljena ponašanja. U tu svrhu, nužno je poznavati stavove s obzirom na specifično ponašanje koje nas zanima, subjektivne norme (vjerovanja o tome na koji način drugi u okolini gledaju na to ponašanje) i koliko ljudi vjeruju da mogu kontrolirati to ponašanje. Poznajući sva tri elementa omogućuje predviđanje namjera ponašanja koje su povezane s planiranim ponašanjem. Na temelju navedenog, cilj rada je, korištenjem prilagođenog modela Teorije planiranog ponašanja, predvidjeti neetično ponašanje studenata promatrajući na koji način subjektivne norme utječu na njihovu namjeru neetičnog ponašanja. Rezultati istraživanja su pokazali kako postoji pozitivna statistički značajna korelacija između subjektivnih normi (ukoliko se promatra utjecaj obitelji prijatelja) i namjera neetičnog ponašanja studenata u visokom obrazovanju. Pozitivan utjecaj na subjektivne norme od strane obitelji ima razina obrazovanja roditelja i status studenta a kod subjektivnih normi od strane prijatelja ima godina studija. Negativna korelacija se javila između obje grupe subjektivnih normi i prisutnosti na nastavi. Rezultati provedene regresijske analize otkrivaju signifikantnu pozitivnu vezu između namjere neetičnog ponašanja studenata i subjektivnih normi koji se odnose na utjecaj obitelji i prijatelja ispitanika. Istraživanje se provelo putem anketnog upitnika na studentima preddiplomskog i diplomskog studija. U analizi se koristila deskriptivna statistika, analiza varijance (ANOVA), regresijska analiza i korelacijska analiza. Implikacije rezultata raspravljene su u radu.*

**Ključne riječi:** subjektivne norme, namjere, neetično ponašanje, student, visoko obrazovanje.

### 1. Introduction

Over the last decade numerous studies have been conducted trying to explain what makes people behave in certain way. Conducted studies helped numerous authors to develop different models of behaviour which are nowadays used to explain what effects on human behaviour. One of the best known integrated model of behaviour is the one developed by Icek Ajzen - the Theory of Planned Behaviour. Ajzen's Theory of Planned Behaviour tries to explain human behaviour and gives an insight on how people's behaviour can be modified.

Academic dishonesty has become an important issue in institutions of higher education (Rezaee, Elmore, Szendi, 2001). Students are faced with different ethical dilemmas in their daily lives, and their position toward ethics is also reflected in the (un)ethical choices they make in the academic setting (Mihelič, Culiberg, 2014, 364). As it can be seen, the question of ethical values and ethical behaviour in higher education has always been up to the discussion. The main reason for that is because everyone has an opinion on that subject and because everyone looks at the definition of ethical behaviour in different way.

Gaining an understanding of dishonest academic behaviour and its predictors amongst business students is important, because this understanding may help in the development of early interventions that promote ethical behaviour and decision-making, before students enter the business world (Bagraim, Goodman, Pulker, 2014, 332). The aim of this research is to

investigate the influence of subjective norms on students' intention to engage in unethical behaviour.

## **2. Theoretical framework**

The Theory of Planned Behaviour (TPB) is essentially an extension of the Theory of Reasoned Action (TRA) that includes measures of control belief and perceived behavioural control (Armitage, Conner, 2001, 471). The premise of the Theory of Planned Behaviour is that individuals make rational decisions to engage in specific behaviours based on their own beliefs about the behaviour and their expectation of a positive outcome after being engaged in the specific behaviours. (Harding et al, 2007, 258). TPB asserts that intention to engage in a specific behaviour precedes actual engagement in the behaviour. The crux of the theory is that intentions to engage in a behaviour are affected by three components: (1) attitudes toward the behaviour, i.e., beliefs about a behaviour or its consequences; (2) subjective norms, i.e., normative expectations of other people regarding the behaviour, and (3) perceived behavioural control, PBC, i.e., the perceived difficulty or ease of performing the behaviour (Fishbein & Ajzen, 1975; Stone, Kisamore, Jawahar, 2007, 41). Personal attitude is usually defined as permanent mental or neural willingness gained from the experience, making the directive or dynamic influence on an individual's response to objects and situations that he comes into contact with (Allport, 1935). Perceived behavioural control includes the perception of one's own abilities and sense of control over the situation and is defined as a combination of locus of control (belief about the amount of control that a person has over events and outcomes in his life) and self-efficacy (perceived ability to perform the task) (Ajzen, 2002). Subjective norms refer to the belief that an important person or group of people will approve and support a particular behaviour. Subjective norms are determined by the perceived social pressure from others for an individual to behave in a certain manner and their motivation to comply with those people's views. The influence of subjective norms on forming intention proved to be generally weaker in previous studies than the influence of attitude (Ham, Jeger & Frajman Ivković, 2015, 740). The theory of reasoned action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) states that subjective norms can directly influence intentions. Beliefs about whether important others would support the behaviour determines the motivation to act. Important referents could be individuals or groups and undoubtedly vary depending on the context. Such beliefs are referred to as "normative beliefs" and the desire to comply varies for each referent. Thus, the subjective norm is equal to the sum of the strength of each normative belief times the motivation to comply (Buchan, 2005, 166). Furthermore, Whitley (1998) showed in his study that subjective norms have a considerable effect on cheating. Thus, students who have perception that everyone is cheating are more likely to cheat than those who have a perception that only a few percent of students are actually cheating during their higher education.

## **3. Ethical behaviour in higher education**

There have been a limited number of studies on the topic of ethical behaviour in higher education. One of the most valuable studies conducted on ethical behaviour at higher education was conducted in 2009 by Stone, Jawahar and Kisamore. Their study, which was conducted on approximately 438 undergraduate students in seven public universities in USA, showed that students mainly cheat because they have the opportunity to do so (e.g. someone took the test before them and gave them answers or because during the test someone else's answers were visible) and because they don't have enough knowledge to solve the test correctly. Also, this study showed that students don't cheat because: (1) they are afraid of the punishment, (2) they didn't get a right opportunity to cheat, (3) they have integrity and (4) they came prepared to the



class. Moreover, Beck and Ajzen's study (1991) showed that perceived behavioural control can explain the most variance when it comes to lying and cheating during the education. Passow's study (2009), in which he wanted to see if TPB can help to predict academic misconduct, showed that the PBC factors were related to pressures to cheat on exams, although PBC explained a relatively low percent of the variance. Moral obligation, however, was the best predictor of cheating on both exams and homework (Stone, Kisamore, Jawahar, 2007, 42). Arieff, also, conducted a study (2008) in which it was shown that students truly believe that it is okay to cheat during their academic education. Another constructive study was conducted by Chapman in 2004. In that study it was shown that students are more likely to help their friend cheat than their acquaintance. Furthermore, Smith and Shen's study from 2013 showed that marketing students think that their peers cheat no less than 54% of the time, that female students perceive ethical problems as less trivial than their male counterparts do, that female students generally exhibit a stronger ethical intention not to cheat and that they have a significantly stronger ethical intention to report cheating behaviours of their peers than male students. Next, the study conducted by Harding et al. (2007) gave an important insight on students' actions regarding cheating. The most valuable findings in the study were that students who practiced cheating in high school continued to do so at college and that engineering students' are more sensitive to cheating and are reporting cheating more than students in humanities. Whitley's study (1998) showed that it is more likely that the student will practice dishonest academic behaviour if he/she has a perception that that the society is permissive of academic dishonesty.

Smith and Shen (2013) defined ethics as the way how people apply moral standards to perceptions, intentions, and actions. Also, they came to a conclusion that academic dishonesty is especially common in business based programs, that most of the students at universities share the habit of being academic dishonest during their higher education and that there is a correlation between academic dishonesty and unethical workplace behaviour. Gaining an understanding of dishonest academic behaviour and its predictors amongst business students is important, because this understanding may help in the development of early interventions that promote ethical behaviour and decision-making, before students enter the business world (Bagraim, Goodman, Pulker, 2014, 332). According to Meng, Othman, D'Silva and Omar (2014) academic dishonesty is the result of rational choice under the volitional control of the individual and such unethical behaviour is anticipated and can be explain through statistical modelling. The authors also say that the ethical values have been widely recognized as a crucial element in education systems and that it is the desire of every university to put in good morality students as well as to develop an honest culture among undergraduates. For that reason, a number of universities have adopted institutional codes of ethics. One of those codes is The Code of Ethics recently adopted by the University of Southern California (USC). The USC Code of Ethics states that everyone at any time should do the right thing. Moreover, codes of ethics are used specifically to promote ethical teaching practices. These codes reflect the basic principle that teaching is an ethical undertaking. The nine principles of ethical teaching outlined in the Society's document include content competence, pedagogical competence, confidentiality, intellectual development of students, valid student assessment, dealing with students, respect for colleagues, and respect for the institution (Couch, Dodd, 2005, 21-22).

#### **4. Research**

The aim of this research was to identify and evaluate various aspects of student's opinion and attitudes of ethical behaviour in higher education. In this case, focus was on subjective norms and the influence of this variable on intention to engage in unethical behaviour. The sample consists of 622 undergraduate and graduate business students. The data collection model was an

in-class survey distributed to randomly selected students from 1<sup>st</sup> to 5<sup>th</sup> grade. The total of 622 responding students represent 29% of active students at the faculty.

The information obtained was analysed using the statistical software package SPSS version 18.0. Statistical techniques of univariate analysis (frequency distribution, central tendency measures), multivariate analysis (reliability analysis, linear regression) and comparative analysis (ANOVA, t-test) were used.

*Table 1 Sample description*

|                                      |   | N   | %     |
|--------------------------------------|---|-----|-------|
| <b>Gender</b>                        | M   | 225 | 36,2  |
|                                      | F   | 389 | 62,5  |
| <b>Year of study</b>                 | 1 <sup>st</sup>                                 | 123 | 19,8  |
|                                      | 2 <sup>nd</sup>                                 | 92  | 14,8  |
|                                      | 3 <sup>th</sup>                                 | 161 | 25,9  |
|                                      | 4 <sup>th</sup>                                 | 118 | 19,0  |
|                                      | 5 <sup>th</sup>                                 | 127 | 20,4  |
| <b>Place of residence</b>            | Village   | 195 | 31,4  |
|                                      | Suburb  | 64  | 10,3  |
|                                      | Town/city                                       | 357 | 57,4  |
| <b>Student status</b>                | Non-paying                                      | 516 | 83,00 |
|                                      | Fully paying                                    | 100 | 16,1  |
| <b>Course</b>                        | Financial management                            | 143 | 23,0  |
|                                      | Marketing                                       | 102 | 16,4  |
|                                      | Management                                      | 104 | 16,7  |
|                                      | Entrepreneurial management and entrepreneurship | 84  | 13,5  |
|                                      | Business informatics                            | 64  | 10,3  |
| <b>Class attendance</b>              | 0%  | 1   | 0,2   |
|                                      | 0-25%   | 11  | 1,8   |
|                                      | 26-50%  | 36  | 5,8   |
|                                      | 51-75%  | 151 | 24,3  |
|                                      | 76-100%   | 419 | 67,4  |
| <b>Study success (average grade)</b> | 2,0-3,0   | 123 | 19,8  |
|                                      | 3,1-4,0   | 323 | 51,9  |
|                                      | Over 4,1  | 132 | 21,2  |
| <b>Mother's level of education</b>   | Elementary school                               | 63  | 10,1  |
|                                      | Secondary school                                | 390 | 62,7  |
|                                      | Higher education                                | 113 | 18,2  |
|                                      | Master programs                                 | 39  | 6,3   |
|                                      | Doctoral programs                               | 9   | 1,4   |
| <b>Father's level of education</b>   | Elementary school                               | 27  | 4,3   |
|                                      | Secondary school                                | 411 | 66,1  |
|                                      | Higher education                                | 125 | 20,1  |
|                                      | Master programs                                 | 37  | 5,9   |
|                                      | Doctoral programs                               | 12  | 1,9   |

*Source: Authors' work*

#### 4.1. Research results

The authors adopted measurement scales from Stone, Jawahar and Kisamore (2009) and Harding et al. (2007). Each scale comprised a set of statements presented in 5-point Likert scale to capture the extent to which respondents agree or disagree with the statements in the questionnaire.

Number of items included in each construct and sub-construct and basic reliability measures are shown in the Table 2. All constructs have an appropriate level of internal consistency measured by Cronbach's Alpha coefficient and average inter-item correlation. The aim of this paper is to validate the use of a modified Theory of Planned Behaviour for predicting students' unethical behaviour observing the influence of subjective norms on students' intentions for engaging in unethical behaviour in higher education. Variable subjective norms is composed of two sub-constructs. The first construct includes variable related specifically on respondents' friends and their influence and the second one includes variables related specifically on respondents' family and how respondents' parents influence on their unethical behaviour in higher education.

*Table 2 Reliability Measures of the Constructs*

| Measurement scale | Number of items | Mean  | Variance | Standard deviation | Cronbach's Alpha | Average inter-item correlation |
|-------------------|-----------------|-------|----------|--------------------|------------------|--------------------------------|
| Intention         | 11              | 19,78 | 49,126   | 7,009              | 0,873            | 0,401                          |
| Subjective norms  | 9               | 2,371 | 34,211   | 5,849              | 0,687            | 0,210                          |
| SN - family       | 4               | 1,913 | 7,504    | 2,739              | 0,430            | 0,214                          |
| SN - friends      | 5               | 2,735 | 16,756   | 4,093              | 0,637            | 0,253                          |

*Source: Authors' work*

Before developing a linear regression model it's necessary to see if there is a statistically significant correlation between the two sub-constructs of subjective norms (family and friends) and students' intention to engage in unethical behaviour. Table 3 shows the results of Pearson correlation. Both sub-constructs of subjective norms are positively correlated with students intention to engage in unethical behaviour.

*Table 3 Correlations Analysis (n = 622)*

| Variables                  | Intention to engage in unethical behaviour |              |
|----------------------------|--|--------------|
|                            | Pearson Correlation                        | Significance |
| Subjective norms - family  | ,385**                                     | ,000         |
| Subjective norms - friends | ,364**                                     | ,000         |

\* Correlation is significant at the 0,01 level

*Source: Authors' work*

Linear regression model is depicted in Table 4. It shows a significant predictive power of subjective norms (family and friends) on students' (un)ethical behaviour. Results reveal statistically significant positive relationship between student's intention to engage in unethical behaviour and subjective norms composed of the influence of respondents' family and friends.

**Table 4** Linear Regression Model

| Predictor variable         | $\beta$ | t     | Significance |
|----------------------------|---------|-------|--------------|
| Subjective norms - family  | ,272    | 6,032 | ,000         |
| Subjective norms - friends | ,232    | 5,140 | ,000         |

a. Dependent variable: *Intention to engage in unethical behaviour*

Source: Authors' work

Table 5 shows statistical significance of Pearson correlation between two sub-constructs of subjective norms (family and friends) and respondents' socio-demographic characteristics. Positive correlation is shown between subjective norms (family) and students' mother's and father's level of education and student's status, and also between subjective norms (friends) and students' year of study. Negative correlation is shown between both sub-constructs of subjective norms and students class attendance.

**Table 5** Statistically significant differences between two sub-constructs of subjective norms and social-demographic characteristics

|                             | Subjective norms_family |              | Subjective norms_friends |              |
|-----------------------------|-------------------------|--------------|--------------------------|--------------|
|                             | Pearson Correlation     | Significance | Pearson Correlation      | Significance |
| Mother's level of education | ,090*                   | ,026         | -                        | -            |
| Father's level of education | ,093*                   | ,021         | -                        | -            |
| Student status              | ,099*                   | ,014         | -                        | -            |
| Class attendance            | -,149**                 | ,000         | -,134**                  | ,001         |
| Year of study               | -                       | -            | ,120**                   | ,003         |

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

Source: Authors' work

## 5. Implications and further research

Results of this study are in accordance with the main postulates of TPB. Subjective norms have a significant influence on students' intention to engage in unethical behaviour which means that students will engage in academic dishonesty if they feel that their parents and their friends approve this type of behaviour or behave in the same way. It is reasonable to assume that people (especially young students) are under the influence of their reference groups and that their behaviour is partially shaped by the opinion of their family and friends.

Understanding the factors that have an impact on students' unethical behaviour facilitates influencing those factors in a positive direction which is an undeniably desirable social goal. It is very important for high education institutions to be aware of the level of academic dishonesty of their students and to understand students' views and values so they could develop an effective educational program to decrease the level of unethical behaviour engagement. The ethical values have been widely recognized as a crucial element in education systems and the desire of every university is to put the morality in students as well as to develop an honest culture among students because their ethical beliefs will one day affect their business ethics.

As future research recommendation, it would be interesting to investigate the differences in the influence of subjective norms between students from different universities. Considering statistically significant correlation between subjective norms and some socio-demographic characteristics, it would be worthwhile to analyze if there are differences in the strength of the influence of subjective norms for students who have higher class attendance or students whose parents have higher level of education. It would also be interesting to investigate business people about their past academic (un)ethical behavior and to see if it has affected their current business ethics values.

## REFERENCES

- Ajzen, I. (2002): *Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior*. Journal of Applied Social Psychology, 32(4), pp.665-683.
- Ajzen, I. & Fishbein, M. (1980): *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall, Englewood Cliffs, NJ.
- Allport, G. W. (1935): *Attitudes*. In Murchison. In: Fiske, S.T., Gilbert, D.T. and Lindzey, G., eds. 1935. *Handbook of social psychology 2*, Worcester: Mass: Clark University Press. pp.798-844.
- Arief, S. R. et al. (2008): *Persepsi Pelajar Universiti Teknologi Malaysia (UTM) terhadap Plagiarisme*. Jurnal Teknologi, 48(E), 1-14.
- Armitage, C. J. & Conner, M. (2001): *Efficacy of the Theory of Planned Behaviour: A meta – analytic review*, British Journal of Social Psychology, 40, pp. 471-499
- Bagraim, J., Goodman, S. & Pulker, S. (2014): *Understanding dishonest academic behavior amongst business students – the business leaders of the future*, INDUSTRY & HIGHER EDUCATION, Vol. 28, Bo. 5, pp. 331-340
- Beck, L. & Ajzen, I. (1991): *Predicting dishonest actions using the theory of planned behavior*, *Journal of Research in Personality*, 25, pp. 285-301.
- Buchan, H.F. (2005): *Ethical Decision Making in the Public Accounting Profession: An Extension of Ajzen's Theory of Planned Behavior*. Journal of Business Ethics. Vol. 61., No. 2, pp. 165-181
- Chapman, K. J., Davis, R., Toy, D. & Wright, L. (2004): *Academic integrity in the business school environment: I'll get by with a little help from my friends*, Journal of Marketing Education, Vol. 26, No. 3, pp. 236-49
- Couch, S. & Dodd, S. (2005): *Doing the Right Thing: Ethical Issues in Higher Education*, Journal of Family and Consumer Sciences; 97, 3, pp. 20-26
- Ham, M., Jeger, M. & Frajman Ivković, A. (2015): *The role of subjective norms in forming the intention to purchase green food*, Economic Research – Ekonomska istraživanja, Vol. 28, No. 1, pp. 738-748

Harding, T.S., Mayhew, M.J., Finnelli, C.J., Carpenter, D.D. (2007), *The Theory of Planned Behaviour as a Model of Academic Dishonesty in Engineering and Humanities Undergraduates*, Ethics&Behaviour, 17(3), pp. 255-279

Meng, C. L., Othman, J., D'Silva, J. L., Omar, Z. (2014): *Ethical Decision Making in Academic Dishonesty with Application of Modified Theory of Planned Behavior: A Review*, International Education Studies, Vol. 7, No. 3, pp. 126-139

Mihelič, K. K. & Culiberg, B. (2014): *Turning a Blind Eye: A Study of Peer Reporting in a Business School Setting*, ETHICS & BEHAVIOR, 24(5), pp. 364-381

Passow, H. J., Mayhew, M. J., Finelli, C. J., Harding, T. S. & Carpenter, D. D., (2006): *Factors influencing engineering students' decisions to cheat by type of assessment*, Research in Higher Education, 47(6), pp. 643-684.

Rezaee, Z., Elmore, R. C., Szendi, J. Z. (2001): *Ethical Behavior in Higher Educational Institutions: The Role of the Code of Conduct*, Journal of Business Ethics, Vol. 30, Issue 2, pp. 171-183

Smith, B. & Shen, F. (2013): *We All Think It's Cheating, But We All Won't Report It: Insights into the Ethics of Marketing Students*, Journal for Advancement of Marketing Education, volume 21, Issue 1, pp. 27-37)

Stone, T. H., Kisamore, J. L & Jawahar, I. M. (2007): *PREDICTING ACADEMIC DISHONESTY: Theory of Planned Behavior and Personality*, Ottawa, Ontario, ASAC, pp. 41-57

Stone, T. H., Jawahar, I. M. & Kisamore, J. L. (2009): *Using the theory of planned behavior and cheating justifications to predict academic misconduct*, Article in Career Development International, Vol. 14, No. 3, pp. 221-241

Whitley, B. E. Jr. (1998): *Factors associated with cheating among college students: A review*. Research in Higher Education, 39 (3), pp. 235-274.

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## **THE RELATION OF HUMAN AND SOCIAL CAPITAL WITH QUALITY OF LIFE AND EMIGRATION INTENTION AMONG YOUNG PROFESSIONALS**

### **POVEZANOST LJUDSKOG I DRUŠTVENOG KAPITALA S KVALITETOM ŽIVOTA I NAMJEROM MLADIH OBRAZOVANIH LJUDI ZA ISELJAVANJEM IZ ZEMLJE**

#### ***ABSTRACT***

*There has been a fast growing trend of emigration of young, university educated people from eastern Croatia to other regions within Croatia, but mostly abroad. Although financial issues have been recognized as an important factor in deciding to migrate, psychological and social factors also significantly shape intention and motivation for emigration and should be explored in more detail. The aim of this study is to examine the relationship between various indicators of human and social capital and subjective quality of life among young professionals from Osijek-Baranja County and their emigration intentions. Presented research is part of the Project: "Role of the subjective quality of life in young people intention for regional or international emigration", funded by University J.J. Strossmayer in Osijek. This topic is particularly pertinent for this university, because as a leading education authority in eastern Croatia, it provides education for a large number of students, developing future experts that can potentially contribute to improvement of the regional and national economy. In this paper, various human and social capital indicators of Osijek-Baranja County are presented. Results indicate a significant connection between social capital and subjective well-being, although various social capital indicators correlate differently with subjective quality of life. Identifying aspects of quality of life and of social and human capital that are connected with emigration intention will contribute to understanding of this important issue.*

**Key words:** *Human capital, social capital, quality of life, emigration*



## SAŽETAK

Zadnjih godina suočeni smo s trendom povećanja broja odlazaka mladih, sveučilišno obrazovanih ljudi, iz zemlje. Iako su financijska pitanja jedan od važnih razloga za odluku o iseljenu, značajnu ulogu u formiranju namjere i motivacijom za iseljavanjem imaju psihološki i socijalni faktori čiji odnos je potrebno pominje ispitati. Cilj ovoga istraživanja je ispitati odnos različitih indikatora ljudskog i društvenog kapitala i subjektivne kvalitete života mladih visokoobrazovanih ljudi u Osječko-baranjskoj županiji te njihovu namjeru za iseljavanjem iz zemlje. Prikazano istraživanje dio je projekta: "Uloga subjektivne kvalitete života u namjeri mladih ljudi za iseljenu iz regije ili zemlje" financiranog od strane Sveučilišta J.J. Strossmayera u Osijeku. Sveučilište u Osijeku, kao vodeća visokoobrazovna ustanova u području istočne Hrvatske, obrazuje brojne studente i buduće stručnjake u cilju regionalnog i nacionalnog doprinosa gospodarstvu. U radu su prikazani različiti pokazatelji ljudskog kapitala Osječko-baranjske županije. Rezultati pokazuju da postoji značajna povezanost između društvenog kapitala i subjektivne kvalitete života. Pri tome različiti indikatori društvenog kapitala različito koreliraju sa subjektivnom kvalitetom života. Identificiranjem specifičnih faktora ljudskog i društvenog kapitala povezanih s namjerom za iseljenu i njihovog međuodnosa doprinijeti će razumijevanju ove aktualne problematike.

**Ključne riječi:** Ljudski kapital, društveni kapital, kvaliteta života, iseljavanje

### 1. Introduction

Both society's wealth and growth depend on capital that is multifaceted. Generally, society's forms of capital include physical capital, natural resources, human and social capital, all of which are important contributors to the economics and growth of a society (Parts, 2003). There is a very close link between human and social capital, with human capital sometimes considered either as a subset or a partial basis of social capital. However, human capital encompasses education and health that can be embodied and acquired by an individual, while social capital can be acquired by a group of people and requires interaction between them (Grootaert, 1998). Economic success relies on human capital – knowledge, skills, competencies and attributes allow people to contribute to their personal and social well-being, as well as that of their countries (OECD 2007). Economic benefits of human capital can be seen from both the perspective of the individual and from the national economy. For individuals, the economic benefits of human capital are increased earnings and higher productivity. Higher productivity also tends to impel economic growth, which shows the wider economic benefits of increasing human capital. The value of human capital has been already well recognized and discussed, while social capital, although significant, is arguably an undervalued factor influencing well-being and engagement intentions of individuals in the social, political, and economic life of their community (Imandoust, 2011). It is important to accentuate that both human and social capital can be seen as inputs into the development process, and as outputs of development process of one society (Grootaert, 1998). The relationship between human capital and social capital is complex. Human capital is a prerequisite for successful social capital, and generally, different aspects of human capital correlate positively with aspects of social capital. Some aspects of human capital, such as economic status, have a weaker association with social capital, while other aspects, such as education, represent a strong predictor of social capital (Scheffler et al., 2010). Prior studies report positive associations of various aspects of both human and social capital with a range of desirable outcomes. For example, these constructs are likely to positively correlate with health (Scheffler et al., 2010) and subjective quality of life (Portela et al., 2013).

In the past few years Croatia has been faced with a fast growing trend of emigration of young, university educated people from eastern Croatia to either other regions within Croatia or abroad. Migration has long been a mechanism for those in search of a better life. Although financial factors are well acknowledged as an important driver for emigration, psychological and social factors can also significantly shape the intention and motivation for emigration and should be explored more carefully. Even though intention as a cognitive process differs from the real act of emigration, prior studies revealed that intention is a strong predictor of future emigration (van Dalen & Henkens, 2013). Human capital theory has suggested that migrants may be motivated by what has been referred to as “occupational upgrading” rather than just finding a job with higher wages. This essentially suggests that emigrants may be attracted to another country on the basis of its educational facilities, high-standard training, and overall long-term professional prospects (Triandafyllidou & Gropas, 2014).

### **1.1. Human capital**

Schultz (1961) recognized human capital as one of the important factors for a country’s economic growth in the modern economy. Human capital comprises the stock of competencies, knowledge, habits, social and personality attributes, including creativity, cognitive abilities, embodied in the ability to perform labour so as to produce economic value in the society. It is an aggregate economic view of the human being acting within economies. It stresses knowledge and skills obtained throughout education. Sometimes this term is broadened to include the entire spectrum of an individual’s intellectual, physical and psychological abilities (Dae-Bong, K., 2009). Human capital can be understood like any other type of capital and many researchers have emphasized the importance of investments in human capital as an essential determinant of long-term economic growth. Human capital can be increased by investing in education, health care, job training, and other enhanced benefits that lead to an improvement in the quality and level of production (Romer, 1990). According to Woodhall (2001) investment in human capital is more effective than that of physical capital. Throughout the investment in human capital, an individual’s acquired knowledge and skills can easily transfer to certain goods and services (Romer, 1990). Education is the key factor in forming human capital. People with better education tend to have higher income, which is also reflected in improved economic growth. But the impact of human capital goes beyond economics. Raising human capital raises health levels, community involvement and employment prospects. (Keeley, 2007). To meet the changing environment today, politics and national economy need to give human capital a higher priority than ever before and modernize their human capital policies and practices.

### **1.2. Social capital**

There are various definitions, interpretations, and uses of social capital in different academic fields, which emanate from different scientific approaches. According to some authors social capital is an investment in social relations with expected returns in the marketplace (Liu et al., 2016). The premise behind this definition is simple: people form networks based on both doing and receiving favours when needed. The World Bank (2011) has adopted a more general definition of social capital: social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together. It is a term that focuses on the complex and often intangible values associated with human social relationships. Social capital is defined by the OECD as networks together with shared norms, values and understandings that facilitate co-operation within or among groups (Keeley, 2007). Similarly, Grootaert and van Bastelaer (2002) state that social capital can also be understood as the institutions, norms, values, and beliefs that govern interaction among people and facilitate economic and social development. Others

promote the idea that social capital is a resource of social relations between families and communities (Coleman, 1988). In fact, Putnam (2001) defines social capital as a key characteristic of communities. In Putnam's definition, social capital extends beyond being a resource to include people's sense of belonging to their community, community cohesion, reciprocity and trust, and positive attitudes to community institutions that include participation in community activities or civic engagement.

While different definitions may accentuate different aspects of social capital, what is clear is that social capital represents a multidimensional construct which emphasizes the importance of human networks and connectedness and tends to improve numerous aspects of the society. Different classifications of social capital have been proposed, such as Calvo et al.'s (2012) three dimensions of trust, support and volunteering. In general however, researchers agree that there are three broad categories in which all variables and indicators related to social capital can align. These are social networks, social norms and social trust (Portela et al., 2013). Social networks encompass informal relationships, support, volunteering and different memberships. They promote desirable goals like wealth or power by using processes and mechanisms such as influence, serving as social credentials, providing information and stimulating group identity. Social norms relate to personal, group or civic norms, values and beliefs, whereas social trust refers to general, institutional trust or trust toward the others. Social trust is considered to be a determinant of social connections, as a minimum amount of trust is required to initiate a social interaction, underlying the quality of interactions and representing a critical component of social cohesion (Falk, 2000).

Social capital can also be defined depending on the nature of the relationship between different people, more specifically, in terms of bonding, bridging and linking social capital. Bonding social capital refers to trusting the connection between a group of people who belong together and perceive themselves as similar, whereas bridging social capital involves respect and regard between people who are not similar or considered to be members of the same group (Putnam, 2001; Mason, 2016). Linking social capital brings together individuals of both high and low social capital and represents a highly important phenomenon due to its mutual benefits for both sides (Mason, 2016).

Research suggests that social capital correlates positively with different constructs, such as well-being (Kaliterna-Lipovčan & Prizmić-Larsen, 2016) and quality of life (Calvo et al., 2012). On a personal level, individuals who are active members of their communities, that volunteer and meet their family, friends and neighbours are more likely to have a higher quality of life (Calvo et al., 2012), whereas on a national level, trust, participation and lack of corruption contribute more to life satisfaction than income (Calvo et al., 2012). The relationship between quality of life and social capital is stronger in high-income countries, due to higher social trust, more social connections and higher social capital in general of high-income countries residents (Calvo et al., 2012). Previous research also indicate that people who live in countries with a moderate level of social capital, report higher quality of life and subjective well-being than people who live in countries with a low level of social capital (Portela et al, 2013). Also, those living in countries with high level of social capital are more likely to be happier, more satisfied with life and have higher subjective well-being. These results indicate the importance of social capital on both individual and country level (Portela et al, 2013). The literature recognizes social capital as important to the efficient functioning of modern economies, and stable liberal democracy (Fukuyama, 2001). Lyons (2000) described the importance of social capital in shaping regional development patterns. Moreover, social capital is of importance in societal wellbeing. Optimism, satisfaction with life, perceptions of government institutions and political involvement all stem from the fundamental dimensions of social capital (Narayan & Cassidy, 2001). Social capital is the cement of society's goodwill – it creates a cohesive society. The networks, trust and shared values of social capital bring to life our human values, skills, and knowledge. It provides the

social infrastructure support for our lives, as networks link people to each other and to their society. Values, such as respect for people's safety and security, are an essential connector in every social group. These networks and mutual understandings generate trust and so enable people to work together (Keeley, 2007).

### **1.3. Education**

Prior studies have shown that education is one of the most consistent predictors of social capital, both at the individual and area levels. Broadly speaking, both better educated individuals and individuals with more human and social capital report on not only higher quality of life, but also better health and happiness than individuals with lower level of education and less human and social capital. It is also considered that social capital represents mediator variable between education and quality of life (Scheffler et al., 2010). Education is important aspect of human capital. More educated individuals tend to report on higher levels of social capital because they work in a stimulating environment and actualize more participation in social networks (Scheffler et al., 2010).

## **2. Aim of the study**

The aim of this study is to examine the relationship between various indicators of human and social capital and subjective quality of life among newly graduate students and young professionals from Osijek-Baranja County as well as their emigration intentions.

## **3. Participants and methods**

The study comprises 275 participants - graduate students who are finishing their last year of studying, and those who graduated in last 3 years. There were 135 male and 140 female participants, aged from 22 to 36 years ( $M=24.34$ ,  $SD=2.140$ ). All participants are attending J.J. Strossmayer University in Osijek. Presented research was a part of a larger Project: "Role of the subjective quality of life in young people intention for regional or international emigration" founded by University J.J. Strossmayer in Osijek.

For this specific part of the study, the following measures were used: Personal Wellbeing Index (International Wellbeing Group, 2013), set of questions regarding social capital, created for the purpose of this study and socio-demographic questionnaire. Personal wellbeing index (PWI) was calculated as a mean score across seven domains and it represent satisfaction with life what was the measure of subjective quality of life. The scores were presented in a form percentage of scale maximum (%SM) where higher score represent higher satisfaction with life. Based on theoretical background, social capital is defined through three features of social life: networks, norms, and trust in defying social capital. Data on human capital such as Croatian and County population, age and education level were collected from Croatian Bureau of Statistics, official census data and reports.

## **4. Results**

### **4.1. Human capital of Osijek-Baranja County**

#### **4.1.1. Population - total real human capital**

According to the Croatian 2011 Census (Croatian Bureau of Statistics, 2017) the Osijek-Baranja county population was 305 032 (146 891 men and 158 141 women; 48% and 52% respectively)

out of a total Croatian population of 4,267,558. In Croatia 63.6 % of total population lived in cities. However, only 108 048 inhabitants were living in the city of Osijek (approximately 35% of the total Osijek-Baranja county population). There has been a steady decrease in the size of the population in Croatia (approx. 1.5% from 2012 to 2015), and also specifically in the Osijek-Baranja county (approx. 2.8% from 2012-2015) (see Table 1). Osijek-Baranja County is not the only county with real human capital decrease. According to Croatian bureau for statistics decrease in the total population number was recorded in all counties, except in the City of Zagreb (Croatian Bureau of Statistics, 2017). The reasons for population decrease are two-fold. One is population ageing; low fertility rate and rising life expectancy. Another one is migration. Newest available data were for 2014 year, showing that the largest positive total net migration of population in 2014 (the difference between the total number of immigrants from another county and abroad and the total number of emigrants to another county and abroad) was recorded in the City of Zagreb (3 040 persons). The largest negative total net migration of population was recorded in the County of Vukovar-Srijem (-2 579 persons) and the County of Osijek-Baranja (-1 770 persons).

**Table 1** Mid-year total population estimate from 2012 to 2015

|                       | 2012      | 2013      | 2014      | 2015      |
|-----------------------|-----------|-----------|-----------|-----------|
| Republic of Croatia   | 4 267 558 | 4 255 689 | 4 238 389 | 4 203 604 |
| Osijek-Baranja County | 302 751   | 300 950   | 298 272   | 294 233   |

*Source: Authors analysis based on data from Croatian Bureau of Statistics (2017)*

#### 4.1.2. Population age

According to 2011 census, average age of Croatian population was 41.7 years (43.4 women and 39.9 men). As it is case for many European countries, Croatia has an aging population. In Osijek-Baranja County average age is 41.2 years. One of the measures of population ageing is Ageing index. The ageing index is calculated as the number of persons 60 years old or over per hundred persons under age 15. Another measure is proportion at older ages: population 60 years or over (can be also expressed as 65 years or over, or 80 years or over) as a proportion of the total population. This indicator is measured as a percentage of population. When the ageing index is >40%, the population has entered into an ageing period. Similarly, when percentage of older population is >12%, this also is an indication that the population has entered in an ageing period. Croatian Ageing index increased from 52.6 in 1981 to 115.0 in 2011, and was higher for women throughout the time. According to last census data, 24.1% of population is 60 years and over (20.5% men; 27.4% women). Population ageing is the process whereby low fertility and decreasing mortality result in changes in the age structure of the population when proportion of older people in population increase. These demographic trends have a number of implications for government and private spending on pensions, health care, and generally for economic growth and welfare. Key drivers of economic growth include labour supply, productivity, consumption and savings. Population ageing is both a challenge and an opportunity. Elderly today was different by health, behaviour, life styles etc. then elderly 50 years ago. An ageing population even has the potential for economic growth with the right policies in place.

#### 4.1.3. Education

There are more people in Osijek-Baranja county who did not finish elementary school or who finished only elementary school, compared to the adult population in Croatia. Also, there are less people in Osijek-Baranja county who have higher education, in relation to Croatian average (see Table 2). Younger women dominate among people with higher education, with more women

than men aged <60 with higher education (see Table 3). Men dominate in population with secondary school education. Older women are predominately in groups with low education (primary school or less).

**Table 2** Distribution of Croatia and Osijek-Baranja County population by education levels according to 2011 Census data.

|                       |       | Population total | Without school | Elementary school | Secondary school  | Higher education | Unknown      |
|-----------------------|-------|------------------|----------------|-------------------|-------------------|------------------|--------------|
| Republic of Croatia   | total | 3 632 461        | 62 092 (1.7%)  | 1 057 356 (29.1%) | 1 911 815 (52.6%) | 595 233 (16.4%)  | 5 965 (0.2%) |
|                       | Men   | 1 731 610        | 12 664 (0.7%)  | 400 156 (23.1%)   | 1 038 800 (60.0%) | 277 422 (16.0%)  | 2 568 (0.1%) |
|                       | Women | 1 900 851        | 49 428 (2.6%)  | 657 200 (34.6%)   | 873 015 (45.9%)   | 317 811 (16.7%)  | 3 397 (0.2%) |
| Osijek-Baranja county | total | 258 226          | 5 502 (2.1%)   | 87 402 (33.8%)    | 132 290 (51.2%)   | 32 878 (12.7%)   | 154 (>0.1%)  |
|                       | Men   | 122 973          | 1 045 (0.8%)   | 33 335 (27.1%)    | 73 190 (59.5%)    | 15 355 (12.5%)   | 48 (>0.1%)   |
|                       | Women | 135 253          | 4 457 (3.3%)   | 54 067 (40.0%)    | 59 100 (43.7%)    | 17 523 (13.0%)   | 106 (>0.1%)  |

Source: Authors analysis based on data from Croatian Bureau of Statistics (2017): Census of Population, Households and Dwellings 2011.

**Table 3** Dominant education degree by gender and age in Croatia.

| Age   | No school | 1-3 grade of elementary school | 4-7 grade of elementary school | Elementary school | Secondary school | Higher education | Unknown |
|-------|-----------|--------------------------------|--------------------------------|-------------------|------------------|------------------|---------|
| 15-19 | equal     | f                              | m                              | m                 | m                | -                | -       |
| 20-24 | f         | f                              | m                              | m                 | m                | f                | M       |
| 25-29 | f         | m                              | m                              | m                 | m                | f                | equal   |
| 30-34 | f         | m                              | m                              | m                 | m                | f                | M       |
| 35-39 | m         | m                              | m                              | f                 | m                | f                | M       |
| 40-44 | f         | equal                          | f                              | f                 | m                | f                | M       |
| 45-49 | f         | equal                          | f                              | f                 | m                | f                | M       |
| 50-54 | f         | m                              | f                              | f                 | m                | f                | M       |
| 55-59 | f         | f                              | f                              | f                 | m                | f                | M       |
| 60-64 | f         | f                              | f                              | f                 | m                | m                | F       |
| 65-69 | f         | f                              | f                              | f                 | m                | m                | M       |
| 70-74 | f         | f                              | f                              | f                 | m                | m                | f       |
| 75-   | f         | f                              | f                              | f                 | m                | m                | f       |

Source: Authors analysis based on data from Croatian Bureau of Statistics (2017): Census of Population, Households and Dwellings 2011.

#### 4.2. Emigration intention – result of the research

In table 4 was presented distribution of answers on question: "Do you want to move abroad to live and work in another country?" Altogether, 46.2 % answered Yes, and 53.8 % answered No (Table 4). In response to the question "To what country do you want to go?" the most frequently mentioned countries were Canada and Western- European countries, such as Germany, Sweden, Switzerland or Austria. When asked, "Why would you immigrate there?" answers can be grouped in one of the following categories: higher incomes and better living standard, better

career advancement, future safety, respected human rights, more opportunities for personal growth or open-mindedness. When those who want to move abroad were asked if they already undertook any specific and determined actions in order to move to another country, 24.8% answered Yes and 75.2% answered No. Males were more likely to have undertaken direct action towards emigration.

**Table 4** Distribution of answers on question about emigration intention and undertaken actions

|  | Total          |                | Males         |               | Females       |               |
|--|----------------|----------------|---------------|---------------|---------------|---------------|
|  | yes            | no             | yes           | no            | yes           | no            |
| Do you want to move abroad to live and work in another country?"                           | 127<br>(46.2%) | 148<br>(53.8%) | 75<br>(55.6%) | 60<br>(44.4%) | 52<br>(37.1%) | 88<br>(62.9%) |
| Did you undertake any specific and determined actions in order to move to another country? | 38<br>(24.8%)  | 88<br>(75.2%)  | 23<br>(30.7%) | 52<br>(69.3%) | 15<br>(28.8%) | 36<br>(71.2%) |

Source: Authors' research

### 4.3. Social capital in Osijek-Baranja County

The following results relate to features of social capital: networks, norms, and trust. Social networks were measured by questions on number of close friends, perception of social support from different networks (Table 5). Participants who do not want to emigrate tended to have more close friends compared to participants who did want to emigrate. Those who want to emigrate reported somewhat lower average social support, however there was no significant difference between the groups on any social support variable.

**Table 5** Descriptive statistics for the measures of social support and significance of difference between groups

|                         | total |       |   | want to emigrate |       |   | do not want to emigrate |       |   | p <sup>1</sup> |
|-------------------------|-------|-------|---|------------------|-------|---|-------------------------|-------|---|----------------|
|                         | M     | SD    | C | M                | SD    | C | M                       | SD    | C |                |
| Number of close friends | 4.63  | 3.435 | 4 | 4.06             | 2.200 | 4 | 5.10                    | 4.151 | 4 | .008           |
| Social support:         |       |       |   |                  |       |   |                         |       |   |                |
| from family             | 4.50  | .857  | 5 | 4.39             | .969  | 5 | 4.60                    | .737  | 5 | .099           |
| from friends            | 4.36  | .764  | 5 | 4.28             | .763  | 4 | 4.44                    | .759  | 5 | .050           |
| from neighbours         | 2.52  | 1.199 | 3 | 2.41             | 1.256 | 2 | 2.61                    | 1.143 | 3 | .125           |

Legend: M – arithmetic mean, SD – standard deviation, C – central value/median, <sup>1</sup>Mann-Whitney test  
Source: Authors' research

Results on social trust was presented according the type of institution or sector. Higher score indicates more trust; maximum score is 5. Participants who did not want to emigrate expressed more trust in different institutions or sectors, in relation to participants who wanted to emigrate (Table 6). Also, participants who did not want to emigrate reported trusting in other people significantly more than participants who wanted to emigrate. One of the social capital indicators, stressed by World bank is membership in different organizations. Groups based on their emigration intentions do not differ in organization membership. Data on frequencies were based on participants' self-reported membership of various organizations (Table 7). In regards to volunteering, 108 (39.4 %) of participants stated that they volunteered in the previous year. Even though there is no significant difference in volunteering between those who want to emigrate and participants who do not want to emigrate ( $\chi^2=.575$ ,  $p>.05$ ), significant difference was found based on gender. Therefore, women tend to volunteer more comparing to men ( $\chi^2=8.542$ ,  $p<.05$ ).



**Table 6** Average trust in different institutions and significance of difference between groups

| Trust in:          | total |       |   | want to emigrate |       |   | do not want to emigrate |       |   | p <sup>1</sup> |
|--------------------|-------|-------|---|------------------|-------|---|-------------------------|-------|---|----------------|
|                    | M     | SD    | C | M                | SD    | C | M                       | SD    | C |                |
| government         | 1.62  | 0.890 | 1 | 1.38             | 0.703 | 1 | 1.83                    | 0.979 | 2 | .000           |
| police             | 2.40  | 1.064 | 2 | 2.14             | 1.052 | 2 | 2.63                    | 1.025 | 3 | .000           |
| judiciary          | 2.04  | 0.994 | 2 | 1.73             | 0.830 | 2 | 2.30                    | 1.048 | 2 | .000           |
| school system      | 2.81  | 1.001 | 3 | 2.59             | 1.011 | 3 | 2.99                    | 0.958 | 3 | .002           |
| health care system | 2.98  | 0.981 | 3 | 2.79             | 0.989 | 3 | 3.14                    | 0.948 | 3 | .003           |
| Trust in people    | 3.17  | 0.958 | 3 | 3.00             | 1.035 | 3 | 3.30                    | 0.864 | 3 | .019           |

Legend: M – arithmetic mean, SD-standard deviation, C-central value/median, <sup>1</sup>Mann-Whitney test  
Source: Authors' research

**Table 7** Number of survey participants who are active member of certain organisations, and test of difference between groups according the emigration intention

| Active member of organization: | total sample |            | want to emigrate |            | do not want to emigrate |            | chi square p |
|--------------------------------|--------------|------------|------------------|------------|-------------------------|------------|--------------|
|                                | N            | % of total | N                | % in group | N                       | % in group |              |
| sport                          | 60           | 21.8%      | 32               | 25.2%      | 28                      | 18.9%      | .242         |
| student organization           | 60           | 21.8%      | 30               | 23.6%      | 30                      | 20.3%      | .559         |
| humanitarian                   | 35           | 12.7%      | 18               | 14.2%      | 17                      | 11.5%      | .587         |
| religious                      | 41           | 14.9%      | 16               | 12.6%      | 25                      | 16.9%      | .396         |
| other                          | 53           | 19.3%      | 30               | 23.6%      | 23                      | 15.5%      | .095         |

Source: Authors' research

#### 4.4. Subjective quality of life

International research revealed that individual subjective well-being and quality of life is higher in those communities that report on higher social capital (Putnam, 1993). Presented here are results on subjective quality of life measured as aggregate satisfaction with life across seven life domains for total sample and by groups (Table 8). There was statistically significant difference in subjective quality of life expressed as satisfaction with life between groups. Those who stated that they don't want to emigrate have higher satisfaction with life. Overall satisfaction with life score (PWI) was significantly positively correlated with a few social capital measures: with number of close friends ( $r = .280$ ), social support from family ( $r = .334$ ), social support from friends ( $r = .267$ ) and from neighbours ( $r = .222$ ) suggesting those with higher social support and more close friends were more likely to have higher subjective quality of life. But overall satisfaction with life was not correlated with the membership in different organisations nor with the level of trust in people.

**Table 8** Average satisfaction with life and significance of difference between groups

| Personal wellbeing index | total |       |       | want to emigrate |       |       | do not want to emigrate |       |       | p <sup>1</sup> |
|--------------------------|-------|-------|-------|------------------|-------|-------|-------------------------|-------|-------|----------------|
|                          | M     | SD    | C     | M                | SD    | C     | M                       | SD    | C     |                |
| (satisfaction with life) | 72.32 | 17.40 | 74.29 | 69.00            | 17.56 | 71.43 | 74.37                   | 17.07 | 77.14 | .033           |

Legend: M – arithmetic mean, SD-standard deviation, C-central value/median, <sup>1</sup>Mann-Whitney test  
Source: Authors' research

## 5. Conclusion

Most of the previous studies used economic and socio-demographic data to discuss emigration intentions, whereas this study focuses on complex relationship between human and social capital and subjective quality of life in order to describe the process of emigration intentions. Considering the results of prior and present research, it is no doubt that social capital has high impact on subjective well-being. Results have shown significant connection between social capital and subjective quality of life, although various social capital indicators correlate differently with subjective quality of life. Identifying the specific factors and relationship of human and social capital with quality of life connected with the emigration intention will contribute to understanding factors that may influence why young professionals are choosing to emigrate out of eastern Croatia.

## REFERENCES

- Calvo, R., Zheng, Y., Kumar, S., Olgiati, A., & Berkman, L. (2012): *Well-being and social capital on planet earth: cross-national evidence from 142 countries*, PLoS One, Vol. 7, No. 8.
- Coleman J. (1988): *Social capital in the creation of human capital*, American Journal of Sociology, Vol. 94, pp. 95- 120.
- Croatian Bureau of Statistics (2017): *Census of Population, Households and Dwellings 2011*. [http://www.dzs.hr/default\\_e.htm](http://www.dzs.hr/default_e.htm) (accessed 2 February 2017)
- Dae-Bong, K. (2009): *Human Capital and its Measurement*, in: The 3rd OECD World Forum on “Statistics, Knowledge and Policy” Charting Progress, Building Visions, Improving Life, Busan, Korea. October 27-30, 2009. pp.1-15.
- Falk, I. (2000): *Adult Learning Australia*, Adult Learning Commentary, No. 28.
- Fukuyama, F. (2001): *Social capital, civil society and development*, Third World Quarterly, Vol. 22, No. 1, pp. 7-20.
- Grootaert, C., & van Bastelaer, T. (2002): *Understanding and Measuring Social Capital. A Multidisciplinary Tool for Practitioners*, The World Bank, Washington, DC.
- Grootaert, C. (1998): *Social capital: The missing link?* The World Bank Social Capital Initiative Paper No.3. <https://www.oecd.org/insights/humancapitalhowwhatyouknowshapessyourlife.htm>
- Imandoust, S. B. (2011): *Relationship between education and social capital*, International Journal of Humanities and Social Science, Vol. 1, No. 12, pp. 52-57.
- International Wellbeing Group (2013): *Personal Wellbeing Index: 5th Edition*, Australian Centre on Quality of Life, Deakin University, Melbourne.
- Kaliterna-Lipovčan, L., & Prizmić-Larsen, Z. (2016): *What differs between happy and unhappy people?*, SpringerPlus, Vol. 5, No. 1, pp. 225.
- Keeley, B. (2007): *Human Capital: How what you know shapes your life*, OECD, Paris.
- Liu, D., Ainsworth, S. E., & Baumeister, R. F. (2016): *A meta-analysis of social networking online and social capital*, Review of General Psychology, Vol. 20, No. 4, pp. 369–391.
- Lyons, M. (2000): *Non-profit organisations, social capital and social policy in Australia*, in Winter, I., ed.: *Social Capital and Public Policy in Australia*, AIFS, Melbourne, pp. 165 – 191.

- Mason, D. M. (2016): *Caring for the Unseen: Using Linking Social Capital to Improve Healthcare Access to Irregular Migrants in Spain*, Journal of Nursing Scholarship, Vol. 48, No. 5, pp. 448-455.
- Narayan, D & Cassidy, M. (2001): *A dimensional approach to measuring social capital: Development and validation of a social capital inventory*, Current Sociology, Vol. 49, No. 2, pp. 49–93.
- Parts, E. (2003): *Interrelationship between human capital and social capital: implication for economic development in transition economy*, Tartu University Press.
- Portela, M., Neira, I., & del Mar Salinas-Jiménez, M. (2013): *Social capital and subjective wellbeing in Europe: A new approach on social capital*, Social Indicators Research, Vol. 114, No. 2, pp. 493-511.
- Putnam R. D. (2001): *Social capital: Measurement and consequences*, Canadian Journal of Policy Research, Vol. 2, No. 1, pp. 41–51.
- Putnam, R. D. (1993): *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, Princeton, NJ.
- Romer, P. M. (1990): *Endogenous Technological Change*, Journal of Political Economy, Vol. 98, No. 5, pp. 71–102.
- Scheffler, R. M., Petris, N. C., Borgonovi, F., Brown, T. T., Petris, N. C., Sassi, F., Dourgnon, P., & Sirven, N. (2010): *Social capital, human capital and health: What is the evidence?*, OECD Centre for Education Research and Innovation (CERI).
- Schultz, T. W. (1961): *Investment in Human Capital*, American Economic Review, Vol. 51, pp.1-17.
- Triandafyllidou, A. & Gropas, R. (2014): *“Voting With Their Feet”: Highly Skilled Emigrants From Southern Europe*, American Behavioral Scientist, Vol. 58, No. 12, pp. 1614–1633.
- van Dalen, H. P., & Henkens, K. (2013): *Explaining emigration intentions and behaviour in the Netherlands, 2005–10*, Population Studies, Vol. 67, No. 2, pp. 225-241.
- Woodhall, M. (2001): *Human capital: educational aspects*, International Encyclopaedia of the Social & Behavioral Sciences.
- World Bank (2011): *Social capital*, World Bank, Washington, DC. <http://go.worldbank.org/> (accessed 10 January 2017)



**Uloga prava  
u razvoju  
gospodarstva**

**The role of law  
in economic  
development**

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**IMPACT OF THE ERASMUS+ JEAN MONNET CHAIR IN EU  
PROCEDURAL LAW PROJECT ON STUDENTS FROM FACULTIES  
OTHER THAN THE FACULTY OF LAW**

**UTJECAJ ERASMUS+ PROJEKTA JEAN MONNET KATEDRE ZA  
PROCESNO PRAVO EU NA STUDENTE KOJI NISU PRIMARNO S  
PRAVNOG FAKULTETA**

**ABSTRACT**

*The Erasmus+ Programme derives from Council Conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020') as based on Articles 165 and 166 TFEU. In the framework of the Erasmus+ Programme, the Chair of European Law at the Faculty of Law in Osijek was granted the project "Jean Monnet Chair in EU Procedural Law". The project started in the academic year 2014/2015 and is currently in its last year of implementation. The general objective of the project is to improve education regarding European integration issues and contribute to a greater visibility of EU studies at the national and international level. Among other target groups, the project is of relevance to students who are not exposed to European law studies, for whom a specific activity was conceived: a seminar on the protection of the rights of individuals in EU law. The seminar set specific objectives: to provide participants with the opportunity to hear about and discuss basic topics of EU law as well as understand the importance of having a basic knowledge of EU law; to give an overview of a number of EU legal documents; to equip participants with knowledge of the rights of individuals within EU law and encourage participants to disseminate their knowledge to their colleagues. The main aim of this paper is to answer whether the specific objectives of the seminar on the protection of the rights of individuals in EU law have been achieved and how (and if) it contributes to the general objectives of the project. The research question arising from the set objectives: Has seminar participation increased participants' awareness of their rights deriving from EU law? To answer the research question, a survey was conducted on the participants of the five seminars held from the beginning of the project.*

**Key words:** EU, EU law, Erasmus+, education, EU project.

## SAŽETAK

*Erasmus+ Program proizlazi iz Zaključaka Vijeća od 12. svibnja 2009. o strateškom okviru za europsku suradnju u obrazovanju i osposobljavanju ('ET 2020'), koji se temelji na člancima 165. i 166. UFEU. U okviru Erasmus+ Programa, Katedri za europskog prava s Pravnog fakulteta Osijek je odobren sa projekt «Jean Monnet Katedra za procesno pravo EU». Projekt je pokrenut u akademskoj godini 2014./2015., a trenutno je u svojoj posljednjoj godini. Opći cilj projekta je poboljšanje obrazovanja u području europskih integracija i pridonnošenje većoj vidljivosti europskih studija na nacionalnoj i međunarodnoj razini. Među ciljnim skupinama, u svrhu ovog istraživanja, izdvojena je ciljna skupina studenata kojima europski studiji ( tj. europsko pravo) nisu primarni studiji. Za ovu ciljnu skupinu projektom je predviđena specifična aktivnost: Seminar o zaštiti prava pojedinaca u pravu EU. Seminar ima specifične ciljeve: dati sudionicima priliku slušati i raspravljati o osnovnim temama vezanim uz zakonodavstvo EU, dati sudionicima uvid u pravne dokumente EU, pružiti im priliku da razumiju važnost stjecanja osnovnih znanja o zakonodavstvu EU i pravima pojedinca koja proizlaze iz prava EU te potaknuti sudionike na širenje znanja koje su stekli prilikom sudjelovanja na seminaru. Glavni cilj ovog rada je odgovoriti na pitanje: jesu li su postignuti specifični ciljevi seminara o zaštite prava pojedinaca u pravu EU i kako (i ako) pridonose općim ciljevima projekta tj. cilju Erasmus+ Programa. Istraživačko pitanje koje proizlazi iz postavljenih ciljeva jest: je li sudjelovanje na seminaru (tj. uključivanje u projekt) povećalo svijest sudionika o njihovim pravima koja proizlaze iz prava Europske unije? Da bi se odgovorilo na istraživačko pitanje, anketiranje je provedeno među sudionicima pet seminara koji su se održali od početka projekta.*

**Ključne riječi:** EU, pravo EU, Erasmus+, obrazovanje, EU projekti.

### 1. Introduction

The main aim of this paper is to answer whether the specific objectives of the seminar on the protection of the rights of individuals under EU law have been achieved and how (and if) it contributes to the general objectives of the project. Our primary interest is to examine whether the specific objectives set for the said seminar have been achieved. In order to answer our research question, a survey was conducted on the participants of the five seminars held thus far. Before presenting the results of our research (survey), we find it necessary to give a brief overview of the EU policy on education as well as to describe our Jean Monnet Project in general and more precisely the content and structure of the Jean Monnet Seminar "Protection of the Rights of Individuals in the EU."

The paper is structured into three parts. The first part provides an overview of the EU policy on education. In the second part, we describe the Jean Monnet Project with special reference to the abovementioned Jean Monnet seminar. The third and central part of the paper is divided into two subchapters: methodology overview and research results. Lastly, we give concluding remarks.

### 2. EU policy on education

Education falls within the competence of EU member states. However, given the fact that the member states are all facing similar challenges in higher education, working together seems reasonable. However, the question is: Is there any legal basis in primary law authorizing the EU to act in the area of education? Prior to the Maastricht Treaty there had been no strict legal basis. Yet despite being a step forward, the Maastricht gave only limited competences to the EU regarding education and excluded harmonization of the laws and regulations of the member states (Art. 127(4) TEC, later Art. 149 TEC). An almost identical provision was incorporated in

the Treaty of Lisbon (Art. 165(4) TFEU (Lisbon)), but there are also other Treaty provisions that empower the EU to act (e.g. Art. 53 TFEU (recognition of diplomas), Art. 166 TFEU (vocational training) etc.). According to Garben, the limitation of EU competence (i.e. prohibition of harmonization) relates only to measures adopted based on Art. 165 TFEU (ex. Art. 149 TEC) (Garben, 2010, 191). Such point of view has a foothold in the early case law of the CJEU (Case: *Donato Casagrande v Landeshauptstadt München*, par. 12). Per Garben, in spite of its limited competences, the EU has intervened quite deeply into national legal systems, which might be the reason why member states decided to adopt the Bologna Declaration outside the EU legal and institutional framework. She sees this as an attempt to re-nationalize higher education and strongly criticizes such “move” of the member states (Garben, 2010, 186-210).

The Treaty of Lisbon recognized education as a complementary competence (Art. 6 TFEU in relation to Art. 2 (5) TFEU). This is where the role of the European Commission (hereinafter: Commission) came in: to work closely with policy-makers to support the development of higher education policies in EU countries in line with the Education and Training 2020 strategic framework (hereinafter: ET2020)<sup>1</sup> (Council Conclusions, 2009/C 119/02).

The Erasmus+ Programme derives from ET 2020. Erasmus+ is the EU Programme in the fields of education, training, youth and sport for the period 2014-2020 (Regulation, 1288/2013). The Jean Monnet Activities are part of the Erasmus+ Programme.<sup>2</sup> As stated in the Erasmus+ Programme Guide, the Jean Monnet Activities aim at promoting excellence in teaching and research in the field of European Union studies worldwide. They also aim at fostering dialogue between the academic world and policy-makers, in particular with the goal of enhancing EU and global governance. One of the JM Activities is the Jean Monnet Chair (Erasmus+ program Guide, 2017, p. 196).

In February 2014, the Faculty of Law in Osijek applied for the project “Jean Monnet Chair in EU Procedural Law.” Our project was selected from among 493 applications and rated with a relatively high grade (89/100), making it the second Jean Monnet Chair granted to the Faculty of Law Osijek. The first JM Chair was the “Jean Monnet Chair in EU Labour, Equality and Human Rights Law” held by Prof. Mario Vinković.<sup>3</sup> In the meantime, the Faculty of Law was granted the third JM Chair, this time on cross-border movement of a child in the EU held by prof. Mirela Župan.<sup>4</sup> However, the tradition dates back to 2011. The first ever JM Project was the JM module “EU Law: Basic Introduction, Preliminary Ruling Procedure, Legal Aspects and Regional and International Cooperation in the EU.” Below we will focus exclusively on the JM Chair in EU Procedural Law and especially on one particular activity: the JM seminar “Protection of the rights of individuals in the EU.”

### 3. Jean Monnet Chair in EU Procedural Law

In the framework of the Erasmus+ Programme, the Chair of European law from the Faculty of Law in Osijek was granted the project “Jean Monnet Chair in EU Procedural Law.”<sup>5</sup> The project started in the academic year 2014/2015 and is currently in its last year of implementation.

When we decided to apply for the Jean Monnet Chair (at the end of 2013), we started from the premise that Croatian citizens as EU citizens are not sufficiently familiar with their rights under

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<sup>1</sup> More on the role of the EU in the field of higher education at: [http://ec.europa.eu/education/policy/higher-education\\_en](http://ec.europa.eu/education/policy/higher-education_en) (accessed 21 March 2017).

<sup>2</sup> More at: [https://ec.europa.eu/programmes/erasmus-plus/node\\_en](https://ec.europa.eu/programmes/erasmus-plus/node_en) (accessed 21 March 2017)

<sup>3</sup> More at: <http://jeanmonnet.pravos.hr/> (accessed 21 March 2017)

<sup>4</sup> More at <http://www.pravos.unios.hr/chair-euchild> (accessed 21 March 2017)

<sup>5</sup> Jean Monnet Chair in EU procedural Law (2014-2017), reg. No. 553095-EPP-1-2014-1-HR-EPPJMO-CHAIR; Decision no. 2014- 2713/001-001.



EU law and especially not with the procedures for seeking protection of their rights. We gathered that if they were simply made aware of EU membership benefits, it would help them become real European citizens and develop a sense of belonging to the EU. On the other hand, those in charge of applying EU law (judges, public administrators etc.) and those representing clients (attorneys) do not have relevant skills or expertise. National judges face the biggest challenge of having to accept the fact that the CJEU case law is an equal source of law. This problem has been recognized by eminent Croatian authors (Rodin, 2005,1-22) (Ćapeta, 2005, 23-53). We were also fully aware of it because practitioners had been repeatedly asking project staff members for help and advice on how to manage concrete situations in practice. Finally, Croatia has had (and still has) at disposal a considerable amount of EU funding, but funding requires good project proposals for which the relevant knowledge was missing.

Our intention was to eliminate the gap in the relevant knowledge by means of said project activities. Further, our idea was to position the Faculty of Law in Osijek as the regional centre and reference point for EU knowledge that promotes excellence in teaching and research in EU studies. We are very close to achieving this goal.

The general objectives of the project are: to mainstream the development of the teaching process and the development of study methods that will improve the education on the European integration issues and contribute to a greater visibility of the EU studies at the national and international level; to promote European values in all our activities; to respect gender equality; to promote multilingualism; to create synergies between legal and non-legal students and participants, which will contribute to the multidisciplinary of the project in general. Specific objectives of the project are: to promote innovation and excellence in teaching and research and foster the engagement of young academics; to improve the quality of professional training in the field of EU procedural law; to equip students and young professionals with knowledge of EU procedural law, but also contribute to their civic education as EU citizens; and to mainstream and diversify EU-related subjects throughout the curricula by offering new courses and renewing existing ones.

Our project extends the teaching of European Union studies as embodied in the official curriculum of the Faculty. We set out to introduce three entirely new courses (“Basics of EU Law”, “Basics of EU Criminal Law” and “EU Civil Procedure”), and refresh and renew four existing courses (“EU Public Law”, “EU External Market”, “EU Project Application Procedure” and “International Family Law at European Courts”). The project also includes one seminar titled “Protecting the rights of individuals in EU law”, one Jean Monnet Conference titled “Procedural aspects of EU law”, one summer school “Procedural Law of the EU”, and three workshops: “European Union information: Sources and databases”, “National courts as European courts” and “Application procedure for EU funded projects (grants).” It also includes two training courses: “How to litigate before the CJEU” and the intensive training course “EU administrative law and procedures”.

The project has a strong impact not only on the teaching staff and students of the Faculty of Law in Osijek, but also on students who are not exposed to European Union studies, the public, law professionals, young academics and researchers from regional countries and the civil society. The project increases the overall expertise of beneficiaries, promotes excellence in teaching and research in EU studies and improves the visibility of EU law in general. We will not go into detail on each of the project activities,<sup>6</sup> but rather focus only on one specific activity: the Jean Monnet seminar “Protection of the rights of individuals in EU law”.

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<sup>6</sup> More on project activities at: <http://jeanmonnet-eupl.pravos.hr/>

### **3.1. Jean Monnet seminar on the protection of the rights of individuals in EU law**

The aim of the title seminar was to provide basic knowledge on the establishment and development of the European Union, its institutional and legal system, its implementation by the Member States and - most importantly - on the possibilities of protecting the rights of citizens deriving from EU law. Among other groups, the project also targeted students who are not exposed to European law studies. The idea behind the seminar was to bring Europe closer to its citizens. The teaching pace was 20 hours per academic year (10 hours per semester), in total 60 hours in three years. Of the total number of hours, Tunjica Petrašević and Dunja Duić each taught 10 hours per year (in total 30 hours each). The specific objectives set for the seminar were as follows: to provide the participants with the opportunity to hear about and discuss basic topics of EU law and understand the importance of having a basic knowledge of EU law; to give an overview of a number of EU legal documents; to equip participants with the knowledge of individual rights within EU law and encourage participants to disseminate their knowledge to their colleagues.

## **4. Research on the impacts of Jean Monnet seminar <sup>7</sup>**

### **4.1. Methodology Overview**

The main objective of this paper is to answer whether the specific objectives of the seminar on the protection of the rights of individuals in EU law have been achieved and how (and if) it contributes to the general objectives of the project. The research question arising from the set objectives: Has seminar participation increased participants' awareness about their rights deriving from EU law? To answer the research question, a survey was conducted on 47 participants of the five seminars held from the beginning of the project. Data collection was carried out using self-completion method by way of an online survey that was sent to participants' emails, which they had provided to seminar organisers. The online survey was conducted in the period from 10 February until 28 February 2017. Its three sections (8, 9 and 13 questions, respectively) comprised a total of 30 questions. The first set of questions was related to socio-demographic factors (age, gender, place of birth, field and year of study, employment, year of participation in the seminar and the source of learning about the seminar). The second set of questions was designed to establish whether specific objectives of the seminar have been achieved (has the seminar provided participants with the opportunity to hear about and discuss basic topics of EU law, have the participants understood the importance of having a basic knowledge of EU law, have they been equipped with the knowledge on individual rights under EU law and has the seminar encouraged participants to disseminate their knowledge to their colleagues). This set of questions comprised two mutually related questions: one offering *yes, no* and *I do not know* answers and one open-ended question relating to the first question, where participants could give examples and express their opinion. The third set of questions concerned seminar assessment. The first ten questions were answerable on a scale from 0 to 5 to rate the lecturers and the topics covered by the seminar. The last two were open-ended questions where participants could express their opinion and give suggestions.

### **4.2. Research results**

By using the survey conducted among 47 seminar participants, we wanted to answer whether the specific objectives of the seminar had been achieved: Has the seminar provided the participants with the opportunity to hear about and discuss basic topics of EU law? Has the seminar provided

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<sup>7</sup> This research is fully endorsed by the Office for Quality Assurance of the Faculty of Law Osijek.

participants with an opportunity to understand the importance of having a basic knowledge of EU law? Has the seminar equipped participants with knowledge on individual rights under EU law? Has the seminar encouraged participants to disseminate their knowledge to their colleagues?

#### **4.2.1. Has the seminar provided participants with an opportunity to hear about and discuss basic topics of the EU Law?**

It was established that 93.5 % of participants answered affirmatively when asked whether they had an opportunity to hear about basic topics of EU law. When asked to underline the topics they had the opportunity to hear about, they highlighted the following: consumer rights, citizenship, free movement of workers, protection of the rights of the individuals, internal market, agriculture, EU institutions etc. (Craig, De Burca, 2011). The response rate was 87.23 %, meaning that 41 survey participants listed at least one of the topics they remembered was discussed at the seminar.

The analysis found that 86.5 % of participants answered affirmatively when asked whether they had an opportunity to discuss the basic topics of EU law. When asked to underline the topics they had the opportunity to discuss, they highlighted the following: consumer rights, citizenship, free movement of workers, protection of the rights of the individuals, internal market, EU case law etc. The response rate was 44.68 %, meaning that 21 participants answered this question, which indicates that the number of participants hearing about basic EU law topics was larger than that of participants discussing although the opportunities to hear about and to discuss were equal.

From the results, it is clear that nearly all participants found they did have an opportunity to hear about and discuss basic topics of EU law (93.5% and 86.5 % respectively). They highlighted basic topics of EU law relating to the rights of individuals, showing that the first seminar objective has been met.

#### **4.2.2. Has the seminar provided participants with the opportunity to understand the importance of having a basic knowledge of EU law?**

All survey participants answered affirmatively when asked whether EU law is of importance in terms of the rights of individuals. From this 100 % affirmative answer, we read that the seminar has provided the participants with the opportunity to understand the importance of having a basic knowledge of EU law.

#### **4.2.3. Has the seminar equipped participants with the knowledge on the individual rights within EU law?**

We asked survey participants to answer what the individual rights within EU law are in order to establish whether the seminar had equipped them with the knowledge on the rights of the individuals under EU law. The response rate was 51.06 %. Participants indicated a number of individual rights. Most underlined the knowledge of the free movement of persons (42 %). The same number of participants (16 %) underlined consumer rights and the right to vote at European Parliament elections as one of the rights that individuals have. Furthermore, they highlighted fundamental human rights, the right to health care, the right to approach the European Ombudsman, the right to travel, work and live in other member states, the right to education and environmental protection. It is clear from the participants' responses that they have recognised most of the individual rights under EU law and that they have been equipped with the knowledge thereof.

#### 4.2.4. Has the seminar encouraged participants to disseminate their knowledge to their colleagues?

The final seminar objective to be examined by the survey concerns the dissemination of the knowledge gained through the seminar. It was established that 82.2 % of participants answered affirmatively when asked whether they had disseminated the knowledge gained at the seminar to their colleagues. When asked how they disseminated the knowledge, of the 63 % of participants who answered this open-ended question, 93.33 % replied that they had disseminated their knowledge in conversation with colleagues, three of them (10 %) stated that they had used their knowledge in practice. Finally, in this first set of questions designed to determine whether the seminar had fulfilled its objectives, we asked the participants whether they would recommend participation in the seminar. The response was 97.2 % affirmative, which further confirms that the seminar objectives have been met and that the participants have recognised the importance of individuals' rights deriving from EU law.

#### 4.2.5. Seminar assessment

In this set, the first ten questions were provided with a response scale from 0 to 5, wherein participants were invited to grade the lecturers and the topics covered by the seminar (0 – I do not have a grade; 1 – very bad; 2 – below average; 3 – average; 4 – above average; 5 – excellent).

*Table 1 Assessment of the lecturers, teaching materials and seminar atmosphere*

| Grade | Lecturer<br>Tunjica Petrašević | Lecturer<br>Dunja Duić | Teaching materials | Seminar<br>atmosphere |
|-------|--------------------------------|------------------------|--------------------|-----------------------|
| 0     | 2,1 %                          | 0 %                    | 0 %                | 0 %                   |
| 1     | 0 %                            | 0 %                    | 0 %                | 0 %                   |
| 2     | 0 %                            | 2.1 %                  | 0 %                | 0 %                   |
| 3     | 4.3 %                          | 4.3 %                  | 4.3 %              | 6.4 %                 |
| 4     | 10.6 %                         | 2.1 %                  | 34 %               | 19.1 %                |
| 5     | 83 %                           | 91.5 %                 | 61.7 %             | 74.5 %                |

*Source: Authors, 2017*

Results indicate that the largest percentage of participants rated the lecturers, teaching materials and seminar atmosphere as excellent (5), which substantiates the abovementioned survey findings on the likelihood of recommending participation in the seminar. We can conclude that the participants were highly satisfied with the lecturers' performance (we find here the highest percentage of the grade *excellent*). Nonetheless, participants also found teaching atmosphere and seminar atmosphere excellent, but in a lower percentage, indicating that there is room for improvement in this area to achieve excellence.

*Table 2 Assessment of seminar topics*

| Grade | Free<br>movement of<br>workers | Market<br>freedoms | EU<br>institutions | Consumer<br>protection | Citizenship | EU<br>agriculture<br>Policy |
|-------|--------------------------------|--------------------|--------------------|------------------------|-------------|-----------------------------|
| 0     | 0 %                            | 0 %                | 0 %                | 0 %                    | 0 %         | 10,9 %                      |
| 1     | 0 %                            | 0 %                | 0 %                | 0 %                    | 0 %         | 2,2 %                       |
| 2     | 0 %                            | 0 %                | 0 %                | 0 %                    | 2,2 %       | 2,2 %                       |
| 3     | 10.9 %                         | 12.8 %             | 13 %               | 0 %                    | 4.3 %       | 8.7 %                       |
| 4     | 15.2 %                         | 21.3 %             | 23.9 %             | 4.4 %                  | 23.9 %      | 30.4 %                      |
| 5     | 73.9 %                         | 66 %               | 63 %               | 95.6 %                 | 69.6 %      | 45.7 %                      |

*Source: Authors, 2017*

In assessing seminar topics, it is unambiguously clear that participants rated the topic of consumer protection with the highest grade (95.6 % excellent). All topics except EU agriculture policy were rated as excellent by more than half of the participants.

The final two questions were open-ended questions where participants were invited to express their opinions and give suggestions. Participants were asked to state which topic they found most important for the rights of individuals, and to indicate a topic that is relevant for the rights of the individuals in their opinion but was not covered by the seminar. The response rate for the first question (the topic they found most important for the rights of individuals) was 87.23 %. Most participants listed consumer rights protection as the most important topic (63.41 %). Other highlighted topics included free movement of workers (26.82 %), citizenship (14.6 %), market freedoms (7.3 %), EU institutions, agriculture and consumer protection (2.4 %).

In comparing the demonstrated knowledge of the rights of individuals, the assessment of the seminar topics and the rights of individuals that the participants consider as most important, it can be read from the survey results that without a doubt participants view consumer protection as an excellent topic and find it to be the most important one. Moreover, they find that free movement of workers (i.e. persons) is an important topic although consumer protection received higher grades in terms of topic rating and importance rating. This can lead to the conclusion that consumerism has a great impact on the young population.

Lastly, we wanted to see whether there are differences in the topics preferred by students from different faculties. Most seminar participants were from the Faculties of Economics, Agriculture and Law. Students from the Faculty of Economics and Agriculture found consumer protection to be the most relevant topic, whereas Law students indicate a variety of topics.

## **5. Concluding remarks**

The main aim of this paper was to answer whether specific objectives of the seminar on the protection of the rights of individuals in EU law have been achieved and how (and) if it contributes to the general objectives of the project. The research question arising from the set objectives: Has seminar participation increased participants' awareness of their rights deriving from EU law? More specifically: Has the seminar provided participants with an opportunity to hear about and discuss basic topics of EU law?; Has the seminar provided participants with an opportunity to understand the importance of having a basic knowledge of EU law?; Has the seminar equipped participants with the knowledge on the rights of individuals under EU law and has the seminar encouraged participants to disseminate their knowledge to their colleagues?

The analysis of the survey conducted among seminar participants found affirmative answers to all research questions. Participants found that they had an opportunity to hear about (93.5 %) and to discuss (86.5 %) basic topics of the EU Law. All participants (100 %) understood the importance of having a basic knowledge of EU law. It is clear from the participants' responses that they have recognised most of the rights of individuals under EU law and that they have been equipped with the knowledge thereof. Participants widely disseminated their knowledge gained at the seminar among their colleagues (82.2 %), and 97.2 % would recommend participation in seminar. Overall, we conclude that seminar objectives have been met and that participants do recognise the importance of the individuals' rights deriving from EU law. Consequently and conclusively, by having fulfilled the specific objectives of the project, we achieved the general objectives of the project (to improve the education in the European integration issues and contribute to greater visibility of the EU studies at national and international level), especially considering the fact that the vast majority of seminar participants were students who are not involved in legal and European studies, but have all demonstrated awareness of the importance

of having a basic knowledge of EU law. In short, this particular project activity has thus contributed to the achieving of the general objectives of the project.

## REFERENCES

Craig, P., De Burca, G., EU Law (2011) *Text, Cases and Materials*, Fourth edition, Oxford

Čapeta, T. (2005) *Courts, Legal Culture and EU Enlargement*, Croatian Yearbook of European Law and Policy, Vol 1, pp. 23-53

Petrašević, T., Poretti, P. (2016) *Consumer Protection in Croatia with a Special Emphasis on Distance and Off-Premises Contracts*, Društveni ogleđi – Časopis za pravnu teoriju i praksu, 3, pp. 9-54

Rodin, S. (2005) *Discourse and Authority in European and Post-Communist Legal Culture*, Croatian Yearbook of European Law and Policy, 1, pp. 1-22

Rodin, S., (2010) *Higher Education Reform in Search of Bologna*, Politička misao, vol. 46, no. 5, pp. 21-38.

Garben, S. (2010) *The Bologna process: From European law Perspective*, European Law Journal, Vol. 16, no. 2, pp. 186-210

Garben, S. (2010) *Case C-73/08, "Nicolas Bressol and Others, Céline Chaverot and Others v. Gouvernement de la Communauté française", judgment of the Court (Grand Chamber) of 13 April 2010*", Common Market Law Review, Vol. 47(5), pp. 1493 – 1510.

Garben, S. (2010) *The Bologna process and the Lisbon strategy: commercialisation of higher education through the back door?*, Croatian Yearbook of European Law and Policy, Vol. 6, pp. 167-208

Case: Donato Casagrande v Landeshauptstadt München, 9/74, ECLI:EU:C:1974:74,

Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), 2009/C 119/02.

REGULATION (EU) No 1288/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2013 establishing 'Erasmus+': the Union programme for education, training, youth and sport (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0050:0073:EN:PDF>) (accessed 20 March 2017)

Erasmus+ program Guide available at: [http://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus/files/files/resources/erasmus-plus-programme-guide\\_en.pdf](http://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus/files/files/resources/erasmus-plus-programme-guide_en.pdf) (accessed 20 March 2017)

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## **THE ROLE OF ADMINISTRATIVE COURTS IN THE REPUBLIC OF CROATIA IN DISPUTES PROVIDING COURT PROTECTION IN PROCEDURES OF MANAGING PROTECTED AREAS**

### **ULOGA UPRAVNIH SUDOVA U REPUBLICI HRVATSKOJ U SPOROVIMA PRUŽANJA SUDSKE ZAŠTITE U POSTUPCIMA UPRAVLJANJA ZAŠTIĆENIM PODRUČJIMA**

#### **ABSTRACT**

*Systematic and effective nature protection and conservation are secured by constitutional provisions and are the duty of all natural and legal persons, while nature and all its parts are of interest to the Republic of Croatia and as such are subject to special protection. Protected areas are among the most important natural resources of the Republic of Croatia. Therefore, we think it is important to analyze from an administrative-law viewpoint the special administrative procedure for resolving administrative cases and adopting administrative laws related to protected areas and the use of natural resources.*

*The paper will present and analyze the legal framework for managing protected areas in accordance with the Nature Protection Act. Competent authorities will be identified along with procedures for special administrative action pertaining to the use of natural resources and for issuing decisions regulating conditions of nature protection.*

*The main central government authority responsible for issuing said decisions is the Ministry of Environmental Protection and Energy. By comparing two relevant laws, the General Administrative Procedure Act (*lex generalis*) and the Nature Protection Act (*lex specialis*) with respect to administrative proceedings, we will try to determine if there are, and to what extent, any discrepancies between the two laws.*

*Once the central government authority responsible for nature protection issues a decision, further legal protection may be achieved only through initiating an administrative dispute before a competent administrative court. With this in mind, we will analyze the administrative court practices using the case method and in relation to disputes assessing the legality of decisions issued in procedures of protected areas management. Analysis of case-law from the chosen period will allow direct insight into the decision-making process of administrative courts and determine mistakes that happened during procedures before the competent Ministry. Special emphasis will be given to the role of first-instance administrative courts in the Republic of Croatia in providing court protection in the aforementioned special administrative area.*

**Key words:** *nature protection, management of protected areas, special administrative procedure, Ministry of Environmental Protection and Energy, administrative dispute administrative courts.*



## SAŽETAK

*Sustavna i učinkovita zaštita prirode i njezino očuvanje zajamčeni su ustavnim odredbama te predstavljaju dužnost svake fizičke i pravne osobe, dok su priroda i njezini dijelovi od interesa za Republiku Hrvatsku te uživaju njezinu posebnu zaštitu. Zaštićena područja predstavljaju jedno od najznačajnijih prirodnih dobara Republike Hrvatske. Stoga s upravno-pravnog gledišta smatramo važnim analizirati poseban upravni postupak u odnosu na rješavanje upravnih stvari i donošenje upravnih akata vezanih za zaštićena područja i korištenje prirodnih dobara.*

*U radu će se prikazati i analizirati pravni okvir upravljanja zaštićenim područjima temeljem Zakona o zaštiti prirode. Istaknut će se nadležna tijela i tijekom provođenja posebnih upravnih postupaka vezanih za korištenje prirodnih dobara i izdavanja rješenja u uvjetima zaštite prirode. Kao glavno središnje tijelo državne uprave nadležno za donošenje navedenih rješenja ističe se Ministarstvo zaštite okoliša i energetike. Usporedbom dvaju relevantnih zakona, Zakona o općem upravnom postupku (*lex generalis*) i Zakona o zaštiti prirode (*lex specialis*) u odnosu na vođenje upravnog postupka, pokušat će se ustvrditi postoje li i u kojem mjeri određena odstupanja između navedenih zakonskih propisa.*

*Nakon donošenja rješenja središnjeg tijela državne uprave nadležnog za zaštitu prirode u upravnom postupku, daljnju pravnu zaštitu stranke mogu ostvariti jedino pokretanjem upravnog spora pred nadležnim upravnim sudom. U tu svrhu će se obraditi upravno-sudska praksa primjenom metode slučaja, a u odnosu na tužbe radi ocjene zakonitosti donesenih rješenja u postupcima upravljanja zaštićenim područjima. Analizom konkretnih sudskih predmeta u odabranom razdoblju, omogućit će se izravan uvid u način odlučivanja upravnih sudova i ustvrditi koje su pogreške nastale u rješavanju pred nadležnim ministarstvom. Poseban će se naglasak staviti na ulogu prvostupanijskih upravnih sudova u Republici Hrvatskoj u pružanju sudske zaštite u navedenom posebnom upravnom području.*

**Ključne riječi:** zaštita prirode, upravljanje zaštićenim područjima, posebni upravni postupak, Ministarstvo zaštite okoliša i energetike, upravni spor, upravni sudovi.

### 1. Introduction

In order to preserve nature and contribute to its diversity<sup>1</sup> to create conditions necessary for life, for progress and development of society as a whole, and for economic progress, we need continued, focused action towards strengthening capacities, establishing and increasing the effectiveness of mechanisms of nature protection, improving the role and responsibility of competent public institutions responsible for managing protected areas, better coordination and particularly encouraging inclusion and participation of all interested parties (the public). Realizing these goals, activities and measures is necessary in order to contribute to protecting all

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<sup>1</sup> This consists of preserving and/or restoring biodiversity, landscape diversity and geodiversity. For more information, see tasks and objectives for nature protection provided in Art. 4 of the Nature Protection Act, Official Gazette No. 80/13. Preserving biodiversity is expressed as a fundamental international principle in nature protection, and represents a collective responsibility of mankind. See Art. 1 of the *Convention on Biological Diversity* (CBD), Official Gazette-International Agreements, No. 6/96, [http://narodnenovine.nn.hr/clanci/medunarodni/1996\\_05\\_6\\_39.html](http://narodnenovine.nn.hr/clanci/medunarodni/1996_05_6_39.html), [http://www.europarl.europa.eu/atyourservice/hr/displayFtu.html?ftuld=FTU\\_5.4.3.html](http://www.europarl.europa.eu/atyourservice/hr/displayFtu.html?ftuld=FTU_5.4.3.html), accessed: 12 March 2017. For more details, see also the *EU Biodiversity Strategy to 2020*, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0244>, accessed: 12 March 2017. Also see *EU Environmental Implementation Review – Country Report Croatia*, European Commission, Brussels, 3 February 2017, SWD (2017) 45 final, p. 10., [http://ec.europa.eu/environment/eir/pdf/report\\_hr\\_hr.pdf](http://ec.europa.eu/environment/eir/pdf/report_hr_hr.pdf), accessed: 12 March 2017.

segments of nature on a national, but also European<sup>2</sup> and global level. Contribution to systemic, continued, and effective nature protection is essential.

With this in mind, this paper aims to emphasize the importance of special administrative procedures before the competent public authority, the *Ministry of Environmental Protection and Energy*<sup>3</sup> (hereinafter: MEPE). Furthermore, it aims to analyze the provisions of the special law which regulates procedures for the management of protected areas, for the use of natural resources, and for the adoption of management plans that include requirements for nature protection, issued in the form of decisions. Teleological, grammatical, and logical interpretation methods will be used to analyze the *Nature Protection Act*<sup>4</sup> (*lex specialis*) and the *General Administrative Procedure Act*<sup>5</sup> (*lex generalis*) with respect to administrative procedures and the adoption of administrative acts focusing on nature protection. Following MEPE's decision<sup>6</sup>, and given that this is a second-instance public law body, unsatisfied parties may obtain legal protection through initiating an administrative judicial review by filing a dispute before the competent administrative court. The author will therefore give a brief outline of the legal provisions regulating administrative disputes with respect to filing a lawsuit, the subject-matter of the dispute, and the proceedings of specific administrative matters before an administrative court. Furthermore, the casuistic method will be used to analyze the administrative case-law of competent first-instance administrative courts in the Republic of Croatia, and the case method will be used to present an overview of concrete administrative court judgments in procedures of determining the legality of issued decisions, pursuant to the Nature Protection Act.

## 2. The legislative framework for organizing the protected areas system in the Republic of Croatia

The importance and significance of a nature protection system is expressed in constitutional provisions. Conservation of nature and of human environment is among the core values of the constitutional order, and as such has a place in constitutional law, as expressed in Art. 3 of the

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<sup>2</sup> Environmental policy is a relatively recent addition to European legislation. It acknowledges the principle of environmental protection and emphasizes the importance of high levels of environmental protection and improvement of environmental quality. See Art. 37 (Section IV: Solidarity) of the EU Charter of Fundamental Rights, 2007/C 303/01, 2010/C 83/02, Official Journal of the EU, 14 December 2007, <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=celex%3A12007P>, accessed: 13 March 2017. See also Art. 3, para. 3; Art. 21, para. 2 d) and f) of the Treaty on European Union, 2016/C 202/01, Official Journal of the EU, 7 June 2016, <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A12016ME%2FTXT>, accessed: 13 March 2017. Environmental principles, measures and policies in the EU are also defined within. In regulating environmental issues, the EU shares competence with member states (shared competence). See Art. 4, para. 2e); Art. 191-193 (section XX) of the Treaty on the Functioning of the European Union, 2016/C/202/01, Official Journal of the EU, 7 June 2016, <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A12016ME%2FTXT>, accessed: 13 March 2017.

<sup>3</sup> See Art. 18 of the Law on the Organization of Ministries and Other Central Government Bodies, Official Gazette, No. 93/16, 104/16. An amendment to the said act from 2016 (No. 93/16) changed the ministry name – from Ministry of Environmental and Nature Protection to Ministry of Environmental Protection and Energy, while another amendment (No. 104/16) extended the ministry's scope. [http://narodne-novine.nn.hr/clanci/sluzbeni/2016\\_10\\_93\\_1969.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2016_10_93_1969.html), [http://narodne-novine.nn.hr/clanci/sluzbeni/2016\\_11\\_104\\_2200.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2016_11_104_2200.html), accessed: 10 March 2017.

<sup>4</sup> Official Gazette, No. 80/13 (hereinafter: NPA). The Act was adopted on 21 June 2013, and entered into force on 6 July 2013. See the final proposal of the Nature Protection Act, P.Z.E No. 301, Class: 022-03/13-01/04, Reg. No.: 50301-05/20-13-12, Zagreb, 18 April 2013, <http://www.sabor.hr/Default.aspx?art=54038>, accessed: 12 March 2017 (hereinafter Final Draft of NPA from 2013).

<sup>5</sup> Official Gazette, No. 47/09 (hereinafter: GAPA).

<sup>6</sup> Or in another possible situation where the competent public law authority has not issued a decision within the legal time-limit or finalized the administrative procedure (“administrative silence”). See Art. 12, para. 1 and 2; Art. 102 of GAPA).

Constitution of the Republic of Croatia (hereinafter: the Constitution).<sup>7</sup> It also represents one of the fundamental human rights and liberties, where it is cited as an environmental right. Art. 70, para. 3 of the Constitution provides that “everyone shall, within the scope of their powers and activities, accord particular attention to the protection of human health, nature and the human environment”.<sup>8</sup>

The fundamental law regulating the system of nature protection and conservation in the Republic of Croatia (hereinafter: RC) is the Nature Protection Act (hereinafter: NPA). Apart from this fundamental law, this area is also regulated by several general normative bylaws, which mostly consist of a series of ordinances and regulations.<sup>9</sup> Protected areas are notably governed by numerous laws, decisions and ordinances<sup>10</sup> regulating specific categories<sup>11</sup> of protected areas.

Given that Croatia's accession to the European Union (hereinafter: EU) required the harmonization of national legislation, including this important area, a legislative framework was established through the adoption of two NPAs, in 2003<sup>12</sup> and 2005<sup>13</sup> (amended in 2008 and 2011)<sup>14</sup>, accompanied by thirteen implementation regulations aligned with the acquis.<sup>15</sup> Due to changes that occurred in the concept of systems of environmental protection and conservation, the 2013 NPA was needed for harmonization with international environmental agreements and conventions, particularly directives<sup>16</sup> of the European Parliament and the Council, which represent the legal basis for nature protection in the EU. Two fundamental EU laws regulating nature protection are *Directive 2009/147/EC on the conservation of wild birds*<sup>17</sup> and *Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora*.<sup>18</sup>

Furthermore, a new NPA is in the process of drafting, primarily due to shortcomings and partial unenforceability identified in the structure of the previous versions, and also to make it more transparent and easier to apply, which required a more detailed elaboration and more precise

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<sup>7</sup> Constitution of the Republic of Croatia, Official Gazette, No. 56/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14 (hereinafter: the Constitution). Another notable provision is Art. 52, para. 1 of the Constitution, which states: “The sea, seashore, islands, waters, air space, mineral resources, and other natural assets, as well as land, forests, flora and fauna, other components of the natural environment, real estate and items of particular cultural, historical, economic or ecological significance which are specified by law to be of interest to the Republic of Croatia shall enjoy its special protection.”

<sup>8</sup> “...ensure a balanced environmental and economic development in order to preserve national heritage for present and future generations and observe constitutional rights of Croatian citizens to healthy living and a decent standard in a preserved environment.” See also Section II, para. 2 of the Declaration of Environmental Protection in the Republic of Croatia, Official Gazette, No. 34/92.

<sup>9</sup> <http://www.zastita-prirode.hr/Propisi-upisnici-natjecaji/Propisi/Zastita-prirode-opciakti>, accessed: 13 March 2017.

<sup>10</sup> <http://www.mzoip.hr/hr/priroda/propisi-i-medunarodni-ugovori.html>, accessed: 15 March 2017.

<sup>11</sup> Protected parts of nature are divided into: 1) protected areas, 2) protected species, and 3) protected minerals and fossils. Protected areas are distinguished with respect to their local or national significance. For more information, see Art. 111, Art. 112, Art. 122 of the NPA.

<sup>12</sup> Official Gazette, No. 162/03.

<sup>13</sup> Official Gazette, No. 70/05.

<sup>14</sup> Official Gazette, No. 139/08 and No. 57/11

<sup>15</sup> See Para. 1.4 of the *Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia*, Official Gazette, No. 143/08, [http://narodne-novine.nn.hr/clanci/sluzbeni/2008\\_12\\_143\\_3962.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2008_12_143_3962.html), accessed: 16 March 2017 (hereinafter: the 2008 Strategy). Croatia is signatory to seventeen international agreements related to nature protection.

<sup>16</sup> For EU environmental directives and ordinances, see <http://www.mzoip.hr/hr/priroda/propisi-i-medunarodni-ugovori.html>, accessed: 16 March 2017.

<sup>17</sup> EU Official Journal L 20, 26 Jan 2010, p. 7-25, <http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32009L0147&rid=3>, accessed: 17 March 2017.

<sup>18</sup> EU Official Journal L 206, 22 Jul 1992, p. 7-50, <http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:31992L0043&rid=53>, accessed: 17 March 2017. For Amendments from 10 Jun 2013, see EU Official Journal L 158, p. 193-229.

definition of individual provisions in order to improve certain parts of the nature protection system.<sup>19</sup> In relation to procedural provisions regulating environmental administrative procedures in the area of nature protection, there is a need for harmonization with the new administrative procedure laws, particularly the General Administrative Procedure Act (hereinafter: GAPA) and the Administrative Disputes Act (hereinafter: ADA).<sup>20</sup> It is also important to note that, apart from the NPA, another fundamental document in this special administrative area is the *Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia*.<sup>21</sup>

### **3. Competent authorities for issuing decisions and conducting administrative procedures in accordance with the Nature Protection Act**

The following authorities<sup>22</sup> are competent for environmental administrative tasks<sup>23</sup> and for the direct application of the NPA in the Republic of Croatia:

- 1) The central competent public authority for environmental protection – MEPE<sup>24</sup>
- 2) The Croatian Agency for the Environment and Nature (HAOP)<sup>25</sup>
- 3) Competent environmental administrative authorities<sup>26</sup> of the local (regional) government

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<sup>19</sup> For more information, see Statement of Reasons for the Final Proposal of the NPA from 2013, p. 89-91.

<sup>20</sup> Official Gazette, No. 20/10, 143/12, 152/14, 94/16, 29/17 (hereinafter: ADA).

<sup>21</sup> The NPA from 2013 names the *Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia* (hereinafter: new Strategy) as the key document regulating nature protection, along with the document it is based on, the *State of the Environment Report of the Republic of Croatia* (the Draft of the State of the Environment Report was made by the State Institute for Nature Protection). The new Strategy needs to be made by the Ministry of Environmental Protection and Energy in cooperation with other central government bodies. The bill is introduced by the Government of the Republic of Croatia (hereinafter: Croatian Government), and adopted by the Croatian Parliament. At this time, there is only a Draft of the Strategy from September 2015, so the 2008 Strategy is in use. For more information, see *Draft of the Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia*, Government of the Republic of Croatia, September 2015, p. 1-100, <https://vlada.gov.hr/UserDocsImages//Sjednice/2015/253%20sjednica%20Vlade//253%20-%209b.pdf>, accessed: 15 March 2017 (hereinafter: Draft of the Strategy). The aforementioned obligation to adopt a new Strategy and Action Plan is provided in Art. 10 and Art. 246, para. 1 of the 2013 NPA, based on which the Croatian Government will compose the draft proposal of the Strategy and submit it to the Croatian Parliament by 31 December 2014. For more information, see <https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=1379>, accessed: 15 March 2017.

<sup>22</sup> See also Art. 13 of the NPA.

<sup>23</sup> Technical tasks fall within the scope of the National Institute for Nature Protection. See Art. 14-18 of the NPA.

<sup>24</sup> Within MEPE, nature protection is under the scope of the Nature Protection Directorate, which is in charge of administrative and technical activities, and the Directorate for Inspection Affairs (Nature Protection Inspections Sector), which is in charge of inspections. Within the Nature Protection Directorate, the Protected Areas, Geodiversity and Ecological Network Protection Service has been established, along with the Biodiversity and Strategic Affairs Sector, under which operates the Environmental Protection Strategic Affairs Service. See Art. 3, points 5 and 6, Art. 8, Art. 9 of the Regulation on the internal organization of the Ministry of Environment and Nature Protection, Official Gazette, No. 10/14, 17/15. For more information on the structure of the Ministry, see <http://www.mzoip.hr/hr/ministarstvo/ustrojstvo-ministarstva.html>, <http://www.mzoip.hr/hr/priroda.html>, accessed: 16 March 2017.

<sup>25</sup> HAOP is a public institution founded by a Croatian Government ordinance and began operation on 17 September 2015. It performs environmental protection activities and was founded with the purpose of performing activities within the scope of public services. It was created by merging the Environmental Protection Agency and the State Institute for Nature Protection, and has taken over their scope of activities. See Regulation on the Establishment of the Croatian Agency for Environment and Nature, Official Gazette, No. 72/15. For more information, see <http://www.haop.hr>, accessed: 17 March 2017.

<sup>26</sup> Regarding the jurisdiction of counties and establishment of administrative bodies, see Art. 20 and Art. 53, para. 1 of the Law on Local and Regional Self-Government, Official Gazette, No. 33/01, 66/01, 129/05, 109/07, 125/08, 36/09, 150/11, 144/12, 19/13, 137/15.

4) Public institutions<sup>27</sup> for managing national parks and nature parks designated by RC (Croatian Government ordinance) and public institutions for managing<sup>28</sup> other protected areas and/or parts of nature designated by the local or regional government (decision).<sup>29,30</sup>

#### **4. Special administrative procedure in accordance with the Nature Protection Act – natural resources management plan and issuing requirements for nature protection**

First of all, it should be noted that definitions of the concepts “natural resources” (hereinafter: NR), “management plan” (hereinafter: MP), and “protected areas”<sup>31</sup> are provided in Art. 9. para. 37, 28, 50 of the NPA.<sup>32</sup> In relation to the use of NRs, there are provisions defining how their use is administered on the basis of MPs. The aforementioned MPs of NRs contain nature protection requirements. In the process of drafting MPs of NRs, right-holders or plan-makers are required to obtain<sup>33</sup> nature protection requirements from the MEPE, issued in the form of decisions.<sup>34</sup> This is a case of initiating<sup>35</sup> an administrative procedure upon request<sup>36</sup> of a party. In the procedure of issuing decisions on nature protection requirements, the *State Institute for Nature Protection* (hereinafter: SINP), at the request of MEPE, draws up an expert base proposal.<sup>37</sup> MEPE must issue a decision within 60 days<sup>38</sup> of receipt of an orderly<sup>39</sup> request. In case MEPE fails to issue a decision within the prescribed time-limit (“administrative silence”), this is an exception to the negative presumption rule, because nature protection requirements are considered issued in this situation.<sup>40</sup> In case of a negative administrative action (denied or rejected request), or in case the

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<sup>27</sup> In Croatia, there are currently 19 public institutions on the national level, 21 on the county-level, and 6 on the local level. For more details, see: [http://www.dzpp.hr/upravljanje-zasticenim-podrucjima/javne-ustanove-za-upravljanje-zasticenim-podrucjima-306.html](http://www.dzpp.hr/upravljanje-zasticenim-podrucjima/javne-ustanove-za-upravljanje-zasticenim-podrucjima/javne-ustanove-za-upravljanje-zasticenim-podrucjima-306.html), accessed: 20 March 2017.

<sup>28</sup> Protected areas are managed on two levels – national and county-level, and they are usually designated by the Croatian Parliament, the Croatian Government, and the county or city government of the City of Zagreb.

<sup>29</sup> On founders and founding documents of public institutions, see Art. 7 and Art. 12 of the Law on Institutions, Official Gazette, No. 76/93, 29/97, 47/99, 35/08.

<sup>30</sup> The establishment of public institutions for managing protected areas is regulated by Art. 130 of the NPA. Activities that fall under the scope of these public institutions are considered public services. See Art. 131, para. 2 of the NPA.

<sup>31</sup> These are regulated by Art. 112-120 of the NPA. The designation procedure for individual categories of protected areas and the competent bodies involved in the procedure are defined in Art. 123-127 of the NPA.

<sup>32</sup> The International Union for Conservation of Nature defines a protected area as: “A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”; <http://www.dzpp.hr/zasticena-podrucja/sto-je-zasticeno-podrucje/sto-je-zasticeno-podrucje-246.html>, accessed: 22 March 2017.

<sup>33</sup> It should be noted that the obligation to obtain nature protection requirements from Art. 20, para. 2 of the NPA apply to obtaining nature protection requirements for composing MPs of NRs regardless of whether or not the MP of NRs applies to a protected area.

<sup>34</sup> Decision of Ministry of Environmental and Nature Protection, Nature Protection Directorate, Class: UP/I 612-07/16-71/58, Reg. No.: 517-07-2-2-16-4, Zagreb, from 29 March 2016; Decision by the Ministry of Environmental and Nature Protection, Nature Protection Directorate, Class: UP/I 612-07/16-71/195, Reg. No.: 517-07-2-2-16-4, Zagreb, from 7 June 2016; Decision by the Ministry of Environmental Protection and Energy, Class: UP/I 612-07/17-71/20, Reg. No.: 517-07-2-2-17-3, Zagreb, from 20 March 2017.

<sup>35</sup> Methods of instituting administrative proceedings are regulated by Art. 40 of the ADA. Regarding initiating proceedings at a party's request see Art. 41 of the ADA.

<sup>36</sup> The contents of the application are defined in Art. 20, para. 3 of the NPA. Pursuant to Art. 71, para. 1 of the ADA, the application is filed as a submission. Elements and procedures of filing submissions are defined in Art. 71, para. 2 and 3 of the ADA.

<sup>37</sup> The contents of the expert base proposal are defined in Art. 20, para. 4 of the NPA.

<sup>38</sup> Cf. Art. 20, para. 5 of the NPA and Art. 101, para. 1 and 2 of the ADA (decision deadlines are 30 and 60 days).

<sup>39</sup> An application is deemed orderly if it is filed before a competent public law body within the specified time-limit and contains all elements required to institute a procedure. See Art. 72, para. 1 and Art. 73 of the ADA..

<sup>40</sup> Cf. Art. 20, para. 5 of the NPA and Art. 102, para. 1 of the ADA.

action is not finalized within the specified time-frame, the party can achieve legal protection by filing a claim<sup>41</sup> in an administrative dispute before the competent administrative court<sup>42</sup>. The decision thus becomes executive and cannot be appealed in an administrative procedure. However, an administrative dispute may be initiated before the competent administrative court according to the complainant's seat or residence<sup>43</sup> within 30 days.<sup>44</sup>

## **5. Case-law analysis of administrative courts in the Republic of Croatia in disputes assessing the legality of administrative actions concerning nature protection**

The aim of this paper was to present and analyze the case law of first-instance administrative courts<sup>45</sup> in the Republic of Croatia in disputes<sup>46</sup> concerning the legality of individual decisions<sup>47</sup> of public law<sup>48</sup> bodies in the area of nature protection. MEPE is the competent public law authority (previously: Ministry of Environmental and Nature Protection) in administrative procedures of deciding and resolving administrative matters concerning nature protection and making individual decisions in accordance with the NPA, and it is also the respondent in an administrative dispute. The administrative case-law analyses in first-instance administrative disputes concerning the application of NPA refer to the period from 1 January 2012<sup>49</sup> to 31 January 2016. Review and analysis of available administrative-law cases has shown that disputes before administrative courts have in most cases ended with judgments<sup>50</sup> rejecting the party's claim<sup>51</sup> as ungrounded.<sup>52</sup> Similarly, but in fewer cases, the disputes ended with judgments accepting<sup>53</sup> the claim and annulling the respondent's decision after pronouncing it unlawful, and the case was sent back for retrial.<sup>54</sup>

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<sup>41</sup> The application may be filed directly with the competent administrative court in writing, orally (on the record), or by regular mail or e-mail. For more information, see Art. 25, para. 1 of the ADA.

<sup>42</sup> Pursuant to Art. 12, para. 2 of the ADA (right of parties to legal remedy). See also Art. 3, para. 1 and 3 (subject matter of the dispute), Art. 12, para. 2, points 1 and 3 (jurisdiction of administrative courts) of the ADA.

<sup>43</sup> See Art. 13 of the ADA.

<sup>44</sup> Time-limits in administrative proceedings are defined in Art. 24 of the ADA. The time-limit for appealing an individual decision by a public law body is 30 days from the date of receipt of the disputed decision. See Art. 24, para. 1 of the ADA.

<sup>45</sup> The structure of administrative proceedings encompasses two instances in the Republic of Croatia, since 1 January 2012. First-instance courts are located in Zagreb, Rijeka, Split and Osijek, and the High Administrative Court is located in Zagreb. See Art. 14, para. 3, Art. 15, para. 2, Art. 22 of the Judiciary Act, Official Gazette, No. 28/13, 33/15, 82/15, 82/16. See Art. 12, para. 1 of the ADA. For seats and jurisdictions of administrative courts, see Art. 9 of the Law on Territorial Jurisdiction and Seats of Courts, Official Gazette, No. 128/14. See also Art. 12, para. 2 of the ADA.

<sup>46</sup> Which may be requested via an application to institute an administrative dispute, see Art. 22, para. 2 of the ADA.

<sup>47</sup> Given that this concerns issuing decisions in administrative procedures, the application may be filed before a competent administrative court to assess the legality of the decision (individual decisions by a public law authority/administrative action). See Art. 3, para. 1 of the ADA (the subject of the administrative dispute).

<sup>48</sup> For a list of bodies considered public law authorities in administrative procedures and administrative disputes, see Art. 1 of the GAPA and Art. 2, para. 2 of the ADA.

<sup>49</sup> Enter into force of the (new) ADA.

<sup>50</sup> See Judgment of the Administrative Court in Rijeka, case number: 10 UsI-936/15-18, from 6 March 2017; Judgment of the Administrative Court in Split, case number: 3 UsI-141/12, from 14 November 2012; Judgment of the Administrative Court in Osijek, case number: UsI-744/12-11, from 29 October 2012.

<sup>51</sup> Art. 57 of the ADA list reasons for rejecting a dispute claim as ungrounded.

<sup>52</sup> For an example of a case before the European Court of Human Rights concerning the application of the NPA, see *Stephen Ogden v. Croatia* (judgment from 10 February 2015, application No. 27567/13).

<sup>53</sup> Art. 58, para. 1 of the ADA.

<sup>54</sup> In a case against the respondent MEPE, regarding the construction of a utility building, the decision was annulled and the case was returned to the respondent for retrial. In this case, in order to deny the legality of the respondent's decision refusing the complainant's request, the court determined and decided that, prior to issuing the disputed decision; the respondent did not properly assess all relevant facts that could affect a lawful decision. Similarly, the court presented its interpretations and remarks which are binding for the complainant and which the complainant



The new ADA from 2012 insisted on full-jurisdiction disputes in which the courts independently decide on rights, obligations or legal interests of the party.<sup>55</sup> Accordingly, when an individual decision is ruled unlawful, it is the lawmaker's intention to prevent or reduce the number of cases returned for retrial to the public-law authority whose decision was annulled. The aforementioned has been suggested in order to avoid drawn-out proceedings and back-and-forth between the public-law authority and the administrative court. Therefore it is important to mention that, in disputes concerning nature protection, the court is exempted from independent jurisdiction, because the nature of the administrative case prevents it.<sup>56</sup> In relation to natural resource management plans containing requirements for nature protection in the form of a decision, case-law has shown the importance for the complainant to determine whether the expert base proposal was requested to be made by SINP on request by MEPE. Furthermore, it is important to ascertain that everything was done in accordance with professional standards. The court has no professional expertise required to evaluate expert base proposals in this specific area, and independent evaluation may be ordered to determine whether the expert base proposal stands up to professional and scientific standards. Case-law has shown that parties did not request this, which brings us to note the importance of the complainant's initiative in requesting facts to be established before deciding on the legality of MEPE's decision. Based on case-law data and decisions of Croatian administrative courts in disputes against MEPE in accordance with the NPA, we conclude that, in most cases, MEPE adequately and fully determined the facts and made the appropriate conclusion in a lawfully conducted procedure, with due application of substantive law, and that the complainant's claims did not question the legality of disputed individual judgments or decisions. Compared to other administrative courts in Croatia, the administrative court in Osijek has rejected by a decision the highest number of applications.<sup>57</sup>

## 6. Conclusion

Analysis of the legislative framework regulating the system for protection of nature and protected areas in Croatia has shown the importance and significance of this area, regulated by constitutional provisions, laws and bylaws, and aligned with a number of sources of European law. Furthermore, we identified a large number of individual competent bodies responsible for nature protection and related to managing protected areas and conducting public-service activities. These include public institutions, agencies, institutes, units of local and regional government, and central government authorities, with the latter represented by MEPE. Next, after analyzing the specifics of the special administrative procedure for managing natural resources and issuing decisions on requirements of nature protection according to the NPA and in alignment with the provisions of the GAPA, it can be determined whether the procedural provisions of the NPA are aligned with the basic provisions of the GAPA.

By reviewing the concrete practice of MEPE on the basis of decisions and judgments of administrative courts in Croatia concerning protected areas, and according to the NPA, we established that most disputes ended in rejection of applications and returning the case for retrial and thus initiating a new administrative procedure. The aforementioned may be taken as indicative of the legality of MEPE's decisions in the cases analyzed. Likewise, considering the fact that the court has no expertise to evaluate the expert base proposal drawn up by SINP at MEPE's request, and given the nature of the administrative case, we conclude that it did not

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needs to observe in the event of a new decision procedure. Judgment of the Administrative Court in Rijeka, Case No. 1 UsI-408/14-13, from 17 January 2017.

<sup>55</sup> For details on what a party may demand by filing a dispute, see Art. 22, para. 2 and 3 of the ADA.

<sup>56</sup> See Art. 58, para. 1 and 3 of the ADA.

<sup>57</sup> Out of a total of ten cases, nine were concluded with the decision to reject the application for annulment of MEPE's decision.



choose to independently make final judgments on the administrative matter within the given administrative-court instance.

Therefore, disputes providing court protection in procedures of managing protected areas have revealed the role of Croatian administrative courts as the safeguard of rights and legal interests of natural and legal persons through the process of administrative judicial review, which identifies potential mistakes that need to be corrected by reissuing the decision. This improves procedural discipline, including recognition of the legally binding nature of court decisions and respecting the opinions and legal interpretations that an administrative court expressed regarding an application in a particular case.

## REFERENCES

### Laws and regulations

- Administrative Disputes Act, Official Gazette, No. 20/10, 143/12, 152/14, 94/16, 29/17
- Charter of Fundamental Rights of the European Union, 2007/C 303/01, OJ C 303, 14.12.2007, p. 1-16, <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=celex%3A12007P>, (accessed 13 March 2017)
- Constitution of the Republic of Croatia, Official Gazette, No. 56/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, Official Journal of the European Union L 206, 22.7.1992., p. 7-50, [http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.L\\_.1992.206.01.0007.01.ENG&toc=OJ:L:1992:206:TOC](http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.L_.1992.206.01.0007.01.ENG&toc=OJ:L:1992:206:TOC), (accessed 17 March 2017)
- Convention on Biological Diversity, CBD, Official Gazette-International Agreement, No. 6/96, [http://narodnenovine.nn.hr/clanci/medunarodni/1996\\_05\\_6\\_39.html](http://narodnenovine.nn.hr/clanci/medunarodni/1996_05_6_39.html), (accessed 12 March 2017)
- Declaration on Environmental Protection in the Republic of Croatia, Official Gazette, No. 34/92
- Directive 2009/147/EC of The European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, Official Journal of the European Union L 207, 26.1.2010., p. 7-25, [http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.L\\_.2010.020.01.0007.01.ENG&toc=OJ:L:2010:020:TOC](http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=uriserv:OJ.L_.2010.020.01.0007.01.ENG&toc=OJ:L:2010:020:TOC), (accessed 17 March 2017)
- General Administrative Procedure Act, Official Gazette, No. 47/09
- Law on Institutions, Official Gazette, No. 76/93, 29/97, 47/99, 35/08
- Law on Local and Regional Self-Government, Official Gazette, No. 33/01, 66/01, 129/05, 109/07, 125/08, 36/09, 150/11, 144/12, 19/13, 137/15
- Law on the Organization of Ministries and Other Central Government Bodies, Official Gazette, No. 93/16, 104/16
- Law on Territorial Jurisdiction and Seats of Courts, Official Gazette, No. 128/14
- Judiciary Act-Law on Courts, Official Gazette, No. 28/13, 33/15, 82/15, 82/16
- Nature Protection Act, Official Gazette, No. 80/13
- Regulation on the establishment of the Croatian Agency for Environment and Nature, Official Gazette, No. 72/15
- Regulation on the internal organization of the Ministry of Environment and Nature Protection, Official Gazette, No. 10/14, 17/15

Treaty on European Union and Treaty on the Functioning of the European Union, 2016/C 202/01, OJ C 202, 7.6.2016, p. 1–388, <http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A12016ME%2FTXT>, (accessed 13 March 2017)

### **Decisions of the Ministry of Environmental Protection and Energy**

Decision of Ministry of Environmental Protection and Nature, Department for Nature Protection, Klasa: UP/I 612-07/16-71/195, Ur. broj: 517-07-2-2-16-4, 7 June 2016

Decision of Ministry of Environmental Protection and Nature, Department for Nature Protection, Klasa: UP/I 612-07/16-71/58, Ur. broj: 517-07-2-2-16-4, 29 March 2016

Decision of Ministry of Environmental Protection and Energy, Klasa: UP/I 612-07/17-71/20, Ur. broj: 517-07-2-2-17-3, 20 March 2017

### **Administrative Courts of Republic of Croatia-Case law**

Judgment of the Administrative Court in Osijek, UsI-744/12-11, of 29 October 2012

Judgment of the Administrative Court in Rijeka, 10 UsI-936/15-18, of 6 March 2017

Judgment of the Administrative Court in Rijeka, 1 UsI-408/14-13, of 17 January 2017

Judgment of the Administrative Court in Split, 3 UsI-141/12, of 14 November 2012

### **Documents**

EU Biodiversity Strategy to 2020, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0244>, (accessed 12 March 2017)

The draft proposal of the Strategy and Action Plan for the Protection of Nature of the Republic of Croatia, Government of the Republic of Croatia, September 2015, p. 1-100,

<https://vlada.gov.hr/UserDocsImages/Sjednice/2015/253%20sjednica%20Vlade//253%20-%209b.pdf>, (accessed 15 March 2017)

The EU Environmental Implementation Review Country Report-Croatia, European Commission, Bruxelles, 3.2.2017., SWD (2017) 45 final, p. 1-27,

[http://ec.europa.eu/environment/eir/pdf/report\\_hr\\_hr.pdf](http://ec.europa.eu/environment/eir/pdf/report_hr_hr.pdf), (accessed 12 March 2017)

The final proposal of the Nature Protection Act, P. Z. E. br. 301, Klasa: 022-03/13-01/04, Ur. broj: 50301-05/20-13-12, 18 April 2013, <http://www.sabor.hr/Default.aspx?art=54038>, (accessed 12 March 2017)

The Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia, Official Gazette, No. 143/08, [http://narodne-novine.nn.hr/clanci/sluzbeni/2008\\_12\\_143\\_3962.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2008_12_143_3962.html), (accessed 13 March 2017)

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**TOWARD CIRCULAR ECONOMY – IMPACT AND LEGAL  
REGULATION – EXAMPLE OF CROATIAN PLASTIC PACKAGING  
PRODUCER**

**POSTIZANJE KRUŽNOG GOSPODARSTVA – UTJECAJ I PRAVNA  
REGULATIVA – PRIMJER HRVATSKOG PROIZVOĐAČA PLASTIČNE  
AMBALAŽE**

**ABSTRACT**

*The idea of circular economy is becoming imperative concept that deals with waste and waste management all over the world. The circular economy represents approach needed for increasing world prosperity while at the same time reducing demand for the raw materials and minimizing negative implications. Circular economy is strongly connected with environment protection and creates savings for the companies which can create and sustain competitiveness on the market.*

*Environment protection is becoming increasingly important and it is part of European Union policies toward better use of natural resources and better waste management. We have witnessed proposing and approving of several EU policies and regulative regarding use of plastic materials in packaging, as one of the main parts of circular economy waste management, and use of recycled materials.*

*The paper analyses legal regulation of waste management in European Union and the Republic of Croatia. Paper will give example of Croatian plastic producer and how it has approached to the waste management and introduced partial circular economy in his production of plastic bottles and closures.*

*As conclusion, we will give recommendations for further research about circular economy in Croatia and it influence on environment and national economy.*

**Key words:** *circular economy, waste, regulation of waste management, Croatia, recycling.*

## SAŽETAK

*Ideja kružnog gospodarstva postaje sve značajniji koncept koji se bavi otpadom i upravljanjem otpadom diljem svijeta. Kružno gospodarstvo predstavlja pristup za povećanje svjetskog napretka uz istovremeno smanjivanje potrebe za sirovinama i minimiziranje negativnih posljedica. Ono je značajno povezano sa zaštitom okoliša te omogućava uštede tvrtkama koje stvaraju i povećavaju konkurentnost na tržištu.*

*Zaštita okoliša postaje sve značajnija i dio je politika Europske unije prema učinkovitijem korištenju prirodnih resursa i boljeg gospodarstvu otpadom. Svjedoci smo predlaganja i usvajanja nekoliko politika Europske unije kao i propisa koji se odnose na upotrebu plastičnih materijala za pakiranje te gospodarjenje otpadom i upotrebu recikliranih materijala kao jednim od glavnih dijelova kružnog gospodarstva.*

*Rad analizira pravnu regulativu gospodarjenja otpadom u Europskoj uniji i Republici Hrvatskoj te daje primjer hrvatskog proizvođača plastične ambalaže. Primjer pokazuje kako je proizvođač pristupio gospodarstvu otpadom te djelomično uveo kružno gospodarstvo u vlastitoj proizvodnji plastičnih boca i čepova.*

*Kao zaključak dat ćemo preporuke za daljnja istraživanja o kružnom gospodarstvu u Republici Hrvatskoj i njegovom utjecaju na okoliš i nacionalnu ekonomiju.*

***Ključne riječi:*** kružno gospodarstvo, otpad, regulacija gospodarjenja otpadom, Republika Hrvatska, recikliranje

### 1. Introduction

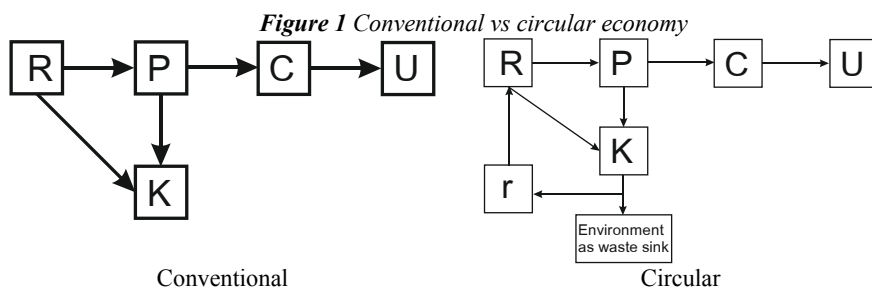
Use of different resources is significantly growing around the world and this growth is being accelerated during last ten years (Schaffartzik et. al, 2014). Relation between industry and environment is very important for both sides since the start of the industrial age. Increasing worldwide trade of different materials needed for production (plastics, chemicals, oil, etc.) continuously is releasing different dangerous substances to environment and those substances are bringing risks to nature and humans. Recently there is increased attention about impact industry has on environment and how to efficiently introduce waste management that will help both environment and companies.

Paper investigates circular economy as a new way of co-operation between environment and economy and it gives definition and emphasizes its importance. Although there are many different resources that can be and are being part of circular economy, paper looks upon plastic material used in packaging as one of the materials needed to be recycled and put into second life. We examine legal regulation related to waste management in European Union and the Republic of Croatia. Paper gives example of one Croatian plastic bottles and closures producer and its partial use of circular economy. In the last part, we are giving conclusion and proposal for further research.

### 2. Circular Economy

Worldwide, we are witnessing a growing interest about security of resources significant for future countries' and companies' flexibility and competitiveness. This approach needs an ultimate reconsideration on the function and the role which resources have in today's economy. Concept of the circular economy has its roots in the industrial ecology which stresses minimization of resources use and more use of cleaner technologies (Andersen, 2007). Concept was developed in 1960-ties (Boulding, 1966) but for the first time it was presented by Turner, Pearce and Bateman (1994). It emphasizes importance and potential benefits recycling of waste material can have for different industries (Jacobsen, 2006) and involves altering industrial

organisations along the line and recognizing the efficiency of recycling resources (Graedel, 1995). Idea and use of the circular economy is becoming mainstream concept since *circular economy advocates returning of used resources that would otherwise become waste back into economy* (Velis, 2015:389). In this concept waste becomes another transitional phase and a potential step in ideal continuous exploitation cycle of resources. The concept of circular economy is more characterized, than defined today, as *economy that is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles.* (Ellen MacArthur Foundation, 2015:5)



Source: adapted from Andersen, 2007

Today’s conventional economic system is open-ended (Figure 1) and it presents relation between production (P), consumer goods (C) and capital goods (K). Final purpose of consumption is creation of utility (U). Even natural resources (R) are sometimes considered within linear viewpoint. Difference between conventional and circular economy is in the point where relationship between waste residuals and resources is taken into the consideration. In the circular economy, system recycling (r) converts back to resources a part of the waste (W) while other parts cannot be converted due to the missed opportunities and basic laws of physics. (Andersen, 2007). Lieder and Rashid (2016) introduced framework for the circular economy which is based on three perspectives and their relationship. Economic benefits are seen in companies’ activities toward increasing competitively and profitability and this can be achieved through approach toward product design, design of supply chains, material’s choice, and company’s business model. Second perspective is based on the resource scarcity that influences circular economy realization and re-use of resources. This perspective is stressing characteristics related to resources circularity and volatility and material criticality. Final, third perspective is based on the impact environment has in the circular economy. Circular economy goal is to reduce landfills, emissions, and solid waste with recycling, remanufacturing and re-use of materials. Also, it looks upon stakeholders like nations, governments, and society as whole.

Many international organizations and national governments (PRC 2008, EC 2012) are promoting switch to and use of the circular economy. Among them are Germany, Austria, Netherlands, and Japan which have to some extent developed and use different strategies compatible with the circular economy (Heck, 2016). However, circular economy in the most of cases is considered only as a better approach to improved waste management (Ghisellini, Cialani and Ulgiati, 2016). However, it is important to state that the changeover to a circular economy needs new collaboration mechanisms which will bring together stakeholders along the value chain and not only technical developments for better use of resources.

### 2.1. Why is there a need for circular economy in plastic production value chain?

Among many resources which can be part of the circular economy and introduced again into production we have chosen plastic materials. When we say plastic material, it is important to

state that this is not one single material. So-called plastics family is made of huge variety of materials that are created for different use in numerous final products .As final products evolve and change, plastic material is also evolving so there are many more different and new plastic materials still coming. Plastics have become the universal material of today's economy. It combines unequalled functional characteristics with the low cost and this has resulted with a significantly increased use and production worldwide.

In 1960-ties plastic material production was around 15 million tones and in 2015 it was over 320 million tonnes (Eurostat, 2016). These figures are expected to be doubled by 2035. Europe is the second largest producer of plastics after China and it produces 18,5% of world's thermoplastics and polyurethanes (Plastics Europe, 2016). Plastics industry in European Union has over 340 billion EUR turn-over, employs over 1,5 million people in more than 60.000 companies which are mostly small and medium size entrepreneurs (Eurostat, 2016). These numbers include plastics raw material producers, plastic converters and plastic machinery producers. European plastics industry was 7<sup>th</sup> in Europe measured by gross value added at factory prices in 2012 and it was at the same level as the pharmaceutical industry. Demand for the plastic material in Europe was almost 49 million tonnes in 2015. There is increasing demand for plastic material in several different sectors in Europe and the most important sector is plastic packaging materials. (Figure 2)

**Figure 2** Distribution of plastic demand in Europe across sectors and countries in %

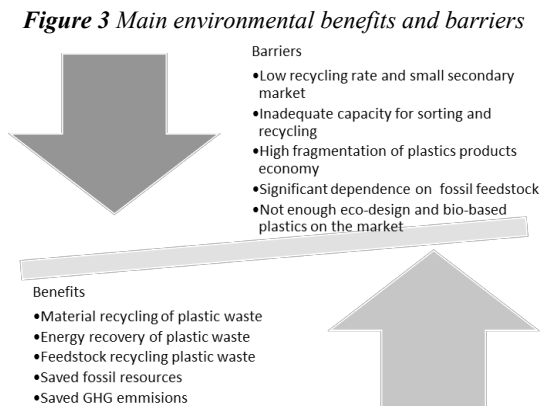


Source: adapted from *Plastics Europe, 2016*

Usage of plastics in packaging represents almost 40% of total demand for plastics in Europe. It is important to state that plastic and its different solutions have great effect on the economy and society (in job creation, value added of economic sectors). This is enabling innovation and growth associated with different technologies and products in various economic sectors. In the European Union, highest demand for the plastic material is in Germany (24,6%) followed by Italy (14,3%), France (9,7%), United Kingdom (7,7%) Spain (7,5%) and Poland. Other members of EU account 30% of total demand for plastic materials and among them is Croatia with 0,9% of total demand of 49 million tonnes in 2015. According to the Waste management plan in Croatia for period 2017 – 2022 (Official Gazette 3/17) there was more than 1.607.450 tons of production waste in Croatia. From this amount 1.523.538 tons was non-dangerous waste. Highest share of production waste comes from City of Zagreb (25%), Osijek-Baranja County (11%) and Istria County (11%).

Part of the answer why is there a need for the circular economy lays in the fact that in 2014 25,8 million tonnes of plastic waste entered waste stream out of which 69,2% was recovered through energy recovery process and recycling while 30,8% went to landfill. Although this number is still very high, it is important to stress that this presents decrease of 26% of plastics waste going to landfill from 2005 to 2012. European countries that have plastic materials landfill ban have higher recovery rate of such materials and that shows importance of legislation and research and

development focused activities on energy recovery and recycling processes. Plastic packaging materials receive new life with recycling no matter if they will be used for production of same or different products in same or different sector with reduction of resources and deterioration of the planet. Pilz (2015) identified main environmental benefits of plastics recycling and recovery as part of the circular economy while at the same time process of transition from conventional to circular economy in plastic sector faces several barriers (Plastics Europe, 2016). (Figure 3)



Source: adapted from Pilz, 2015 and Plastics Europe, 2016

As it is seen, main benefits from plastic waste recycling are in material, energy recovery and feedstock. Plastic packaging materials today have poor recyclability which is result of several barriers that are enabling transfer from conventional to circular economy in sector of plastic packaging materials. Thus, there is a need for activities from all stakeholders involved in production, use, collecting and recycling process in the plastic materials sector for further promotion of the circular economy. When plastic products are in question, recycling is the best option for them, since after recycling plastics can be used for manufacture of wide variety of new products. However, when this is not possible, energy recovery is the best alternative. Quantity of plastic materials that are not recycled in EU stresses importance of transferring to the circular economy for this material as soon as possible.

### 3. Legal regulation in European Union and the Republic of Croatia

One of the biggest environmental problems is, among others, inadequate waste management. Therefore, improving waste management is a major environmental challenge at international and national level. Waste management was underlined as a priority in the first EU Environmental Action Plan, adopted in 1972 and since that it has continued to be one of the priority areas. A waste policy in EU has a long history, it has begun with Council Directive of on waste oils (European Council, 1975) and series of other directives. On international level Basel convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal was adopted in 1989. Several directives have been adopted in late 90s. In 2006, Directive 75/442/EEC on waste has been codified – Waste Framework Directive (Directive 2006/12/EC). (European Parliament, 2006) This Directive was revised in 2008 - Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (European Parliament, 2008). It set basic concepts, definitions and principles regarding waste management.

Waste Framework Directive defines waste as *any substance or object which the holder discards or intends or is required to discard* (Art. 3, Point 1, European Parliament, 2008). The definition



of waste is a key term in protection of the environment. Therefore, it is necessary to clear distinct waste from non-waste in a production process context. In order to improve the legal certainty of waste legislation, and to make the definition of waste easier to understand and apply, the European Commission published Communication from the Commission to the Council and the European Parliament on the Interpretative Communication on waste and by-products (European Commission, 2007) which contains guidelines, based on the jurisprudence of the European Court of Justice about by-products in industry sectors on when by-products should or should not be considered as waste. Communication explains that industrial production processes can generate several different materials with different economic values, environmental impacts and waste/non-waste statuses. In some sectors, materials that are sold whilst being classified as wastes are traded freely amongst businesses throughout the internal market. In other sectors, such as the food and drink sector, *a clear distinction between waste and product is crucial to the economic exploitation of the material concerned.* (European Commission, 2007: 5) In environmental context it is also extremely important to correctly classify materials as waste or not. It should be also noted that *whether a material is a 'by-product' or a 'waste' has to be decided on a case-by-case basis.* (European Commission, 2012: 20) Current legislation despite of Waste Framework Directive consists of number of other directives, regulations and documents.

The European Union's approach to waste management is based on the "waste hierarchy" which sets the following priority order when shaping waste policy and managing waste at the operational level: *prevention, (preparing for) reuse, recycling, recovery and, as the least preferred option, disposal (which includes landfilling and incineration without energy recovery).* (European Commission, 2016)

In 2015 the European Commission adopted an ambitious Circular Economy Package (European Commission, 2015a). This package included different revised legislative proposals on waste which were intended for stimulation of Europe's transition towards a circular economy for boosting global competitiveness, fostering sustainable economic growth and generating new jobs in Europe. The Circular Economy Package consists of an EU Action Plan for the Circular Economy (COM/2015/0614 final) that establishes a concrete and ambitious programme of action, with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials. The Annex to the Action plan sets out the timeline when the actions will be completed. (European Commission, 2015b) In January 2017, the Commission reported on progress of this Action plan in which states that one of the key initiatives in 2017 will be a proposal of a *Plastic Strategy to improve the economics, quality and uptake of plastic recycling and reuse, to reduce plastic leakage in the environment and to decouple plastics production from fossil fuels.* (European Commission, 2017: 13)

Ensuring suitable implementation of Community legislation must be shared between the Member States and the Commission. Therefore, adequate national legislation also has important role in achievement of set tasks and goals. Waste management in the Republic of Croatia is regulated by Act on Sustainable Waste Management (OG, No. 94/2013), as well as numerous other regulations such as: Ordinance on waste management (OG, No. 23/2014, 51/2014, 121/2015, 132/2015), Ordinance on packaging and packaging waste (OG, No. 88/2015, 78/2016), Waste Management Strategy of the Republic of Croatia (OG No. 130/2005), Ordinance on by-products and end-of-waste status (OG No. 117/14) and Waste Management Plan for the Republic of Croatia for the period from 2017 to 2022 (OG No. 3/2017). Other special waste categories like waste textile and footwear, waste tyre, waste oil, waste batteries and accumulators, vehicles, medical waste, waste electrical and electronic equipment, construction waste and waste containing asbestos are regulated with additional regulations.

Act on Sustainable Waste Management defined waste as any substance or object which the holder discards or intends to or is required to discard. Act considers as waste any other object or substance whose collection, transport and treatment is necessary for protecting public interests (Art. 4 (1), item 35). It also distinguishes production waste which is waste that is generated during production processes in industry, crafts and other processes, excluding those production process residues which are used in the production processes of the same producer (Art. 4 (1), item 47). Ordinance of by-products and end-of-waste defines production residue as a *substance or object resulted from production process which is not considered as a product but as a by-product or waste*. (OG 111/14 Art. 3, item 14) For the purposes of this paper packaging waste should be also defined. As stated in Ordinance on packaging and packaging waste, packaging waste is packaging which is considered as waste in terms of the Act on Sustainable Waste Management, excluding residue materials resulting in the production of packaging (Art. 4 (1), item 17). The packaging manufacturer, according to Art. 8 (1) of mentioned Ordinance, is obliged to produce packaging, pursuant to best available technologies, that can be reused, recovered and/or recycled, in order to reduce the adverse effects of packaging and packaging waste on the environment to the lowest possible level.

Producer of the product from which the waste came or the waste producer bears the costs of waste management. (Art. 6 of Act on Sustainable Waste Management) Act on Sustainable Waste Management prescribes several obligations for product producers (see Art. 42), waste producers and other waste holders. A waste producer shall hand over its waste to a person carrying out waste management operations in accordance with Act (Art. 44 (1)), and exceptionally waste may be processed by the waste producer who carries out waste management operations himself, in accordance with the Act. (Art. 44 (2), item 1). Waste producer is obliged to: keep a Register of Waste Generation and Waste Streams for each type of waste (Art. 45 (1)), store his own waste, separately by type, in the storage space for its own produced waste at the point of its generation, in a manner which prevents any mixing and enables the treatment of such waste (Art. 47 (1)). The producer of a product generating a special category of waste shall, in favour of the Environmental Protection and Energy Efficiency Fund, pay a charge for the operation of the special waste management system (Art. 65.), as well as special waste management charge for that specific category of special waste (see Art. 74).

According to Art. 20 (1) of Ordinance on packaging and packaging, treatment of packaging waste in the Republic of Croatia is performed by legal or natural person - craftsman, which obtained necessary permit for waste management for treatment of packaging waste in accordance with the provisions of Act on Sustainable Waste Management. When there are no sufficient capacities in the Republic of Croatia for treatment of packaging waste material or residues after treatment of packaging waste, treatment facilities are obliged to export such waste or residues waste from the Republic of Croatia at their own expense. (Art. 20 (3))

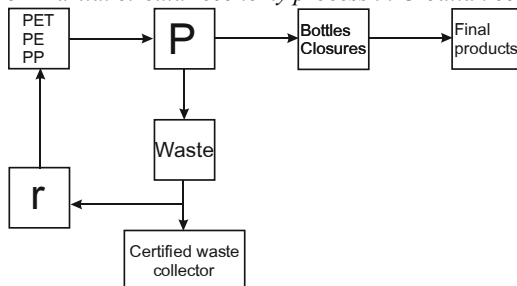
Listed definitions are quite complex, sometimes difficult to understand and the obligations of waste producers numerous. However, since it is important precisely to distinguish waste from what is not waste a quality legal framework is certainly important, both at the European and the national level.

#### **4. Circular economy – example from Croatia plastic bottles and closures producer**

Croatian plastic bottles and closures producer started its production in 1996. During the last two decades, company has invested significantly in machines for plastic bottles and closures production. Currently, they have 6 machines for production of Polyethylene terephthalate (PET) bottles (different shapes and sizes), 2 machines for polyethylene (PE) and polypropylene (PP) bottles (different shapes and size) and 2 machines for plastic closure production (different shapes and sizes). Production capacity is around 30 million bottles per year and almost the same number

of plastic closures. In the last three years, company has purchased more than 4,5 thousand tonnes of plastic material needed for production (68% PET, 23% PE and 9% ofPP). In the process of bottles and closures production, company has approximately 2% of waste material – approximately 90 tonnes of plastic material that needs to be taken care for. Company uses partial circular economy in its processes. (Figure 4)

**Figure 4** Partial circular economy process in Croatian company



Source: authors, 2017

After the production process waste material – products with inadequate quality, remains which are result of moulds changing, remains which are result of colour changes—are inspected. After the inspection, the waste which can be used will be recycled and put back into production of same or different products. In case it can't be used anymore it will be transferred to certified waste collector who will continue with recycling process of material. From the total quantity of waste, approximately 40% will be put back into the production and this is creating savings of 43.224,28 EUR (based on the average price 1,2 EUR/kg for new plastic granulate) since the company does not need to purchase a new material. For the remaining part of the waste, the company will receive around 5.500 EUR (based on the average price of 0,1 EUR/kg for waste material) from certified waste collector for sale of the waste. Certified waste collector will use the waste from producer in his production processes for production of new products. Because of the implemented partial circular economy in production process, the company can save approximately 50.000 EUR. This savings can be used for new material purchases or for some other activities of the company and with that it can help company in being better, cheaper, and more competitive in relation to its market rivals. It is obvious that implementation of the partial circular economy is beneficial for the environment as well. Additional benefit of this process can be seen in activities of the certified waste collector who has additional possibilities of putting waste material into new product life cycle.

## 5. Conclusion and recommendations for further research

Worldwide use of different resources have been accelerating during last decades and therefore the relationship between environment and industry is very important. Use of different materials needed for production is releasing risky materials to environment which can create problems for humans and nature. Concept of circular economy has its roots in the industrial ecology which stresses minimization of resources use and more use of cleaner technologies. It promotes returning of already used materials back to the economy which would otherwise become waste. For the circular economy waste represents another phase in potentially ideal exploitation of resource cycle. Although in most cases circular economy is considered only as a better waste management and thus changeover to circular economy requires mechanisms of collaboration which will unite all stakeholders in value chain.

Production waste accounts a significant share of the total waste. Waste disposal is also a great financial burden for each manufacturer so they are trying to reduce it as much as possible or

make use of it in the process of recovery or recycling. The European Union has recognized the importance of reducing waste to a minimum and therefore promotes a transition to a circular economy. For that reason, the European Commission adopted a Circular Economy Package in 2015. The Republic of Croatia has harmonized its legislation with the EU *acquis communautaire* and has created relatively quality legal framework that will certainly need to be amended according to European requirements. However, the problem remains since certain provisions and measures are not implemented in practice.

It is worth of commending the fact that many companies in the Republic of Croatia have modernized existing or have built new facilities for the recovery of waste, however, as it is indicated in the Waste Management Plan, some companies will definitely have to improve existing technologies, mechanisms for monitoring the quantity of produced waste packaging, as well as data on the efficiency of the recovery (recycling) and to improve systems for certain materials (e. g. packaging except beverage packaging). Presented case showed that companies which accepted circular economy in their production processes, even partially, can achieve savings in this processes and with that become better, nicer, cheaper and achieve competitive advantage in the market.

Since the circular economy is not researched in Croatia we propose further research about

- a) Influence of new legal regulations on adapting circular economy in Croatia
- b) Which benefits and obstacles companies in Croatia face in case they would like to implement circular economy
- c) Further research about use of circular economy in Croatia plastic bottles and closure producer.

## REFERENCES

Andersen, M.S. (2007): *An Introductory Note on the Environmental Economics of the Circular Economy*, Sustainability Science, Vol. 2, No. 1, pp. 133-140.

Boulding, K. (1966): *The Economy of the Coming Spaceship Earth*, in Daly, H. Freeman, W.H. (1980). *Economics, Ecology, Ethics: Essay Towards a Steady State Economy*, San Francisco

European Commission (2007): *Communication from the Commission to the Council and the European Parliament on the Interpretative Communication on waste and by-products*, (COM (2007) 59 final.

European Commission (2012): *Guidelines on the interpretation of key provisions of Directive 2008/98/EC on waste*. [http://ec.europa.eu/environment/waste/framework/pdf/guidance\\_doc.pdf](http://ec.europa.eu/environment/waste/framework/pdf/guidance_doc.pdf) (accessed 3 February, 2017)

European Commission (2015a): *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Closing the loop - An EU action plan for the Circular Economy - COM/2015/0614 final*.

European Commission (2015b): *Circular Economy Strategy*. <http://ec.europa.eu/environment/circular-economy> (accessed 2 February, 2017)

European Commission (2016): *Waste*. <http://ec.europa.eu/environment/waste/index.htm> (accessed 2 February, 2017)

European Commission (2017): *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Implementation of the Circular Economy Action Plan – COM (2017) 33 final*.

European Council (1975): *Council Directive 75/439/EEC of 16 June 1975 on the disposal of waste oils*.

European Parliament (2006): *Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste*, Official Journal of the European Union, L 114, 27. 4. 2006.

European Parliament (2008): *Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives*. Official Journal of the European Union, L 312, 22. 11. 2008.

Eurostat (2016): *Manufacturing statistics - NACE Rev. 2*, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Manufacturing\\_statistics\\_-\\_NACE\\_Rev.\\_2](http://ec.europa.eu/eurostat/statistics-explained/index.php/Manufacturing_statistics_-_NACE_Rev._2), (accessed 25 January, 2017)

Ghisellini, P., Cialani, C., Ulgiati, S. (2016): *A Review on Circular Economy: the Expected Transition to a Balanced Interplay of Environmental and Economic Systems*, Journal of Cleaner Production. Vol. 114, pp. 11-32.

Graedel, T.E., Allenby, B.R. (1995): *Industrial Ecology*, Prentice Hall, Englewood Cliffs, USA

Heck, P. (2006): *Circular Economy Related International Practices and Policy Trends: Current Situation and Practices on Sustainable Production and Consumption and International Circular Economy Development Policy Summary and Analysis*, Institute for Applied Material Flow Management (IfaS), Environmental Campus Birkenfeld

Jacobsen, N.B. (2006): *Industrial Symbiosis in Kalundborg Denmark: A Quantitative Assessment of Economic and Environmental Aspects*, Journal of Industrial Ecology, Vol. 10, No. 1–2, pp. 239–256.

Lieder, M., Rashid, A. (2016): *Towards Circular Economy Implementation: A Comprehensive Review in Context of Manufacturing Industry*, Journal of Cleaner Production. Vol. 115, pp. 36-51.

Plastics Europe (2016): *Plastics – the Facts 2016: An Analysis of European Plastics Production, Demand and Waste Data*, <http://www.plasticseurope.org/Document/plastics---the-facts-2016-15787.aspx?Page=DOCUMENT&FolID=2>, (accessed 20 January 2017)

People's Republic of China, (2008): *Circular Economy Law of the People's Republic of China*, [www.amchamshanghai.org/NR/rdonlyres/4447E575-58FD-4D8E-BB0F-65B920770DF7/7987/CircularEconomyLawEnglish.pdf](http://www.amchamshanghai.org/NR/rdonlyres/4447E575-58FD-4D8E-BB0F-65B920770DF7/7987/CircularEconomyLawEnglish.pdf), (accessed 14 January 2017)

Pilz, H. (2015): *The Potential for Plastic Packaging to Contribute to a Circular and Resource-Efficient Economy*, [http://denkstatt.at/wp-content/uploads/2016/06/presentation\\_the-potential-for-plastic-packaging-to-contribute-to-a-circular-and-resource-efficient-economy.pdf](http://denkstatt.at/wp-content/uploads/2016/06/presentation_the-potential-for-plastic-packaging-to-contribute-to-a-circular-and-resource-efficient-economy.pdf), (accessed 23 January 2017)

Plan gospodarenja otpadom Republike Hrvatske za razdoblje 2017. – 2022. godine (Waste Management Plan for the Republic of Croatia for the period from 2017 to 2022), Official Gazette No. 3/2017.

Pravilnik o ambalaži i otpadnoj ambalaži (Ordinance on packaging and packaging waste), Official Gazette No. 88/2015, 78/2016.

Pravilnik o nusproizvodima i ukidanju statusa otpada (Ordinance on by-products and end-of-waste status), Official Gazette No. 117/14.

Schaffartzik, A., Eisenmenger, S., Gingrich, A., Mayer, A., Krausmann, F., (2014): *The Global Metabolic Transition: Regional Patterns and Trends of Global Material Flows, 1950–2010*, Global Environmental Change, Vol. 26, pp. 87–97.

Turner, K., Pearce D., Bateman, I. (1993): **Environmental Economics**, The John Hopkins University Press: Baltimore, USA

Velis; C.A., (2015): *Circular Economy and Global Secondary Material Supply Chains*, Waste Management & Research, Vol. 33, No. 5, pp. 389–391

Zakon o održivom gospodarenju otpadom (Act on Sustainable Waste Management), Official Gazette, No. 94/2013.

## REALIZING OF INTELLECTUAL PROPERTY RIGHTS OSTVARIVANJE PRAVA NA INTELEKTUALNO VLASNIŠTVO

### ABSTRACT

*Protection of intellectual property is one of most compliant legal areas. This means that regulations on the protection of intellectual property in most countries of the world follow the same principle and differ only in nuances. Several international treaties governing the interstate aspects in the protection of intellectual property. The importance of intellectual property in today's modern society confirmed the existence of the World Intellectual Property Organization with headquarters in Geneva, which acts as a specialized agency under the auspices of the United Nations.*

*For the implementation of all forms of intellectual property in the Republic of Croatia is the State Intellectual Property Office, government body that carries out the procedures for the recognition of intellectual property rights, except in the part relating to the protection of geographical indications and appellations of origin for agricultural products and foodstuffs, as and the traditional specialty at the national level, of which the registration of the Ministry of agriculture and dealing with the accompanying professional and legislative activity. An important part of the activities of the Institute makes the information and service activities in the field of intellectual property is therefore possible to make a search of relevant databases concerning industrial property and acquire Croatian Intellectual Property Gazette, the official journal that contains information from the procedure for the award of industrial property rights and other official information*

*Purpose of this paper is to familiarize the participants of the symposium "Economy of the eastern Croatian - Vision and Growth" to the exercise of intellectual property rights in the Republic of Croatia as the Intellectual Property inevitable factor in the conclusion of business relationships that occur between their participants. Intellectual property is an important economic, but also legal factor in achieving them. Considering of the intensifying globalization and competitiveness on the world market, intellectual property is gaining in importance every day. Parallel to this, requests subjects of international trade relations for the protection of intellectual property rights became more demanding. From reasons of protection the subjects involved in the conclusion of business relations, it is necessary to know the intellectual property rights.*

**Key words:** *copyright, patent, trademark, geographical indications and appellations of origin, topographies of semiconductor products.*

### SAŽETAK

*Zaštita intelektualnog vlasništva jedno je od najusklađenijih pravnih područja. To znači da propisi o zaštiti intelektualnog vlasništva u većini država svijeta slijede ista načela, a razlikuju se samo u nijansama. Nekoliko međunarodnih ugovora uređuje međudržavne aspekte pri zaštiti intelektualnog vlasništva. Važnost intelektualnog vlasništva u današnjem modernom društvu potvrđena je postojanjem World Intellectual Property Organization (Svjetska organizacija za*



intelektualno vlasništvo) sa sjedištem u Genevi koja djeluje kao specijalizirana ustanova pod patronatom Ujedinjenih naroda. Za provedbu svih oblika intelektualnog vlasništva u Republici Hrvatskoj nadležan je Državni zavod za intelektualno vlasništvo, tijelo državne uprave koje provodi postupke za priznanje prava intelektualnog vlasništva, osim u dijelu koji se odnosi na zaštitu oznaka zemljopisnog podrijetla i oznaka izvornosti za prehrambene i poljoprivredne proizvode, kao i oznaku tradicionalnog ugleda na nacionalnoj razini, čiju registraciju provodi Ministarstvo poljoprivrede te se bavi pratećom stručnom i zakonodavnom djelatnošću. Važan dio djelovanja Zavoda čini i informacijska i servisna djelatnost iz područja intelektualnog vlasništva pa je stoga moguće izvršiti pretraživanje relevantnih baza podataka u vezi industrijskog vlasništva i nabaviti Hrvatski glasnik intelektualnog vlasništva, službeno glasilo koje sadrži informacije iz postupka dodjele prava industrijskog vlasništva i ostale službene informacije. Svrha ovog rada je upoznati sudionike simpozija "Gospodarstvo istočne Hrvatske – Vizija i razvoj" s ostvarivanjem prava na intelektualno vlasništvo u Republici Hrvatskoj jer je intelektualno vlasništvo neizbježan čimbenik pri sklapanju poslovnih odnosa koji se javljaju između njihovih sudionika. Intelektualno vlasništvo je važan gospodarski, ali i pravni čimbenik u njihovom ostvarivanju.

**Ključne riječi:** autorsko pravo, patent, žig, zemljopisno podrijetlo, topografija poluvodičkih proizvoda.

## 1. Introduction

Intellectual property is a collective name for the ownership of the results of man's creative mind, it relates to inventions, literary and artistic works, as well as a variety of distinctive signs, ie, product design and names that are used for commercial purposes<sup>1</sup>. Although it refers to intangible property, intellectual property entitles the holder of copyright or patent, trademark, industrial design and another that has this right as a material property and so to benefit from his intellectual labor and investment. State administrative act recognizes the exclusive right (some sort of monopoly) on the use and disposal of intellectual creations creativity protected by special laws for any form of industrial property.

Intellectual property in the broadest sense means a set of rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields<sup>2</sup>. Member protect intellectual property for two main reasons. The first is to provide legal protection through the preservation of the moral and economic rights of authors over their creations and to allow the public access to them. The second is to promote, as a deliberate act of government policy, creativity and development programs should promote fair competition and thus participate in economic and social development.

The ideas and their practical application, intellectual property, may be something most valuable thing an individual, economy or society can have<sup>3</sup>.

This means that the property has a huge impact on society as a whole. Exploitation of intellectual property helps to create new jobs, provide protection to those new products placed on the market

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1 Želinski-Matunec, Sanja (ur.): «Od ideje do profita – Vodič za inovatore – poduzetnike», Ministarstvo za obrt, malo i srednje poduzetništvo, Hrvatski savez inovatora, Zagreb, 2002., pp. 43.

2 «WIPO Intellectual Property Handbook», Second Edition, World Intellectual Property Organization, 2008., pp. 3.

3 Samaha, Joel: «Criminal Law, Tenth Edition», Wadsworth Cengage Learning, Belmont, 2011., pp. 408.

and, in general, affects the well-being of society, and this country seems more attractive for domestic and foreign investors.

On the other hand, failure to comply with intellectual property rights leaves behind a series of adverse consequences, such as deterring investors from potential investments, developments in crime, the loss of certain tax revenues and the stagnation of international trade. In the case of medical products, the consequences can be even more difficult because, as such, can have harmful effects on human health.

Today, the term intellectual property a lot of benefits, but still not enough clearly understood its meaning<sup>4</sup>. For many, it is only hidden legal concept irrelevant to daily life. However, intellectual property is a "driving force" of economic development and wealth creation, which is not in all countries underutilized. It is particularly the case in developing countries. Copyright protects original works of authorship, such as books, paintings, architectural works, songs, as well as computer programs. The legal protection of such works good for the development and flourishing of culture, industry, and technology-oriented activities based on computer programs and other technologies. Copyright related rights are protected by various objects: artistic performances, phonograms and videograms, and broadcasting shows, publications and databases. It should be noted that the ways in which copyright works and objects of related rights can exploit hard to enumerate, because of the diversity of the nature of certain types of works and objects of related rights, but also because of extremely large opportunities offered by the development of new technologies.

The impact of new technologies in creative economy includes the problem of access that implies the issues of intellectual property rights which are the most common copyright, patents, trademarks and design<sup>5</sup>. In the new conditions, when a symbolic production becomes the dominant mode of production, which is the end product physically intangible (or possibly recorded on a carrier, whose material value itself is not great), the ownership of these same content becoming dominant, especially when a large profit, and when the game included multinational corporations. On the other hand, questions the public domain, and the availability of (cultural) exchange are key dimensions of those problems. In light of the debate about excessive regulation of the digital sphere, one must ask whether the knowledge, information and creative input to become available only to those who will you be able to afford or will be available to everyone. Furthermore, as the authors / will be awarded for work in such conditions? How to resolve this dilemma in fluid conditions stemming due to the digitization process, becoming one of the key problems.

Patents, copyrights, trademarks and other products of the human mind, very often they are the objects of business relationships, but at the same time as a special form of property entered into traders or companies<sup>6</sup>. The use of these rights can enable economic growth, but also affect the national wealth of a country. Their placement often means the degree of success of their respective holders and owners. It should be pointed out that all products of the human mind formed in this way, very often factors unfair fight its competitors. Intellectual property rights (of course, and patents), its real significance given at the time when they are in traffic and become available to a larger number of subjects.

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4 Blažević, Borislav; Matanovac, Romana; Parać, Kamelija: «Gradanskoppravna zaštita autorskog prava i srodnih prava», Zbornik Hrvatskog društva za autorsko pravo, Volumen 5, Zagreb, 2004.

5 Primorac, Jaka: «Od nesigurnosti do nesigurnosti: rad i zaposlenost u kulturnim i kreativnim industrijama», Revija za sociologiju 1/2012.

6 Franjić S. Patent in Biomedicine. J Clin Trials Pat 2017;2(1): 6.

## 2. Internet

The development of new information and communication technologies and services based on them creates many benefits for individuals and economic operators<sup>7</sup>. Economic growth based on network connections and new online business models enabled the improvement of existing business processes and the creation and delivery of new online services and services such as Web 2.0 services, allowing users to self-creation, publication and dissemination and exchange of different content. Digitization, multimedia, broadband Internet and the development of online services and communication protocols, such as peer-to-peer (P2P) and other network technologies, have had a major impact on the software, music and film industry, opening the way for the emergence and development of the creative economy. The exponential growth offers mobile applications and improving the quality of audio and video recordings, as well as their offer with significantly lower prices and distribution costs, have led to a growing demand for such products and related mobile devices. Allow it to existing companies or new digital content offers on the markets which they have previously been available, and individuals to creatively express themselves and their creativity and meeting people around the world.

Although the emergence of the Internet has enabled the use of a multitude of useful information, the same phenomenon is practically at the same time enabling appearance of computer crime<sup>8</sup>. Modern information technology is very simple to use, and their prices is more accessible and is as such exposed to a variety of criminal activities. Computer crime today is a very serious global social problem, a appearance of the Convention on Cybercrime<sup>9</sup> also presents a serious world attempt a satisfactory resolution of this problem.

Daily increase in the number of those present on the Internet, the world is increasingly becoming a global information village<sup>10</sup>. The following are repealed spacious, regional, ethnic and other restrictions, and so the world has become a global community, and the Internet - Information superhighway! Internet has become the technological, social, economic, media, political but, among others, the legal phenomenon. Since at the present stage of development is not possible to achieve absolute security of information systems, it is necessary to provide an absolute and effective protection if there is abuse. This can only be possible coordination states that make up the global village.

## 3. Copyright and Related Rights

### 3. 1. Copyright - rights of authors to their works in the literary, scientific and artistic domain<sup>11</sup>

#### 3. 2. Related rights:

- a) the rights of performers in their performances,
- b) the rights of producers of phonograms to their phonograms,

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7 Dragičević, Dražen; Gumzej, Nina: «Odgovornost posrednika za povrede autorskog i srodnih prava na internetu», Zbornik radova Pravnog fakulteta u Zagrebu, 4/2012.

8 Šimundić, Slavko; Franjić, Siniša: «Računalni kriminalitet», Sveučilište u Splitu – Pravni fakultet, Split, 2009., pp. 19.

9 Zakon o potvrđivanju Konvencije o kibernetičkom kriminalu – NN MU 9/2002.

10 Šimundić, Slavko; Franjić, Siniša: Op. cit., pp. 18.

11 Zakon o autorskom pravu i srodnim pravima – NN 167/2003.; 79/2007.; 80/2011.; 125/2011.; 143/2013.; 127/2014.

c) the rights of film producers (producers of videograms) to their videograms;

d) the rights of broadcasting organizations in their broadcasts,

e) the rights of publishers to their publications,

f) the rights of producers of databases to their databases;

Copyright belongs, by its nature, a natural person who has created a copyright work.

The right of the performer belongs, by its nature, a natural person who carried out the work of literary or artistic fields or expressions of folklore.

The holder of other related rights may be any natural or legal person, unless otherwise specified.

Copyright and related rights may be against the will of their holders only under conditions and in the manner prescribed by law.

The subject of copyright may be any copyright work, except one, which can not be by its nature, and one for which the provisions of the Law on Copyright and Related Rights stipulates that can not be subject to copyright. The subject of copyright is the work as a whole, including an unfinished work, the address and the parts thereof which meet the requirements to be subject to copyright. The title of the work, which do not meet the prerequisites to be the subject of copyright, which is already used for certain work, can not be used for the work of the same type if it could cause confusion about the author.

Subject matter of copyright shall include expressions and not to ideas, procedures, methods of operation or mathematical concepts as such.

Not subjects of copyright:

1. discoveries, official texts in the domain of legislation, administration and judiciary (laws, regulations, decisions, reports, minutes, judgments, etc.) And other official works and their collections, which are published for the purpose of officially informing the public,

2. news and other news, having the character of mere items of press information.

National literary and artistic creations in their original form are not subject to copyright, but their communication to the public remunerative as the communication to the public of protected works. The fee is used for improving the artistic and cultural creativity predominantly commercial nature and cultural diversity in the respective artistic and cultural fields. Copyright includes moral rights, property rights and other rights of authors. Copyright law protects the personal and spiritual connection the author with his work (moral rights), economic interests of authors in respect of his work (economic rights) and other interests of the author in respect of his work (other rights of the author). For each use of the work the author is entitled to compensation.

#### **4. Patent**

A patent is the exclusive right protecting a patent owner in terms of economic exploitation of the invention.

Consensual patent is recognized for the invention whose subject is patentable, the subject of which not excluded from patentability and are industrially applicable in accordance with the Patent Act <sup>12</sup>.

A patent is granted for any invention in any field of technology, which is new, involves an inventive step and capable of industrial application. A patent is granted for an invention relating to:

1. the product, consisting of biological material or containing biological material,
2. the process by which the biological material is produced, processed or used,
3. biological material isolated from its natural environment or produced by a technical process, even if it previously occurred in nature.

Biological material means any material containing genetic information and capable of reproducing itself or being reproduced in a biological system.

The invention, which is related to plants or animals shall be patentable if the technical feasibility is not confined to a particular plant or animal variety and if the process of achieving the present invention is not essentially biological. Process for the production of plants or animals is essentially biological if it entirely consists of natural processes such as crossing or selection.

Are not considered inventions in particular:

1. discoveries, scientific theories and mathematical methods,
2. aesthetic creations,
3. the rules, instructions and methods for performing mental acts, playing games or doing business,
4. presentation of information and
5. computer programs.

The patent property right is geographically limited to the area of the legal jurisdiction under which it is registered <sup>13</sup>. For example, to gain protection in both the United States and Europe, the firm has to apply for and obtain patents in each area. Within the European Union the firm can either apply country by country or via the European Patent Office (EPO) for multicountry coverage; so to gain protection in the United Kingdom a firm could seek a patent via the U.K. Patent Office or the EPO. Some smaller countries still do not offer the opportunity to apply for a patent. Moves to get worldwide coverage of IPR systems are being made by the World Trade Organization (WTO) through the TRIPS provision, which requires those seeking membership of the WTO to comply with minimum standards in respect of their IPR systems.

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12 Zakon o patentu – NN 173/2003.; 87/2005.; 76/2007.; 30/2009.; 128/2010.; 49/2011.; 76/2013.

13 Greenhalgh, Christine; Rogers, Mark: "Innovation, Intellectual Property, and Economic Growth", Princeton University Press, Princeton, 2010., pp. 37.

Patent law requires that an invention be absolutely novel. In theory, each new patent should describe a system or method that has never existed before in any form on Earth<sup>14</sup>. Even though the patent system isn't ironclad, and everybody admits that many non-novel patents make it through the patent office, the PTO (Patent and Trademark Office) at least expends effort to try to find any systems, methods, or machines that are essentially equivalent to your patent claims. It does not matter if the prior system was properly appreciated or understood by its creator; if an equivalent prior system existed, your invention cannot be patented.

## 5. Trademark

As a mark can be protected by any sign capable of being represented graphically, particularly words, including personal names, designs, letters, numerals, the shape of goods or their packaging, three-dimensional shapes, colors and combinations of all of these characters, provided that suitable of distinguishing the goods or services of one undertaking from the goods or services of another undertaking.

Trademark is in the Republic of Croatia acquired by registration. For the purposes of the Trademark Act<sup>15</sup>, the term "registration" means the registration of a trademark in the trademark register kept by the State Intellectual Property Office.

A registered trademark gives the holder exclusive rights deriving from that mark. Holder shall be entitled to prevent all third parties not having his authorization in the course of trade:

1. any sign which is identical with his trademark in relation to goods or services which are identical with those for which the trademark is registered,
2. any sign where, because of its identity with or similarity to his stamp his trademark and the identity or similarity of the products or services covered by the trademark and the sign, there is a likelihood of confusion on the public, which includes the likelihood of association of the sign and the mark,
3. any sign which is identical with or similar to his stamp his trademark in relation to goods or services which are not similar to those for which the trademark is registered, where the trademark has a reputation in Croatia and where use of that sign without due cause takes unfair advantage of the distinctive character or reputation of the trademark, or is detrimental.

In this sense, the holder of a trademark may prohibit the following:

1. expiration the sign to goods or their packaging,
2. offering the product, or their placing on the market or stocking them for these purposes under that sign, or offering or providing services under the sign,
3. the import or export of products marked with this symbol,
4. using the sign on business papers and in advertising.

The rights conferred by the trademark shall be effective against third parties from the date of publication of the trademark registration.

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14 Lindberg, Van: "Intellectual Property and Open Source - A Practical Guide to Protecting Code", O'Reilly Media, Sebastopol, 2008., pp. 89.

15 Zakon o žigu – NN 173/2003.; 54/2005.; 76/2007.; 30/2009.; 49/2011.

Trade marks are seen as an important part of intellectual property law's role because they operate as an adjunct to the other intellectual property rights<sup>16</sup>. This enables exploitation of products, processes, designs and works. Trade marks do also play a role in the traditional function of intellectual property rights as they continue to act as a stimulus to innovation. Marks act cumulatively to other intellectual property protection, continuing the protection necessary for innovation after other intellectual property rights have expired.

Although trade marks confer a monopoly in the mark, they do not prevent competition in a particular type of product. Competitors are free, other intellectual property rights permitting, to market the same product and are only prevented from using the same or a similar mark to identify their product.

## **6. Industrial design**

In the context of intellectual property rights, an industrial design is meant aesthetic or outward appearance of a product<sup>17</sup>. This is what makes the product attractive or product to the taste of consumers. Visual appeal is one of the key features that influence the consumer's decision to opt for a particular product. Industrial design helps companies to distinguish between their own and competitive products, as well as to improve the image of its products. Therefore, it is also important to ensure adequate protection of industrial designs. Legal protection in the field of industrial design regulates Industrial Design Act<sup>18</sup>.

Design is no longer what happens after a product has been made, but the design must be included in the entire process of product development<sup>19</sup>. Therefore, the outputs of design in the industry must be mirrored in the very forms of industrial products and convincingly express the origin and final destination humanity design. Mentioned origin is reflected in the forms made in connection with the properties of the materials and techniques work. The unity of form of industrially manufactured items also be recorded and his internal system, economy of its production and use, and culture environment in which it originated and where it is intended. Humanity forms reflected in the adaptation of the product to man or in its compliance with environmental and physical characteristics, advanced concepts and emotions of the buyer.

## **7. Geographical indications and appellations of origin**

Geographical indication is the name of a geographical area or some other sign to indicate that a product or service comes from a certain geographical area, and that has a certain quality and characteristics that are attributed to this origin<sup>20</sup>.

A designation of origin is more specific form of protection, and also understands bit or exclusive influence of special natural and human factors specific geographical environment and resulting from that special quality and performance of the product or service.

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16 Colston, Catherine: "Principles of Intellectual Property Law", Cavendish Publishing Limited, London, 1999., pp. 31.

17 «Dopadljiv izgled», Uvod u industrijski dizajn za mala i srednja poduzeća, Svjetska organizacija za intelektualno vlasništvo, Institut za intelektualno vlasništvo BiH, Mostar, Sarajevo, Banja Luka, 2008., pp 1.

18 Zakon o industrijskom dizajnu - NN 173/2003.; 54/2005.; 76/2007.; 30/2009.; 49/2011.

19 Vedrina, Darinka; Horvatić, Klaudija; Smiljanić, Danijel; Lapaine, Božidar: «Pravna zaštita dizajnerskog stvaralaštva», Prostor, 1/1997.

20 www.dziv.hr



When designation of origin generally require that the production, preparation and processing of the products and services of which take place in the designated area.

Designation of origin may be, except that geographical areas or signs that a product or service comes from a certain geographical area, to protect the traditional geographical and non-geographical names used for the labeling of products or services originating from a specific region or place, if they meet the prescribed conditions.

Geographical indications and appellations of origin are protected as intellectual property in order to prevent their misuse or unauthorized use, given that they contribute more to the market value of products and services that meet their specific characteristics and thus acquired the reputation.

An effective system of protection of the designation used by consumers and the public at large, by promoting fair competition and good business practices. Protection of these marks and helps economic development, especially in rural areas, keeping the working age population and encouraging family farms in these areas, and the preservation and development of specific or traditional production and services.

The protection of geographical indications as intellectual property is realized by implementing the appropriate registration procedure codes carried out by a competent body. Once registered geographical indication or designation of origin may share all manufacturers of the designated areas, which meet the prescribed conditions. As a rule, requires user registration marks at the relevant competent authority.

Unlike other forms of intellectual property such as patent, trademark and industrial design, the national systems of law governing this area can vary considerably from country to country.

For products, the geographical indications and designations of origin is often used with a sign or logo of the manufacturer (which can be protected by a trademark), in order to simultaneously emphasized the individual character and a common feature of belonging products.

The Ministry of Agriculture is responsible for the implementation of the administrative procedure for the registration of geographical indications, designations of origin and traditional specialty agricultural products and foodstuffs, wines and spirits. The exercise of intellectual property rights in the field of geographical indications carried out on the basis of the Law on agriculture<sup>21</sup>. Ministry of Agriculture and State Intellectual Property Office work together on the realization of intellectual property rights in the field of geographical indications.

## **8. Topographies of Semiconductor Products**

For the purposes of the Act on the Protection of Topographies of Semiconductor Products<sup>22</sup>:

1. Semiconductor product means the final or intermediate form of any product:

- a) consisting of a material that includes a layer of semiconducting material, and
- b) having one or more other layers composed of conducting, insulating or semi-conducting material arranged in accordance with a predetermined three-dimensional pattern, and
- c) which is intended to perform an electronic function, solely or together with other functions.

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21 Zakon o poljoprivredi – NN 30/2015.

22 Zakon o zaštiti topografija poluvodičkih proizvoda – NN 173/2003.; 76/2007.; 30/2009.; 49/2011.

2. The topography of a semiconductor product shall mean a series of related images, however fixed or encoded in any way, and:

a) representing the three-dimensional pattern of the layers of which a semiconductor product is composed, and

b) in which series, each image has the pattern or part of the sample surface of the semiconductor product at any stage of its manufacture.

3. Commercial exploitation of topography means the sale, rental, lease or otherwise commercial distribution of the topography, including its offer for these purposes. The first commercial exploitation shall not include exploitation under conditions of confidentiality to the extent that no further distribution to third parties occurs.

In accordance with the provisions of the Law on the Protection of topographies of semiconductor products topography to protect exclusive rights if the result of their own intellectual effort of its creator and is not commonplace in the semiconductor industry. If the topography consists of elements that are conventional in the semiconductor industry, it protects only to the extent that the combination of such elements, taken as a whole meets these requirements.

## **9. Know-How**

Know-How is the most complete form of transfer of knowledge necessary for successful production, and with full technical documentation (constructive and manufacturing drawings, technical calculations, etc.), Contains a special knowledge and experience, guidance on technology development and production, control, etc., And in particular the specific procedures that are considered trade secrets, as well as the experience and knowledge that is never included in writing. Know-How in the Republic of Croatia is not considered a special area of intellectual property and can not be legally protected. However, it can be protected, for example, the signing of the license between the parties.

## **10. Conclusion**

Intellectual property in the broadest sense means a set of rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields. Member protect intellectual property for two main reasons. The first is to provide legal protection through the preservation of the moral and economic rights of authors over their creations and to allow the public access to them. The second is to promote, as a deliberate act of government policy, creativity and development programs should promote fair competition and thus participate in economic and social development.

Unauthorized use or reproduction of the intellectual property is a violation of rights and the right of the owner to access, use and obtain the benefits, protects the assets and the institutions of the legal system.

As a result of intensifying globalization and competitiveness on the world market, intellectual property is growing more important every day. Parallel to this, and requests subjects of international trade relations for the protection of intellectual property rights all the more pronounced. Therefore, in the legislation of individual countries, but also internationally, developed various forms of protection, intended mainly for holders of intellectual property rights. Exactly they can appear with your requirements in relation to goods which are the subject

of international sale. In these circumstances an important role has responsibility for vendor rights and claims in the field of intellectual property.

Intellectual property has a huge impact on society as a whole. Exploitation of intellectual property helps to create new jobs, provide protection to those new products placed on the market and, in general, affects the well-being of society, and this country seems more attractive for domestic and foreign investors.

## REFERENCES

«WIPO Intellectual Property Handbook», Second Edition, World Intellectual Property Organization, 2008.

Blažević, Borislav; Matanovac, Romana; Parać, Kamelija: «Građanskopravna zaštita autorskog prava i srodnih prava», Zbornik Hrvatskog društva za autorsko pravo, Volumen 5, Zagreb, 2004.

Colston, Catherine: "Principles of Intellectual Property Law", Cavendish Publishing Limited, London, 1999.

Dragičević, Dražen; Gumzej, Nina: «Odgovornost posrednika za povrede autorskog i srodnih prava na internetu», Zbornik radova Pravnog fakulteta u Zagrebu, 4/2012.

Greenhalgh, Christine; Rogers, Mark: "Innovation, Intellectual Property, and Economic Growth", Princeton University Press, Princeton, 2010.

Franjić S. Patent in Biomedicine. J Clin Trials Pat 2017;2(1): 6.

Lindberg, Van: "Intellectual Property and Open Source - A Practical Guide to Protecting Code", O'Reilly Media, Sebastopol, 2008.

Primorac, Jaka: «Od nesigurnosti do nesigurnosti: rad i zaposlenost u kulturnim i kreativnim industrijama», Revija za sociologiju 1/2012.

Samaha, Joel: «Criminal Law, Tenth Edition», Wadsworth Cengage Learning, Belmont, 2011.

Šimundić, Slavko; Franjić, Siniša: «Računalni kriminalitet», Sveučilište u Splitu – Pravni fakultet, Split, 2009.

[www.dziv.hr](http://www.dziv.hr)

Zakon o autorskom pravu i srodnim pravima – NN 167/2003.; 79/2007.; 80/2011.; 125/2011.; 143/2013.; 127/2014.

Zakon o patentu – NN 173/2003.; 87/2005.; 76/2007.; 30/2009.; 128/2010.; 49/2011.; 76/2013.

Zakon o poljoprivredi – NN 30/2015.

Zakon o potvrđivanju Konvencije o kibernetičkom kriminalu – NN MU 9/2002.

Zakon o zaštiti topografija poluvodičkih proizvoda – NN 173/2003.; 76/2007.; 30/2009.; 49/2011.

«Dopadljiv izgled», Uvod u industrijski dizajn za mala i srednja poduzeća, Svjetska organizacija za intelektualno vlasništvo, Institut za intelektualno vlasništvo BiH, Mostar, Sarajevo, Banja Luka, 2008.

Zakon o industrijskom dizajnu - NN 173/2003.; 54/2005.; 76/2007.; 30/2009.; 49/2011.

Vedrina, Darinka; Horvatić, Klaudija; Smiljanić, Danijel; Lapaine, Božidar: «Pravna zaštita dizajnerskog stvaralaštva», Prostor, 1/1997.

Zakon o žigu – NN 173/2003.; 54/2005.; 76/2007.; 30/2009.; 49/2011.

Želinski-Matunec, Sanja (ur.): «Od ideje do profita – Vodič za inovatore – poduzetnike», Ministarstvo za obrt, malo i srednje poduzetništvo, Hrvatski savez inovatora, Zagreb, 2002.

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## **FISCAL FEDERALISM IN FUNCTION OF ECONOMIC DEVELOPMENT**

### **FISKALNI FEDERALIZAM U FUNKCIJI GOSPODARSKOG RAZVOJA**

#### **ABSTRACT**

*Fiscal federalism is a fiscal system in federative states, which, however, can exist in unitary states as well if there are more than one carrier of fiscal government. It includes relations between higher and lower political-territorial units concerning authorisation for establishing and incorporating certain sources of public revenue which finance their expenditure and which consequently have great effect on economic development of specific regional and local self-government unit.*

*Fiscal federalism is relevant part of the theory of public finances which deals with problems of decision making process, capabilities of assessment of liability for taxation and usage of collected means in public sector with two or more levels of fiscal government. Use of fiscal decentralisation in theory and in practise varies from each country to another. It is dependant of system of government, territorial constitution, economic and social development, historical and political circumstances which in the end determine entire configuration of public finances. Which sources of fiscal revenue, in what capacity and in what way to distribute are the main problems that all federative states encounter frequently. However, states that are not federative, but have developed system of regional and local self-government encounter the same problems because of the high level of decentralisation of public functions.*

*If the distribution of public functions (expenditure) is more decentralised, than there is larger disproportion between costs of its performance (i.e. production of public goods) and public revenue by which a certain political-territorial unit disposes of. So, it is necessary to ensure additional means. This is the way to ensure coherence between needs for means (of expenditure) and financial capacities (revenue) in all levels of fiscal government. Fiscal disbalance occurs when there is discrepancy between public expenditure and derivative public revenue. It usually occurs when we talk about lower political-territorial units and we firstly think about horizontal fiscal disbalance. Horizontal fiscal disbalance means existance of differences in fiscal capacities and fiscal needs of political-territorial units of the same level. Thereupon occur certain migrations of citizens from poorer and economic underdeveloped political-territorial units to wealthier and economic developed political-territorial units where they can enjoy that amount of public goods that will satisfy their needs which brings to big disproportion when we talk about economic development of the certain regional and local self-government unit that must recognised and dealt with in time.*

*Aim of this paper is to show the benefits of fiscal federalism and to draw attention to the problems concerning revenue collection or the lack of fit when the local and regional self-government units are in question.*

**Key words:** *Fiscal federalism, public revenue and expenditure, economic development.*

## SAŽETAK

*Fiskalni federalizam je fiskalni sustav u federalno uređenim državama, iako on može postojati i u unitarnim državama ako postoji više od jednog nositelja fiskalne vlasti. Fiskalni federalizam obuhvaća odnose između viših i nižih političko-teritorijalnih jedinica u svezi s ovlaštenjima za ustanovljavanje i uvođenje određenih izvora javnih prihoda kojima se financiraju njihovi rashodi koji posljedično imaju veliki utjecaj na razvoj gospodarstva određene jedinice lokalne i regionalne samouprave.*

*Fiskalni federalizam relevantan je dio teorije javnih financija koji se bavi problemima donošenja odluka, mogućnostima razrezivanja poreza te uporabe prikupljenih sredstava u javnom sektoru s dvije ili s više razina fiskalne vlasti. Primjena fiskalne decentralizacije u teoriji i praksi pojedinih zemalja veoma je različita. Ovisna je o sustavu vlasti, teritorijalnom ustroju, ekonomskoj i društvenoj razvijenosti, povijesnim i političkim okolnostima koji u konačnici određuju cjelokupni ustroj javnih financija. Koje izvore fiskalnih prihoda, u kom obujmu i na koji način raspodijeliti osnovni su problemi s kojima se stalno susreću sve federativno uređene države. Međutim, sa sličnim problemima sreću se i države koje nemaju federativno uređenje, ali imaju razvijen sustav regionalne i lokalne samouprave zbog visoke razine decentralizacije javnih funkcija.*

*Što je raspodjela javnih funkcija decentraliziranija, to se pojavljuje veći nesrazmjer između troškova njihovog obavljanja (proizvodnje javnih dobara) i javnih prihoda kojima jedna političko-teritorijalna jedinica raspolaže, zbog čega je potrebno osigurati dodatna sredstva. Na taj će se način osigurati da se na svim razinama vlasti ostvari usklađenost (sukladnost) između potreba za sredstvima (rashoda) i financijskih kapaciteta (prihoda). Fiskalna neravnoteža nastaje kada postoji neusklađenost između javnih rashoda i derivativnih javnih prihoda. Po pravilu se pojavljuje kod nižih političko-teritorijalnih jedinica pri čemu prvenstveno mislimo na horizontalnu fiskalnu neravnotežu koja podrazumijeva postojanje razlika u fiskalnim kapacitetima i fiskalnim potrebama političko-teritorijalnih jedinica na istoj razini vlasti. Uslijed toga može doći do migracije građana iz siromašnijih i gospodarski nerazvijenijih jedinica samouprave u bogatije i gospodarski razvijene jedinice samouprave u kojima mogu uživati onu količinu javnih dobara kojima će zadovoljiti svoje potrebe te dolazi do velikog nesrazmjera kad je u pitanju razvoj gospodarstva pojedine jedinice lokalne i regionalne samouprave što mora biti spriječeno na vrijeme. Ovim se radom želi ukazati na prednosti fiskalnog federalizma i ukazati na probleme koji se tiču prikupljanja javnih prihoda odnosno izostanka prikupljanja istih od strane jedinica lokalne i regionalne samouprave.*

**Ključne riječi:** *fiskalni federalizam, javni prihodi i rashodi, gospodarski razvoj.*

## 1. Introduction

The goal of every state decentralization is to recognize and please the public needs, furthermore to encourage local and regional development. Only by achieving those goals of decentralization can the state motivate and satisfy its citizens for contributing to the accomplishment of public affairs.

Fiscal federalism is relevant part of the theory of public finances which deals with problems of decision making process, capabilities of assessment of liability for taxation and usage of collected means in public sector with two or more levels of fiscal government. Use of fiscal decentralisation in theory and in practise varies from each country to another. It is dependant of system of government, territorial constitution, economic and social development, historical and political circumstances which in the end determine entire configuration of public finances. Which sources of fiscal revenue, in what capacity and in what way to distribute are the main problems that all federative states encounter frequently. However, states that are not federative, but have developed system of regional and local self-government encounter the same problems because of the high level of decentralisation of public functions.

A growing number of countries have adopted fiscal decentralization in an attempt to improve the performance of their public sector and to raise economic growth of its local self-government units. The process broadly entails decisions in identifying some optimal distribution of functions and powers between the fiscal levels of state. This process of devolution of fiscal authority introduces specialization of functions, better identification of local factors, experimentation of democratic principles and changing the very relationship between the government and the citizen-voters in important ways. (Girma, 2006, 6)

Fiscal federalism and decentralization derive their nature and characteristics from constitutional provisions as well as the economic, social, and political environment of the nation. The level of economic development, population size and distribution, urbanization, ethnic fractionalization, geographical sectionalism, the pattern of income and resource distribution, the institutional capacity of the system, openness to domestic and international trade, and the interaction of political economy forces are some of the factors that shape the principal-agent relationship in the fiscal system. The constitutional provisions define the framework within which decision-making would be exercised and establish the vertical and horizontal structures that find meaning within the prevailing socio-economic environment of the system. (Girma, 2006, 7)

Fiscal decentralization and how it is practiced also affects, besides the issues of fiscal resource allocation in the economy, the other objectives of public finance, namely income distribution and macroeconomic stabilization. Fiscal federalism and its practice involve considerable amount of resource and income redistribution across regions, economic sectors and households. The ultimate economic effect of fiscal decentralization on the performance of an economy hence depends on these interactions and how these variables influence the growth and distribution of income opportunities within and across local administrations, regional states and the national economy at large. Once the allocation of expenditure responsibilities is conducted according to such broad principles, the fiscal system needs to address the issue of assigning taxing power that broadly identifies who should tax, where and what (Musgrave, 1983). It is the devolution of taxing autonomy that gives meaning and identity to the devolution of expenditure responsibilities. In the context of fiscal federalism, the assignment process needs to identify the comparative efficiency and effectiveness of providing the fiscal instruments to the multi-tier decision-making centers so as to finance public functions and activities in the most efficient manner possible. If taxation power is concentrated at the center, sub-national governments would become too dependent to pursue decisions and allocations that reflect local preferences and problems. (Girma, 2006, 9).

## **2. History of fiscal federalism**

The idea of local self-government dates back to a tradition of centuries in Europe. Local self-determination and exercise of power, although to different extents, appeared both in the concept of the Scandinavian '*tingsted*' (i.e., locality, the materialized expression of local autonomy in the early Middle Ages) and the British 'devolution' (i.e., decentralization of central authority).



Marked differences and delimiting characteristics can be observed in both the horizontal and vertical structures of existing local self-governments of individual European countries, which developed with different characteristics. The systems having unique traits, despite the small and large differences, however, can be categorized according to the local government development path: they can be classified as per their formation, history, and related traits. Accordingly, European development path of local authorities draws up three main self-government models: the northern, the Napoleonic (Latin), as well as the intermediate model.

The models can be separated according to the level of autonomy. In the north, the Nordic model is the type of public administration based on stronger local self-governments, which fulfils traditionally a higher number and more significant public tasks, exercises wider powers providing considerable autonomy and allows greater flexibility (including, *inter alia*, Sweden, Denmark, Finland, Norway, Belgium, the Netherlands, Great Britain and Ireland) (Ercsey, et. al., 2012, 222) The Napoleonic (or Latin) model compared to this grants a limited degree of autonomy to local governments (e.g., France, Spain, Italy, Greece and Portugal). The intermediate model is between these two types, by achieving local governments of medium level of power (such as Germany, Austria, Switzerland and Belgium).

The Croatian self-government systems belong to the intermediate model of the three basic types of self-governments according to economic autonomy and funding aspects. Croatian model follows the European trends, since the types move toward each other, and, as a result of European unification, the elements, which could be separated earlier, converge due to the unifying principles.

The local government models show a number of differences, however, certain similarities, some traditional values occur in all countries. Certain values are specified by the legal regulation of every EU Member State, and are also declared by the European Charter of Local Self-government (hereinafter referred to as the Charter) accepted by the Council of Europe.

Article 9 – which includes eight sections – (Financial resources of local authorities), the longest part of the Charter, regulates the finances of local governments. It provides detailed guidelines on local self-governments, and contains the following financial and economic management principles:

- principle of income: the local authorities are entitled to their own financial resources, of which they may dispose freely within the framework of their powers;
- local authorities' financial resources shall be commensurate with the responsibilities provided for by the constitution and the corresponding law (the principle of entitlement to the financial resources adequate to the responsibilities);
- the principle of local taxation powers (local taxation rights, and the right to introduce other local payment obligations; part at least of the financial resources of local authorities shall derive from local taxes and charges of which, within the limits of statute, they have the power to determine the rate);
- reduction of financial disparities between the local self-government units (so-called equalization principle);
- the use of funds as per the statutory limits (the principle of expenditure);
- as far as possible, grants to local authorities shall not be earmarked for the financing of specific projects (the limitation of earmarked funds);
- the autonomy of management decisions within their own jurisdiction (principle of discretionary powers);
- participation in the central decision-making concerning local self-government finances (principle of participation).

The most important principle is the entitlement to appropriate financial resources, which means, on one hand that the volume of municipal funds shall be commensurate with the extent of local government responsibilities set forth in the corresponding law in the legislation and, on the other

hand, the amount of funds allocated at the local self-governments can be considered as appropriate, if they keep pace with the cost of carrying out their tasks (Paragraph 4 of Article 9 of the Charter).

It is in accordance with the single European principles and unifying trends, that Croatia developed its tax system in compliance with the requirements of the European Union, by fulfilling the related harmonization tasks. The current Croatian tax system can be examined through three fiscal levels. This paper deals especially with tax revenue of local and regional self-government units, by presenting the way of realizing tax revenue, levying and collecting taxes, furthermore satisfying public needs on state, county and city levels.

Since the declaration of its independence, the Republic of Croatia has commenced thorough reconstruction of its tax system as well, since it had to meet the requirements of the new political system terminating the war period, as well as the challenges of market economy closing the socialist character. Essential tax reforms have brought the system closer to systems of the EU Member States, through its harmonization with taxation systems of developed European countries.

### **3. Scope of authority of local and regional self-government units and their revenue**

The local self-government is the local level of public finances, which performs specified public duties based on its revenue. In the Republic of Croatia, the decentralization presents itself through three levels of government. The highest level is the state, the middle (regional) level is formed by 20 counties, and the third, local level consists of 555 cities and municipalities. Each of the fiscal levels has its own powers and responsibilities.

Law on Local and Regional Self-Government regulates the scope of functions of municipality and city separated from the scope of functions of county. Pursuant to the provision of Article 19 of the Law, local and regional self-government units in their self-governing scope perform the tasks of local importance, and especially see to jobs that are not constitutionally or legally assigned to government bodies, relating to the planning of settlements and housing, spatial and urban planning, social welfare, primary health care, education, etc.

#### **3.1. The powers and responsibilities of counties**

According to the Croatian provisions, the county conducts services of regional importance, not assigned to the national authorities by the Constitution and laws. Thus, the scope of functions of a county can be original (self-governing, for instance the traditional self-governing tasks) and delegated (services of state administration).

County in its self-management scope performs services relating to

- education
- health care system
- spatial and urban planning
- economic development
- transport and transport infrastructure
- maintenance of public roads
- planning and development of a network of educational, health, social and cultural institutions
- issuing construction and location permits and other documents related to construction and implementation of spatial planning documents for the county outside the big city
- other activities in accordance with special laws.

By the decision of the representative body of a local self-government unit in accordance with its statute and the statute of the county, some functions and tasks of self-government scope of the

municipality or city can be transferred to the county. Entrusted services relate to services of state administration which are carried out by a county and are defined by law. The costs of these services shall be paid from the state budget.

### **3.2. The powers and responsibilities of the cities and municipalities**

Municipalities and cities in their self-governing domain (scope) perform the services of local importance which directly actualize the needs of the citizens, which are not assigned by the Constitution and laws to the national authorities and in particular services related to:

- planning of settlements and housing
- spatial and urban planning
- utility services
- childcare
- social care
- primary health care
- education and primary education
- culture, physical culture and sport
- consumer protection
- protection and enhancement of natural environment
- fire and civil protection
- traffic in their area
- other activities in accordance with special laws.

In order to meet its duties, counties, cities and municipalities have to find means of finance—mostly deriving from public revenue. When we talk about financing local and regional self-government units most often we talk about fiscal capacity and its strength. Fiscal strength of these units varies a lot, especially when it comes to municipalities and cities.

### **3.3. Revenue of local and regional self-government units**

Revenue of local and regional self-government units includes:

- Income from movable and immovable objects in their possession
- Income from companies and other entities owned and revenue from concessions granted by local self-government units
- Revenue from the sale of movable and immovable objects in their possession
- Gifts, inheritances and legacies
- Municipal, town and county taxes and fees and duties, whose rates, within the limits specified by law, are determined independently
- Government assistance and grants provided by the state budget or a special law
- Compensation from the state budget for performing services of the state administration, which were conveyed to them
- Other revenue determined by law. ( Srb, Perić, 2004, 91)

Law on Financing of Local and Regional Self-Government Units and Law on Local Taxes determine the resources of funds and financing services from the scope of the counties, municipalities and cities.

Croatian legislation is in line with the EU efforts and regulatory trends. The determining concepts (tax base, tax subject, tax rate), and the method of calculating the tax rates accordingly are defined by the Croatian legislature, but are collected and used by local authorities.

#### **3.3.1. County revenue:**

- Revenue from own property
  - o Income from movable and immovable objects in the possession of the county

- Income from companies and other entities owned by the county
  - Revenue from the sale of movable and immovable objects in the possession of the county
  - Gifts, inheritances and legacies
  - County taxes
    - Inheritance tax
    - Tax on motor vehicles
    - Tax on boats
    - Tax on gaming machines
  - Fines and confiscated assets for the offenses that are prescribed by the county itself
  - Other revenue determined by special law.
- 3.3.2. Municipal and city revenue
- Revenue from own property
    - a) Income from movable and immovable objects in the possession of the municipality or town
    - Income from companies and other entities owned by the municipality or town
    - Revenue from concessions granted by local self-government units
    - Revenue from the sale of movable and immovable objects in the possession of the municipality or town
    - Gifts, inheritances and legacies
  - Municipal and city taxes
    - Surtax to income tax
    - Tax on consumption
    - Tax on holiday homes
    - Tax on sales of real estate
    - Tax on public land use
  - Fines and confiscated assets for the offenses that are prescribed by the municipality or town themselves.
  - Administrative fees in accordance with a special law
  - Residence fees in accordance with a special law
  - Utility charges for the use of municipal or city facilities and institutions
  - Utility charges for the use of public or municipal urban areas
  - Other revenue determined by special law.

### 3.3.3. Shared taxes

There is one very important category of public revenue that we must emphasise- shared taxes.

Shared tax is personal income tax. The most important remark dealing with shared taxes is revenue belonging, so which unit of the public administration the revenue belongs to.

Personal income tax is the most significant revenue especially when it comes to cities and municipalities.

Revenue from income tax is divided between:

- municipality/city - 60%
- county - 16,5%
- part for decentralized functions - 6%
- part for position for aid of accommodation for decentralized functions - 16%
- part for position for aid for project co-financed with funds of European structural and investment funds, project managers being municipalities, cities and counties - 1,5%.

Decentralized functions are social care, education, health care and fire department. But it is very important to emphasize that the operational side of these functions is financed through Personal income tax. When it comes to personal income of people employed or taking care of these

functions, their income derives from state budget. Operational side includes mostly material costs (buildings, equipment, furniture etc.) in connection to performing these functions.

#### **4. Horizontal competition and unpaid revenue and the state of local finances**

Governments situated on the same level of a multilevel government system compete with one another as well as with those higher or lower hierarchy. (Salmon, 2006, 61) This is known as horizontal competition which affects many aspects but one of the most important is economic growth of certain self-government units. Law, law and economics scholars are mostly concerned with regulatory competition as applied to corporations, banks, insurance companies, financial markets, competition (anti-trust) and the environment. (Salmon, 2006, 62) There are many objects of horizontal competitions but one of the most studied is taxation. There is a question that has to be asked. What are the effects of horizontal competition on welfare benefits, regulations associated with welfare and particularly in the domain of economic growth and mobility of individuals, goods and factors of firms. There is however an agreement that individuals and firms who pay taxes also greatly benefit from those paid taxes in many forms one of which is economic growth of certain individual, firm and self-government unit. But there is a problem concerning revenue collection, especially business transactions revenue collection.

On 31.12.2011. units of local self-government had 8,6 billion HRK of unpaid debts. With 5,4 billion HRK dominant are debts for business transactions revenue, and the other part of unpaid debt refers to debts for sales of nonfinancial asset. Biggest part of 5,4 billion HRK refers to administrative fees (about 60%) , followed by debt derived from revenue from own property (24%). When it comes to revenue collected from taxes, the debt is the smallest-only 16%. (Bajo, Primorac, 2013)

Problems concerning payment are related to weak cooperation regarding information exchange between Tax office and units of local self-government. Units of local self-government have empowered Tax office to collect revenue for them and Tax office charges provision in the amount of 5% of collected revenue. The problem is that Tax office delivers monthly reports about paid taxes but does not deliver information about tax payers who have not paid their debt, issuing resolutions and about measures of collecting revenue. This is because Tax office is obliged to do so because of the Article 8 of Public Tax Law that concerns tax secrecy.

Furthermore data concerning public and local revenue are not as public an transparent as it should be. Units of local self-government do not inform citizens about efficiency of revenue collecting or its purpose and influence on economic development and improvement of life conditions. These information should be available to every citizen simply by publishing them on city or county web pages.

Big part of the self-government units has their debt written off, which is not reasonable behaviour especially in these times of economic crisis. Also it has been established that 49% of 555 local self-government units did not impose all the revenue they could have by existing legal regulation and 29% of local self-government units did not undertake all the measures of ensuring the payment of existing debt. (Bajo, Primorac, 2013) The problem is more serious when we look at the big picture. Dealing with the fact that many of the self-government units have had the debt written off, they come to the state and demand help in the form of donations, financial support and grants and subventions.

#### **5. Conclusion**

Fiscal federalism has both economic and political effects. It can serve as one of the mechanisms to promote democratic institutions and expanding the quality, quantity and diversity of public services that suit the priorities of local populations.

Fiscal federalism alone would not bring improved governance and ensure economic development at the local level without essential democratic institutions that responds to local priorities and preferences. Hence, fiscal federalism requires a favourable environment of democratic political system to operate as accountable, credible and efficient manner of mobilizing and utilizing fiscal resources, i.e. public revenue derived especially from local taxes.

The autonomy of self-governments, from the conceptual point of view and particularly from the practical approach is the assessment of the economic opportunities, the amount and structure of resources, and the freedom of use of the resource. The actual operating conditions of each system depend not on the legal regulation, but instead on the the local economic circumstances of the self-government and their involvement of local economic development, furthermore on the economic and fiscal policy of the state.

The Croatian model, due to the important county and municipality taxes, is closer to the welfare and economic development models of self-governments, in which, besides the central dependence, a structure was established with more active self-governments providing notable services.

It is therefore important that the practice of fiscal decentralization in Croatia be reoriented to improve the reach and quality of public services, to ensure fiscal discipline in the manner of not only paying but collecting revenue aswell, to cultivate democratic and effective institutions and in the process to contribute to address the fundamental economic, social and political development of the local self-government unit.

## REFERENCES

Bajo, A. and Primorac, T. (2013): *Neučinkovitost naplate prihoda lokalnih jedinica*, Aktualan osvrt br. 52, Institut za javne financije, Zagreb, <http://www.ijf.hr/upload/files/file/osvrti/52.pdf> (accessed: 15 March 2017)

Ercsey, Z., et.al. (2013), : *The finances of local and regional self-government units* Pravo-regije-razvoj, DUNICOP, IPA Cross-border Cooperation Programme Hungary-Croatia, Pravni fakultet Osijek, Pravni fakultet Pečuh, pp. 221.-251.

Girma, A. (2013): *The political economy of Fiscal Federalism*, Ee-JRIF, Vol.5 No 1, Special Issue on the Ethiopian Economy, Ethiopia pp. 6.-32., <http://africaim.com/wp-content/uploads/2013/07/ethiopian-economy.pdf> (accessed: 22 March 2017)

Musgrave, Richard. (1983): *Who Should Tax, Where, What?* in Charles McLure, Jr. (ed.) Tax Assignment in Federal Countries, Canberra: Center for Research on Federal Financial Relations, ANU.

Salmon, P. (2006): *Horizontal competition among government*, Handbook of Fiscal Federalism, Edited by Ehtisham Ahmad and Giorgio Brosio, Cheltenham, UK, Northampton, MA, USA, pp. 61-86.,

[https://books.google.hr/books?hl=hr&lr=&id=zT3ijSfypKkC&oi=fnd&pg=PR2&dq=fiscal+federalism+in+theory+and+practice&ots=RTTWU6Lpbq&sig=VWnHfMOjy\\_6AL0RFqUrZQ-WhlfA&redir\\_esc=y#v=onepage&q=fiscal%20federalism%20in%20theory%20and%20practice&f=false](https://books.google.hr/books?hl=hr&lr=&id=zT3ijSfypKkC&oi=fnd&pg=PR2&dq=fiscal+federalism+in+theory+and+practice&ots=RTTWU6Lpbq&sig=VWnHfMOjy_6AL0RFqUrZQ-WhlfA&redir_esc=y#v=onepage&q=fiscal%20federalism%20in%20theory%20and%20practice&f=false) (accessed: 19 March 2017)

Srb, V. and Perić, R. (2004): *Javne financije-knjiga I* [Public Finance – Volume 1](2004) University J. J. Stossmayera, Faculty of Law in Osijek, ISBN: 953-6072-26-2, Osijek

Šimović, J., Arbutina, H., Mijatović, N., Rogić-Lugarić T. and Cindori, S. (2008): *Financijsko pravo i financijska znanost*, Narodne novine d.d., ISBN: 978-953-234-107-2, Zagreb

Šimović, J., Arbutina, H., Mijatović, N., Rogić-Lugarić T. and Cindori, S. (2010): *Hrvatski fiskalni sustav*, Narodne novine d.d., ISBN: 978-953-234-146-1, Zagreb

Yearly Report of Ministry of Finances for the year of 2014.,

<http://www.mfin.hr/adminmax/docs/Godisnjak%202014..pdf>, (accessed: 20 March 2017))

Pieces of legislation:

European Charter of Local Self-government, Strasbourg, 15.X.1985

Income Tax Law, Official Gazette, 177/04, 73/08, 80/10, 114/11, 22/12, 144/12, 43/2013, 120/2013, 125/2013, 148/2013, 83/2014, 143/2014, 136/2015, 115/2016

Law on Financing of Local and Regional Self-Government Units, Official Gazette 117/1993, 92/1994, 69/1997, 33/2000, 73/2000, 127/2000, 59/2001, 107/2001, 117/2001, 150/2002, 147/2003, 132/2006, 26/2007, 73/2008, 25/2012, 147/2014, 100/2015, 115/2016

Law on Local and Regional Self-Government, Official Gazette 33/01, 60/01, 106/03, 129/05, 109/07, 125/08, 144/12, 19/13, 137/15

Law on Local Taxes, Official Gazette 115/16

Public Tax Law, Official Gazette 147/08, 18/11, 78/12, 136/12, 73/13, 26/2015, 44/2016, 115/2016

Tax on Sales of Real Estate, Official Gazette 69/97, 26/00, 127/00, 153/02, 22/11, 143/14, 115/16



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**THE AFTERMATH OF USING COMPETITIVE SEALED BIDS IN THE  
PUBLIC PROCUREMENT**

**REZULTATI UPORABE AUKCIJA SA ZATVORENIM PONUDAMA U  
JAVNOJ NABAVI**

**ABSTRACT**

*Relying on the transaction cost approach, this study examines some empirical evidence on public procurement in Croatia in order to clear some doubts on public procurement procedures. Public procurement procedures function as auctions: requiring bidders to compete against each other making auctions to be price and time efficient. The theoretical argumentation behind successful auctioning, when compared to bilateral negotiation, is that bidders tend to pay more attention towards potential actions of their competitors and are less focused on the bilateral arrangement with actual buyer or seller. For that reason, auctions are efficient in obtaining goods or services whenever the bidder believes that competition is fierce. This effect is likely in auctions with competitive sealed bids, where information about the presence and the identity of others bidders is hidden until the end of the bidding process. Another expected advantage of auctions with sealed bids is constricting corruption i.e., sealed bids auctions are mode of choice for organizing public procurement in EU. In this research we present the result of an empirical study about the public procurement processes in Croatian local administrative units (LGUs). Online survey was conducted containing 29 questions that gathered response from 201 LGU. Statistical analysis is deployed for establishing patterns and reaching conclusions. We were unable to statistically confirm the influence of either LGU capacity or object of transaction/bidding on the efficiency of the public procurement process which led us to conclusion that the dominant impact on public procurement durations is made by its strict regulation.*

**Key words:** Public procurement, Auctions, Efficiency, Transaction Costs, LGUs.

## SAŽETAK

*Oslanjajući se na teoriju transakcijskih troškova, u ovom se istraživanju putem empirijskog pristupa ispituje postupak javne nabave u Republici Hrvatskoj kako bi se razjasnile postojeće dvojbe vezane uz procedure javne nabave. Procedure javne nabave se provode kroz aukcije, što ih putem traženja prijavitelja da se međusobno nadmeću čini vremenski i cjenovno efikasnim. Teorijska potpora uspješnog licitiranja, u usporedbi s običnim pregovaranjem, nalazi se u činjenici da ponuđači nastoje biti više usredotočeni na potencijalne postupke svojih konkurenata, a manje na bilateralni dogovor s kupcem ili prodavateljem. Iz tog su razloga licitacije dobre za dobavljanje roba ili usluga dok god ponuditelji vjeruju da sudjeluju u intenzivnom nadmetanju. Taj je fenomen češći u aukcijama sa zatvorenim ponudama u kojima su informacija i identitet ostalih natjecatelja nepoznati do kraja procesa. Dodatna očekivana prednost zatvorenih ponuda jest očekivano smanjivanje korupcije tj. proces javne nabave u EU je osmišljen kroz provedbu aukcija s zatvorenim ponudama kako bi se smanjila opasnost od potkupljivanja javnih službenika. U ovom će se istraživanju predstaviti rezultati empirijskog istraživanja procesa javne nabave u jedinicama lokalne uprave (JLU) Republike Hrvatske. Online anketa je provedena kroz 29 pitanja i prikupljeni su odgovori od 201 jedinice lokalne uprave. Za utvrđivanje obrazaca i formuliranje zaključaka korištena je statistička obrada dobivenih podataka. Statistička značajnost utjecaja kapaciteta JLU ili objekta nabave na efikasnost transakcije/aukcije nije potvrđena. To je dovelo do zaključka da je čimbenik od najvećeg utjecaja na trajanje javne nabave stroga zakonska propisanost postupka.*

**Ključne riječi:** *Javna nabava, licitacija, efikasnost, transakcijski troškovi, JLU.*

### 1. Introduction

A raising prominence of public-procurement discussions indicates that historical developments in the functional demarcation between the public and private economic domain. The introductory part of the paper outlines the importance of understanding public procurement processes and in its economic implications.

The importance of public procurement for maintaining the efficiency and quality in providing public services is a central topic of perpetuated discussions. In fact the European Commission is presently supporting a wide debate on the issue as an introduction into a process of „major update to the public procurement standard“. This discussion represents only the latest in a series of steps designed to increase the transparency and efficiency of public procurement procedures (Targeted consultation on eForms - the next generation of public procurement standard forms). Converting this dilemma into economic discourse, positions this research along the path of directing EU economy to become more resource-efficient, allowing for sustainable economic growth, supported by a competitive economy. This goal, complemented by a request for fair distribution of the cost and benefits, is explicitly listed as broader EURO 2020 guidelines (p. 6).

An appraisal of efficiency of service provision requires defining service efficiency and service inside a technical system comprising of resources enabling operations (service provision) and resources engaged in administering processes.

### 2. Basic theoretical concepts

When it comes to theory, we revert to the basic Coase-an explanations of reasons why firms exist (and on the relative importance of administrative delimitations) and distinction among organizational modes, i.e. firm boundaries and control mechanisms over specific assets, as these terms are understood by transactions cost theory (TCE) (Coase, 1937, Williamson, 1985, 2002).

TCE, provided by Williamson, enabled economists to ponder on the economic consequences of the corporate. Perhaps the most important contribution of TCE has been that fact that it allowed us to disentangle technologically provided efficiencies from efficiencies in the control processes (organizational arrangements).

When we consider the administrative (governmental units) as legal entities, they are nevertheless parts of the same service provision process. The institutional border among two legal entities mainly signifies that a legal division has been created (allowing for divided appraisal of costs and earnings at the level of each legal subject); over a single value creation process, or technological process, and that *perhaps* even legal technological division of labor. If this administrative division of functions can allow for a more *intensive* control of efficient allocation on investments, then service users, i.e. the citizens, should benefit and theory would describe such a situation of control power detachment (allocation of power towards a public body/entity) as economically efficient.

The specification when public procurement occurs is essentially a situation where responsibilities of planners and “enablers”, or government units, have been separated from the activities of direct service “providers”, whether as independent private companies or publicly own facilities. The exact organizational arrangement to be found in a specific community is often a product of historical paths of institutional development. The question that comes out is: can society (citizens) expect to have lower costs (or higher quality of services) if the administrative and operative (service provision) functions are provided by distinct business entities.

Access to markets and the possibility of independent service providers to access a bidding process for public procurement contracts, in the TCE explanation, becomes a mechanism that allows for flexibility in service provision.<sup>1</sup> For the government body/public entity, contracting-out becomes itself a *governance tool* employed by the central government (society), its role being the reduction of allocation risks, and a design of *specific service* in accordance with specific local needs in a specific moment. On the other hand, separating administration from provision, is also a tool for allocating *technical* decisions to the better informed party, a specialized service provider. In the continuous process of social service provision, the specialized service provider is the contract party that has a better understanding of technology, operations and markets, and who, by being able to provide services to several principals, is definitely better positioned to achieve economies of scale.

So, by understanding public service provision as a single *technological* process, the question of organizational arrangements that control the efficiency of the bargaining process among the public and private sector can be reframed as a question of administrative capacity and performance capacity. The next question arising is what are the implications of standardizing or regulating public procurement procedures. In theory, the effect of regulation on markets relations is a shift in negotiation positions among parties on the supply or demand side.<sup>2</sup> In reality, the factors affecting process time in private sector market transactions depend on the complexity of the transaction object or asset specificity, industry organization (available supply in the case of government contracting), specific contractual hazards depending on the institutional and regulatory environment (Menard, 2004). Munyon et al. (2011) suggest partnerships with longer

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<sup>1</sup> The implication of separating administrative tasks from operational activities is latter employed for distinguishing two levels of efficiency in the public-procurement process; one if process time (suggesting savings in administrative costs), the other being service functionality (suggesting gains in acquired value).

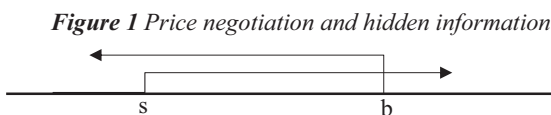
<sup>2</sup> However, public procurement regulation for the central government level enacting may also act signify as an *internal control* mechanism employed to streamline budgetary expenditures or curb self-seeking (perhaps corruptive) behavior of public servants. The social impact of laws and regulations has many facets that all impact on the efficiency of public procurement. yet have to restrict our discussion to the main topic of this paper.

duration, in geographical proximity, among others, reduce conflicts, a consequence of efficient relationship management that should be observed also in public procurement. Recent research of public procurement tends to stress the provision that promotes transparency, shorter or reliable process time, are able to attract more bidders and, in conformance to economic theory, by enlarging the number of potential service providers, results in lower prices and higher quality of services.

For lack of space, we will refer to two recent empirical studies concerned with public procurement in Europe. One is a study of public procurement run on 7 European countries (Germany, Italy, Poland, Romania, Spain, Sweden, and the United Kingdom). This study suggested that the public procurement procedures reflect on the costs and quality of municipal waste management services, suggesting that the waste management system functioned better in those countries that maintained open competition and with transparent procurement procedures, rather than having service provisions by public waste operators (Municipal waste procurement in EU countries can be more efficient). The other study researched the impact of e-procurement (electronic auctions) for Slovak municipalities on the number of bidders (Pavel, Sičáková-Beblavá, 2013). Here again, the authors come to the same conclusion. However, this study also stresses that in order to achieve the efficiency potential in the new system of rules, efforts should be made to enhance the qualification of public employees engaged in the tendering procedures.

An additional moment that made this study interesting is that it pointed to some of the concerns encountered in the process of designing efficient procurement procedures, such as: location specific processes (hindering EU cross-country competition among service providers), the importance of distinguishing between direct and indirect costs and a disadvantage of smaller providers competing against larger ones. The same concerns of leaving out smaller (local) providers from the bidding process has been voiced out by our earlier study on local government procurement procedures in Croatia (Kaštelan Mrak, Vretenar, Jardas Antonić, 2016, p. 56).

Auctions with sealed bids, as a mode of distributive negotiation, represent the theoretical concept behind the institutionalized public procurement mechanism. The idea behind the concept is that there is an additional value emerging from a possible transaction if the negotiating process itself is conducted efficiently. The presence and the size of an additional value is ambiguous because in the usual institutional setting, featured by opportunism and hidden information, negotiating subjects are typically unaware of each other's exact reservation prices, i.e. last price acceptable for accepting a transaction<sup>3</sup>. The dynamic of bargaining with estimations of reservation prices is shown in Figure 1.



*Source: Raiffa, H. (2007) Negotiation analysis - The science and art of collaborative decision making, Belknap Press of Harvard University Press*

Although actually a mechanism of the distributive negotiations, auctions add additional ambiguity for involved parties. From the perspective of a subject running an auction to procure

<sup>3</sup> In an attempt to maximize his value, every subject tries to estimate the probable reservation price of the opposite side. These estimations can be based on an assessment of costs, budget, time or other variables that could influence the opposite party. With hidden information about reservation prices, the size of the assumed additional value is also unknown so even transactions with acceptable additional value could create significant costs (time, resources needed for diligence) in the negotiation process.

goods, formality of procedures and legal obligations of auctions results are requiring adequate preparation. In auctions with sealed bids, which are used in public procurement, offers subjected in written form enable using detailed specifications, and therefore procurement of goods and services that are not necessary simple, arm's length deals.

From a perspective of a bidder, auctions are influenced by awareness of the possible competitions on the bidding side. In closed bid auctions bidders can be uncertain if they are sole competitors or just one of many. If they estimate that other bidders will engage the auction, they have the extra pressure in price (and other elements of offer) formulation because they need to try not only to assess the reservation price of subject running the auction but also possible offers subjected by other bidders (Raiffa, 2007, p. 165). That psychological difference is expected to shift bidders' attention towards the competition against other bidders rather than on distribution of additional value with the actual buyer (in case of public procurement), i.e. competitiveness among bidders is one of the expected sources of efficiency of the public procurement mechanism (this theoretical assumption has been statistically confirmed in research published by Coviello & Mariniello (2014)).

### **3. Methodology**

The research methodology was adjusted to using the descriptive form of data available. As no financial figures could be obtained, we settled for measuring procurement process efficiency by comparing the duration of distinct phases of the process. Under the assumption that the duration of some process phases is determined by regulation, a possible indicator of "inefficiencies" in the whole procedure was supposed to be found by looking at excess (additional) time required to review tender offers, and eventually the time needed to rerun the whole process. Inquirers were also directed towards establishing eventual complains being directed towards mediators or resulting in law suits.

As independent variables, for differentiation of individual transactions, we looked at capacity (no of employees and no. of business units), the implication being that better capacitated (higher counts) would have lower excess time or number of complaints, i.e. capacity of LGU dominantly relies on the number and vested competencies of employed staff. If they are considered as an administrative instrument, "designed" for contracting operational capacity (processed by private service providers); we much take into account the bargaining positions of administrative vs. performing business entities. Also, expecting process time to vary according to object of transactions, we compared total time and time structure by differentiating tenders related to building and maintenance of: communal infrastructure; sport-educational and cultural facilities and entrepreneurial infrastructure. Acknowledging the previously explained presumption that overall efficiency in service providing will be achieved with public procurement due to: first, the involvement of technically superior outside business entities (able to achieve specialization and economics of scale) and second, by competition among interested parties, further attempt to analyze public procurement efficiency from the side of the LGUs will be pointed towards examining process time.

### **4. Sample and data**

As a part of the broader research, data in this paper were extracted from a questionnaire conducted in the December of 2014. The questionnaire was originally composed of 29 questions and sent to all 577 LGUs in Croatia. Access to the questionnaire was enabled by on-line survey application and was anonymous for all respondents. In total, 201 respondent accessed, but the total number of respondents varied on specific questions' sets. Calculations were run only on those respondents that offered data on all questions required for this analysis, bringing down the analyzed sample to 57 units. Within the sample, 35 of them identified themselves as

municipalities, and 22 as cities. A short overview of descriptive sample data is shown on **Table 1**; where LGUs are divided into four groups according to their size (represented by number of employees).

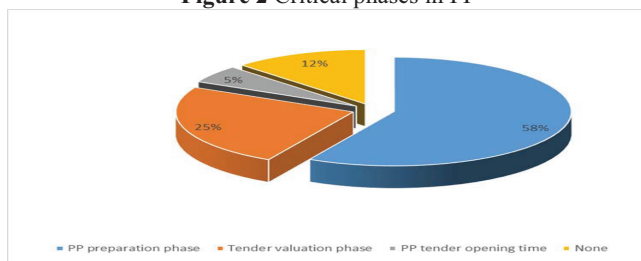
**Table 1** LGUs by number of employees

| No. of emp. in LGU | Cit/ mun. | No. of. org. units in LGU<br>avg (stdev) | Emp. on PP assign.<br>avg (stdev) | Duration of PP in days<br>avg (stdev) | % of prep. time - communal facilities<br>avg (stdev) | % of prep. time - edu., sport and cultur. facilities<br>avg (stdev) | % of prep. time - entrepr. infrastructure<br>avg (stdev) |
|--------------------|-----------|--|-----------------------------------|---------------------------------------|--|---|--|
| <10                | 0/28      | 1,32 (0,6)                               | 1,64 (0,8)                        | 51 (24)                               | 35,3 (17,5)  | 36,1 (17,9)   | 40 (19,5)  |
| 10-19              | 10/6      | 2,18 (1,23)                              | 2,19 (1,2)                        | 42,6 (12)                             | 35 (14,4)  | 31,8 (11,7)   | 33,8 (11,8)  |
| 20-40              | 4/1       | 3 (1,26)                                 | 3,4 (2,4)                         | 42 (11,6)                             | 31 (15,9)  | 35 (14,8)   | 43,7 (17,1)  |
| >40                | 7/0       | 19 (9,28)                                | 12,14 (10)                        | 46 (11,4)                             | 29,3 (17,8)  | 30 (17,7)   | 30 (19,1)  |

Source: authors' calculation

In line with our expectations, the majority of respondents identified preparation as a most challenging (consuming most time, and using more financial or organizational resources when compared to other PPP phases) phase of public procurement process (Figure 2). Public procurement is heavily regulated process and LGUs are obligated to launch it only when procurements exceeded HRK 200.000 for goods and services or HRK 500.000 for construction works (Official Gazette of the Republic of Croatia issue no. 120/2016). Therefore, the objects of PP is often of non-trivial complexity so diligence and contract preparation would increase chances of favourable outcomes in terms of purchases that will fulfil expectations and in lowering the risk of appeals by other bidders (which can substantially prolong the process). Same reasons and an attempt to diminish probability for ex-post difficulties can explain that the next ¼ of respondents identified tender valuation to be the most critical phase.

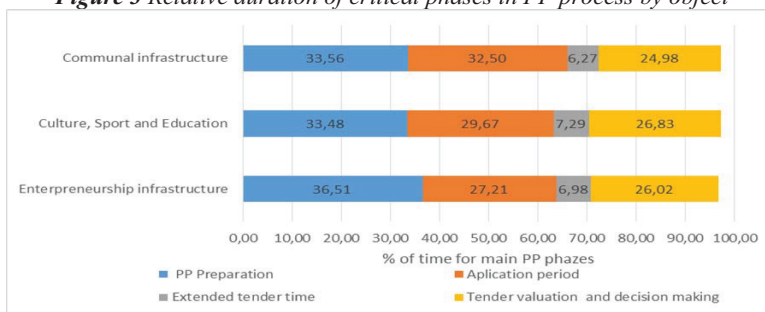
**Figure 2** Critical phases in PP



Source: authors' calculation

On the next set of questions, respondents were asked to estimate the relative time needed for PP preparation, application period, time extending and tender valuation for three quoted groups of procurement activities: creating and maintaining communal infrastructure (water supply, waste disposal, parks, roads in local jurisdiction etc.), infrastructure in facilities for sport, cultural or educational usage, and infrastructure in enhancing entrepreneurial activities (Figure 3).

**Figure 3** Relative duration of critical phases in PP process by object



Source: authors' calculation

Although these activities are expected to differ in complexity, but our sample provided no evidence that relative time in those activities would be more dominant than in others.

We conducted a series of t-tests that showed no statistically significant differences between relative times reported in different set of activities. Taking into regard that most respondents identified preparation time to be crucial phase of PP, we have then conducted an additional t-test comparing reported preparation times for all activity sets with total number of days of PP duration (sample divided in two groups over median) but with the same result. Correlating preparation time for public utilities with total days of PP duration (some other variables were also tried out) showed negative correlation, as expected, but with very limited strength (Figure 4).

**Figure 4** Correlation matrix<sup>4</sup>

```
. correlate Prepmun CM EmpLGU UnitLGU EMPPP Days
(obs=51)
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|         | Prepmun | CM      | EmpLGU  | UnitLGU | EMPPP  | Days   |
|---------|---------|---------|---------|---------|--------|--------|
| Prepmun | 1.0000  |         |         |         |        |        |
| CM      | -0.0789 | 1.0000  |         |         |        |        |
| EmpLGU  | -0.0379 | 0.4566  | 1.0000  |         |        |        |
| UnitLGU | -0.1237 | 0.5908  | 0.9224  | 1.0000  |        |        |
| EMPPP   | -0.0630 | 0.4259  | 0.4232  | 0.5297  | 1.0000 |        |
| Days    | -0.1099 | -0.1634 | -0.0189 | -0.1091 | 0.0812 | 1.0000 |

Source: authors' calculation

We confronted the same lack of statistical confirmation when we conducted a regression analysis on the total PP duration employed as a dependent variable, and capacity indicators, such as: the number of employees in LGU, the number of employees working directly on process of PP, the number of organizational limit within LGUs, acting as independent variables. (Figure 5). The only variables that did show some statistical significance were the number of employees and the number of organizational units within a LGU. However, even these variables can offer no explanatory power for variations of the dependent variable in this sample (calculated adjusted R<sup>2</sup> coefficients) were very low.<sup>5</sup>

<sup>4</sup> The variables employed are as follows: preparation time in communal infrastructure (Prepmun), city/municipality (CM), number of employees in LGU (EmpLGU), number of employees working on PP activities (EMPPP) and total pp duration (Days)

<sup>5</sup> We assume that regulation, being crafted primarily in order to control opportunistic behavior of civil servants, that is prevent political fraud that some suggest iv very much present in PP in Croatia (Podumnjak & David-Barrett, 2015)



**Figure 5** Multiple regression with PP duration as independent variable

| Source   | SS         | df | MS         | Number of obs | = | 51     |
|----------|------------|----|------------|---------------|---|--------|
| Model    | 2716.39729 | 4  | 679.099322 | F(4, 46)      | = | 1.77   |
| Residual | 17672.5831 | 46 | 384.186589 | Prob > F      | = | 0.1516 |
|          |            |    |            | R-squared     | = | 0.1332 |
|          |            |    |            | Adj R-squared | = | 0.0579 |
| Total    | 20388.9804 | 50 | 407.779608 | Root MSE      | = | 19.601 |

| Days    | Coef.     | Std. Err. | t     | P> t  | [95% Conf. Interval] |
|---------|-----------|-----------|-------|-------|----------------------|
| Prepmun | -.2193655 | .1678326  | -1.31 | 0.198 | -.5571949 .118464    |
| EmplLGU | .2104299  | .102838   | 2.05  | 0.046 | .0034276 .4174321    |
| UnitLGU | -5.960628 | 2.444723  | -2.44 | 0.019 | -10.8816 -1.039656   |
| EMPPP   | .9992815  | .6286278  | 1.59  | 0.119 | -.2660807 2.264644   |
| _cons   | 60.90456  | 7.83227   | 7.78  | 0.000 | 45.13902 76.6701     |

Source: authors' calculation

Similar result were calculated in a different model using relative time for PP preparation as a dependent variable. One example of unsuccessful multiple regression is shown on Figure 5.

## 5. Findings and discussion

Since the aim of local government, unlike business organizations, is not to create profit but to provide services to its citizens, efficiency of LGUs is not easy to define or measure. While effectiveness could be observed through the success in achieving expected goals, efficiency can be seen savings of many kinds. However, being unable to observe and compare financial figures, we reverted to process time; the rationale being that procurement, as any other tasks used up fractions of time of a rather fixed pool of available LGU resources.

The common perception in Croatia is that our LGUs are too small and too fragmented, i.e. that they do not have sufficient size to employ efficient administrative capacity. Public procurement is known to be sensitive and time consuming process so one would expect that LGUs with greater administrative capacity would be more efficient in running it. However, although the importance and difficulties of PP preparation activities were emphasized by many respondents, according to answers collected in the sample, there were no significant variations in the total PPP time among different types of PP activities. Furthermore, we were unable to statistically explain the impact of longer preparation times on total PPP duration or on lowering the duration of extended tender time. Likewise, our calculations offered feeble confirmation that capacity levels (compared though numbers of employees) had any impact on PPP duration. Apparently, the influence of legal provision on PP process time has such a strong impact that none of the independent variables, predictable by theory, were able to demonstrate a statistically significant influence on total process time, or on process time structure.

Considering that respondents were reluctant in offering financial data on their PP transactions, it is possible that a deeper level of elaboration of transaction object's characteristics (maybe by comparing homogeneous object of procurements), could generate a regression model with more explanatory power. In the extension of this research we would like to compare technical features (utilities) of specific objects against bided price (price-quality ratios) and then eventually try relate technical complexity/functional differences to specified process execution variables such as time needed or personnel engaged. Another important issue is that we did not gather data concerning iteration, number of bidders (here reported to be 3 on average; exactly in conformance with legal provisions), specific contractual hazards, etc. Unfortunately, by examining answers provided by LGUs, and not being able to compare prices, we could not examine the effect of procurement procedures on bidders' behaviour, which remains a task for

the next research cycle. Finally, in continuing this research, a new round of questionnaires will have to be passed, since over the past year major changes have been enacted in the Public Procurement Law, relaxing some of the requirements important for shaping process execution. It is also advisable to wait a year or two before the next questionnaire round, as the full effect of regulation changes is yet to be observed.

## REFERENCES

- Coviello, D., Mariniello, M. (2014): *Publicity Requirements in Public Procurement, Evidence from a Regression Discontinuity Design*, Journal of Public Economics Volume 109, January 2014, Pages 76–100
- Coase, R. (1937): *The Nature of Firm*, *Economica*, New Series, Vol. 4, No. 16. (Nov., 1937), pp. 386–405.
- Kaštelan Mrak M., Vretenar, N., Jardas Antonić J. (2016): *Procurement at local government level - issues and controversies*, *International Public Administration Review*, Vol. 14, No. 4, pp. 49-70.
- Menard, C. (2004): *The Economics of Hybrid Organizations*, *Journal of Institutional Economics*, JITE 160, 345-376
- Munyon et al. (2011): *Firm relationships: The dynamics of effective organization alliances*, *Organizational dynamics* 40, 96-103
- Pavel, J., Sičáková-Beblavá, E. (2013): *Do E-Auctions Really Improve the Efficiency of Public Procurement? The Case of the Slovak Municipalities*, *Prague Economic Papers*, Vol. 22. No. 1 pp. 111 – 124.
- Podumnjak, M., David-Barett, L. (2015): *Political Favouritism in Croatian Public Procurement*, *Government Favouritism in Europe*, *The Anticorruption Report*, Volume 3.
- Raiffa, H. (2007): *Negotiation analysis - The science and art of collaborative decision making*, Belknap Press of Harvard University Press
- Williamson, Oliver E. (2002): *The Theory of the Firm as Governance Structure: From Choice to Contract*, *Journal of Economic Perspectives*, 16(3):171-195.
- Williamson, Oliver E. (1985): *The Economic Institutions of Capitalism*, Yale University, Mac Millan press
- European Commission (2017): *Study: Municipal waste procurement in EU countries can be more efficient* Published on: 31/01/2017, Last update: 01/02/2017, [Http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item\\_id=9079&lang=en](http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=9079&lang=en) (Accessed 4<sup>th</sup> of April 2017)
- European Commission (2016): *Targeted consultation on eForms - the next generation of public procurement standard forms* [http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item\\_id=8997\\_\(accessed 2nd of April 2017.\)](http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8997_(accessed%202nd%20of%20April%202017.))
- European Commission (2010): *E U R O P E 2 0 2 0 Integrated guidelines EUROPEAN COMMISSION for the economic and employment policies of the Member States* p.6, <http://ec.europa.eu/eu2020/pdf/Brochure%20Integrated%20Guidelines.pdf> (Accessed 4<sup>th</sup> of April 2017)

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## **CONSUMER REDRESS AND ENFORCEMENT MECHANISMS – CHALLENGES IN APPLICATION OF EU CONSUMER LAW IN PROVIDING ACCESS TO JUSTICE**

### **ZAŠTITA PRAVA POTROŠAČA I MEHANIZMI NJEZINE PROVEDBE- IZAZOVI PRIMJENE ZAKONODAVSTVA EU U PODRUČJU ZAŠTITE POTROŠAČA U OSIGURANJA PRAVA NA PRISTUP PRAVOSUĐU**

#### **ABSTRACT**

*In the last decade lawmaking in the field of EU consumer law has been particularly intense. In order for the European union (hereinafter: EU) to function properly as a common single market it does not suffice to remove obstacles for trade such as of high taxes, costs of production, delivery or other economic barriers. Namely, different standards of procedural protection and availability of access to justice in national and cross-border disputes in the field of consumer protection diminish the trust of consumers in the single market and create barriers for trade. Hence, efforts have been made in order to create instruments in the field of consumer law which would ensure essential rights to consumers across 28 Member States (hereinafter: MS). In order to accomplish the set goal, alongside the standards which provide for protection of essential rights of consumers in the MS, redress and enforcement mechanisms which safeguard them should be available. In the research of the impact of EU consumer law in removing difficulties and obstacles for obtaining procedural protection of individual as well as collective interests and rights of consumers in case of law infringements by traders critical analysis and synthesis as well as a comparative method will be used. Inductive approach will be used in the analysis in order to draw upon the experience of implementation and/or direct application of EU consumer law in Croatian legal system. The gathered results will be interpreted in order to conclude whether instruments of EU consumer law employing measures of horizontal and vertical harmonization provide for adequate procedural protection for consumers in national and cross-border disputes.*

**Key words:** consumer protection, trade, barriers, access to justice, horizontal and vertical harmonization.

#### **SAŽETAK**

*U posljednjem su desetljeću regulatorne aktivnosti u okviru zakonodavstva EU u području zaštite prava potrošača osobito naglašene. Kako bi uspostavljeno zajedničko tržište Europske unije (dalje: EU) pravilno funkcioniralo, nije dostatno ukloniti prepreke slobodnoj trgovini u vidu visokih poreza, troškova proizvodnje, dostave i druge ekonomske zapreke. Naime, različiti standardi postupovne zaštite i ostvarenje prava na pristup sudu u nacionalnim i sporovima s prekograničnim elementom na području zaštite prava potrošača ugrožavaju povjerenje potrošača u zajedničko tržište i stvaraju barijere za trgovinu. Stoga, nastojalo se uspostaviti*

*instrumente koji bi na području zaštite prava potrošača osigurali ostvarenje temeljnih prava potrošača u 28 država članica. Kako bi se to postiglo, uz uspostavljanje standarda zaštite temeljnih prava potrošača u državama članicama, potrebno je učiniti dostupnima mehanizme njihove zaštite i provedbe. Metodama analize i sinteze, te komparativnom metodom istražiti će se utjecaj zakonodavstva EU iz područja zaštite potrošača na uklanjanje poteškoća i prepreka pri ostvarenju postupovne zaštite individualnih i kolektivnih interesa i prava potrošača u slučaju protupravnog postupanja trgovaca. Induktivni pristup poslužit će u stjecanju spoznaja na temelju analize iskustava u implementaciji i/ili neposrednoj primjeni zakonodavstva EU iz područja zaštite potrošača u hrvatskom pravnom sustavu. Na temelju prikupljenih rezultata izvest će se zaključak o tome osiguravaju li europski instrumenti iz područja prava potrošača adekvatnu postupovnu zaštitu prava potrošača u nacionalnim i sporovima s prekograničnim elementom.*

**Ključne riječi:** zaštita prava potrošača, trgovina, barijere, pristup pravosuđu, horizontalna i vertikalna harmonizacija.

## 1. Introduction

Although its development started at the margin of the idea of integrating the economies of the MS and creating of the single market, consumer protection is becoming increasingly important as a fundamental social policy objective at EU level (Benöhr, 2013, 3). This transformation of the role of consumer protection policy reflects a general shift of EU's primary goal beyond the proper functioning of the single market and the free movement of persons towards encompassing EU citizenship and the protection of fundamental rights (Maňko, 2015, 11).

Namely, consumer protection was first introduced at the national level, and only after its importance for the market integration was recognized it was included in the Single European Act<sup>1</sup> (hereinafter: SEA) and became a part of the European Community policy (Benöhr, 2013, 21; Weatherill, 2013, 8). At the national level, MS approached the regulation of consumer law differently which resulted in different level of protection available to consumers. At the EU level, it was concluded that there is a need for regulatory standards common to all the MS in order to guarantee the same level of protection to consumers (Benöhr, 2013, 19). The integration of consumer policy at EU level developed through soft law and hard law mechanisms as well as jurisprudence of the Court of Justice of the European Union (hereinafter: CJEU) which abolished actions of MS that presented barriers to trade in the market (Benöhr, 2013, 20-21). Nevertheless, it could be argued that in contemporary EU, it became obvious that efforts of the EU legislator in the field of EU substantive consumer law are no longer sufficient in order to ensure enforcement of consumer rights which prevents their violation or threatening. Instead of interventions oriented towards the correction of the market the EU legislator is now focused on creating a new consumer concept which enshrines human rights protection aspect. Hence, alongside acts harmonising substantive private law (especially consumer contract law) which were introduced in order to improve market integration and formed the core of EU consumer law, measures which enhance consumer *access to justice* gained importance at EU level.

In the light of this development, the paper will first give a brief historical overview of EU consumer law. It will then analyze the current legal basis for consumer protection in order to assess whether the introduced instruments and available mechanisms are adequate for removing barriers which consumers face in obtaining redress. These concern mainly the complexity,

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<sup>1</sup> Single European Act, OJ L 169, 29.06.1987.

duration and the cost of the proceedings and the lack of information, knowledge and resources of consumers. In order to answer the question whether instruments of EU consumer law employing measures of horizontal and vertical harmonization provide for adequate procedural protection for consumers in national and cross-border disputes the paper draws on the experience of Croatian legal system in the implementation and the application of consumer redress mechanisms. It concludes with deliberations on a possible future approach towards facilitating *access to justice* for consumers.

## 2. Historical overview of EU consumer law

The development of consumer protection as a systematic policy at the national level began with the recognition of a wider scope of economic and social rights in the 1960's (Reich, Micklitz, 1980). However, this development was gradual and to a large extent unequal between MS. Although some MS adopted a more stringent approach to regulation of consumer protection and relied on their intervention in providing it, other MS were more socially oriented. In these MS consumer organisations and ombudsmen enjoyed greater support and were more influential in providing protection of consumer rights. Consequently, this resulted in the introduction of mechanisms for collective redress in the latter states (Benöhr, 2013, 15-16).

Having in mind a lack of coherent approach towards consumer protection in MS (which according to some authors is still missing) in the 1970's the EU legislator began its legislative activity in this field with the introduction of measures aimed at securing common regulatory standards in all MS (Reich, 2006, 431). However, several aspects contributed to the limited effect of the measures taken at the Community level. First, the fact that the Community's competence in regard to consumer protection was limited to adopting measures which ensure the development of the single market. Yet, the adoption of a large number of acts, including the Directive 84/450<sup>2</sup> and the Directive 98/55<sup>3</sup> proved that over time the Community expanded its competence in the field of consumer protection. Along with the adoption of hard law mechanisms, soft law mechanisms were also introduced. From the first communications and programmes introduced in 1972 onwards, though these mechanisms have no binding effect, they constantly served the Community, especially those in a form of working documents (Green and White papers) for the introduction of initiatives aimed at strengthening the integration process. Namely, Green papers are published by the European Commission (hereinafter: EC) to stimulate discussion on a topic and offer ideas on a future legislative development which are then outlined in White papers and debated with the public, stakeholders, the European Parliament and the Council (Adolphsen, 2015, 29).<sup>4</sup> Besides these initiatives, a strong support to the development of EU consumer policy was given by the CJEU. In its interpretation of the national laws the CJEU detected and eliminated such provisions which created barriers to cross-border trade, could be considered discriminatory towards consumers or could not be considered necessary for the protection of public health, the fairness of commercial transactions and the defence of the consumers.<sup>5</sup> Although the SEA recognized the role of the EC in creating and protecting EU consumer policy the majority of directives were still adopted under the market integration policy.

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<sup>2</sup> Council Directive 84/450/EEC of 10 September 1984 relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning misleading advertising, Official Journal L 250, 19/09/1984 P. 0017 – 0020.

<sup>3</sup> Council Directive 98/55/EC of 17 July 1998 amending Directive 93/75/EEC concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods, OJ L 215, 1.8.1998, p. 65–70

<sup>4</sup> More on the terms see: [http://eur-lex.europa.eu/summary/glossary/white\\_paper.html](http://eur-lex.europa.eu/summary/glossary/white_paper.html)

<sup>5</sup> Case C-120/78 Rewe Zentrale AG v Bundesmonopolverwaltung für Branntwein [1979] ECR 649, para. 8.

However, CJEU's case law began to reflect a notion that alongside market integration there is a need to efficiently protect consumer interest.<sup>6</sup> It seems as if this notion served as impetus for the introduction of consumer protection objectives in the Treaty of Maastrich in 1993 and for the first time, Community's undertaking of the role of the legislator in consumer matters. However, the significance of the new legal competence to the EU was only of a limited practical value, since the directives continued to be adopted on the basis of a market integration requirement. With the adoption of the Treaty of Amsterdam a debate regarding the division of competence between MS and the EU in the field of consumer protection was opened. The *Tobacco Advertising* case<sup>7</sup> emphasized that Article 95 EC is to be used for adopting harmonization measures only in so far as these measures serve for strengthening of the market integration. However, in the year 2000 significant changes in the EU's approach towards harmonization of consumer law occurred and at the same time the Charter of Fundamental Rights (hereinafter: Charter) and the Lisbon Treaty were adopted. The minimum-harmonization approach was replaced by a full-harmonization approach which considerably diminished the possibility of MS to introduce higher level of standards of consumer protection in their national legislation.<sup>8</sup> Namely, due to the fact that the EU was determined to introduce common standards which would strengthen consumer's confidence and encourage cross-border trade, MS are no longer allowed to apply their higher protection national rules governing certain areas of consumer law. But, faced with the criticism of the chosen approach (Howells, Wilhelmsson, 2003, 370) the EC is currently exploring the strengths and weaknesses of the full-harmonisation measures which were introduced in EU consumer law.<sup>9</sup> At the same time, the notion of a "consumer citizen" is gaining momentum (Benöhr, 2013, 38).<sup>10</sup> Consumer protection has been included in Article 38 of the Charter as a fundamental policy objective and this integration has already influenced the jurisprudence of the CJEU (Poretti, 2015, 171-185). Unlike the previous Treaties which did not contribute to the clear division of competences between the EU and MS, the Lisbon Treaty reform and the adoption of the Treaty of the Functioning of the EU (hereinafter: TFEU) finally resolved this issue. Article 169(2) TFEU which contains the differentiation between measures for the market integration (as provided under Article 114 TFEU) and measures which support, supplement and monitor the policy pursued by the MS continues to provide the basis for legislative interventions. However, the continuing reliance on Article 114 TFEU in adopting measures for consumer protection fosters the restrictive approach and could be seen as problematic. Hence, the paper further explores in more detail whether this approach is still adequate in the light of the requirement of strengthening fundamental (procedural) rights of consumers under the Lisbon Treaty and the Charter.

### 3. Access to justice of consumers

Long and inefficient procedures whose costs usually exceed the value of the claims filed by the consumers constitute obstacles in providing *access to justice* for consumers at the national level. Lack of information and insufficient knowledge of their rights often present additional barriers to

<sup>6</sup> Case C-382/87 Buet v Ministère Public [1989] ECR 1235, para. 3.

<sup>7</sup> Case C-376/98 Germany v Parliament and Council (*Tobacco Advertising I*) [2000].

<sup>8</sup> This conclusion stems from the jurisprudence of the CJEU, especially cases C-183/00 Maria Victoria González Sánchez v Medicina Austuriana [2002] ECR I-3901, C-52/00 Commission v France [2002] ECR I-3856 and C-154/00 Commission v Greece [2002] ECR I-3879.

<sup>9</sup> In order to assess the current EU consumer law the Study focuses on the interplay between the directives subject to this Study and the existing sector-specific consumer protection legislation. Study to support the Fitness Check of EU Consumer law (Final report Part I-Main report), 2017-not yet officially published.

<sup>10</sup> The concept was first introduced in political science but it has been accepted by the legal theorists as well as means for promoting a broader consumer concept. (Benöhr, 2013, 38).



consumers in enforcement of their rights. Hence, in most cases consumers are not interested in initiating court procedures. Experience with limitations in obtaining redress at the national level is found to be among the most important reasons why consumers are not confident in exercising their rights in a cross-border dispute.

Hence, as the historical overview confirms the efforts of the EU legislator gradually exceeded the measures for which the EU's competence is provided under the Treaties. The initial idea of securing market integration by removing barriers to free movement and market differences in terms of price, product quality and availability which should contribute to adequate consumer protection has not proven as sufficiently ambitious (Weatherill, 2013, 4). However, recently a series of measures were adopted which do not compose a closed or entirely organized legislative framework but constitute an outline of EU consumer procedural rights protection policy. Its development can be observed through several, almost parallel initiatives. Regardless of the fact that originally the CJEU was supposed to provide for constant support to the development of the notion of consumer protection and the realization of aims set by specific legislative acts in the field, over time, the case law of the CJEU gained an important role of a separate mechanism. By abolishing national practices which are contrary to the market integration goals the CJEU indirectly upholds a notion of fundamental consumer rights, including the right to *access to justice*. A detailed analysis of the effects of each of the conceived measures, especially in the context of enhancing procedural rights protection in Croatia, will provide for a conclusion on their suitability in addressing barriers which consumers face in seeking redress.

A historically oldest approach in the development of EU consumer law through harmonization measures should be examined first. First steps have been made with the adoption of the minimum harmonization directives, leaving the MS a possibility to introduce or keep higher standards of consumer protection. Considering that the directives were adopted with the goal of market integration, they were mostly aimed at removing misleading practice towards consumers (Directive 84/450). At EU level the harmonization of standards of consumer protection developed based on an idea of contributing to consumer trust in the national system and in the cross-border dispute resolution. However, due to the fact that the realization of the idea depends on the availability of procedural mechanisms in the national procedural systems of MS, the question arises to which extent does the harmonization actually contribute to *access to justice* of consumers.

Namely, EU consumer protection directives are implemented in national legal order, but the implementation approach may vary (and usually does) among MS. For example, although a vast number of directives (especially the ones adopted before year 2000) include a minimum harmonization clause, Croatian legislator in most cases literally transposed the provisions of the directives into Croatian Consumer Protection Act<sup>11</sup> (hereinafter: CPA) (Mišćenić, 2014, 280). Due to the fact that some MS chose the same approach while others maintained a higher level of protection, there is variation in national practice regarding consumer protection. For example, in transposing the Directive on Unfair Commercial Practices regarding financial services or immovable property<sup>12</sup> Croatia as well as Austria, Belgium, Bulgaria, Czech Republic, Estonia, Finland, Germany, Greece, Italy, Latvia, Lithuania, Luxembourg, Poland, Romania, Slovakia, Slovenia and Sweden did not go beyond minimum harmonization requirements. In comparison, Cyprus, Denmark, France, Hungary, Ireland, Malta, Netherlands, Portugal, Spain and United

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<sup>11</sup> Consumer Protection Act (Official gazette 41/14, 110/15).

<sup>12</sup> Two areas of commerce have been exempted from full harmonisation, namely those relating to financial services and immovable property. In those two areas the principle of minimum harmonisation applies, and Member States can enact more consumer-friendly rules than those in the UCPD (Keirsblick, 2011, 460).



Kingdom used the opportunity to adopt or maintain more favourable provisions of consumer protection in their national legislation.<sup>13</sup> At the same time, directives do not provide for a possibility of a consumer to rely directly on their provisions in order to obtain protection before court. In situations in which a MS has a different level of consumer protection in comparison to the consumer's MS of origin, or if a MS disregarded its obligation to implement a directive or has done so in an inappropriate manner, the consumer cannot invoke provisions of the directive in court proceedings.<sup>14</sup> To a certain extent, this reduction was mitigated by the CJEU's judgment in *Ratti* case<sup>15</sup> but only in regard to the possibility of invoking the directive before a national court against the MS which failed to transpose the directive in its national legislation (the so-called vertical effect). The directive remains inapplicable in relations between private parties before national courts (the so-called horizontal effect). Given that directives obviously cannot enhance enforcement of consumer rights before courts it is necessary to explore efficiency of other available approaches to the problems that consumers face in *access to justice* due to the lack of "European legal space" and more importantly, only limited EU's competence to address this issue. Although the EC tried to remove the weaknesses of the analyzed approach by adopting full-harmonization consumer directives from 2002 onward, given that full-harmonisation does not extend to procedural aspects, MS are still left with great margin of appreciation regarding enforcement of the consumer directives (Keirsblick, 2011, 460).

Not moving to far from the initial interventions in the field of consumer protection in order to promote market integration, the EU legislator still managed to ensure political support and adopt two sector-specific directives and a regulation aimed at enhancing *access to justice* for consumers, the Consumer Injunctions Directive<sup>16</sup>, the Directive on Alternative Dispute Resolution for Consumer Disputes<sup>17</sup> (hereinafter: Directive on consumer ADR) and Regulation on Online Dispute Resolution for Consumer Disputes<sup>18</sup> (hereinafter: Regulation on consumer ODR). Faced with a notion that private actions of consumers before national courts cannot be considered adequate for abolishing trader's malpractice, the EU legislator reached beyond the model of individual court procedure and introduced a mechanism which enables collective action procedures. On the basis of Article 114 TFEU first the Directive 98/27<sup>19</sup> was adopted but it was later repealed and replaced by Consumer Injunctions Directive. The Consumer Injunctions Directive aims at harmonisation of national provisions which prescribe mechanisms for collective redress. So far, collective redress procedures for consumers have been regarded as

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<sup>13</sup> Results of a Study to support the Fitness Check of EU Consumer law-Final report, not yet published. The Study contains similar findings in regard to the implementation of the Directive 98/6/EC on the European Parliament and of the Council on consumer protection in the indication of the prices of products offered to consumers, OJ L 80, 18.3.1998, p. 27–31 (hereinafter: Price Indication Directive; PID) and the Council Directive 93/13/EEC on unfair terms in consumer contracts, OJ L 95, 21.4.1993, p. 29–34 (hereinafter: Unfair Consumer Contracts Terms Directive; UCTD).

<sup>14</sup> This arises from Article 288 TFEU according to which „A directive shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.”

<sup>15</sup> Case 148/78 [1979] ECR 1629.

<sup>16</sup> Directive 2009/22/EC of 23 April 2009 on injunctions for the protection on consumers' interests, OJ L 110/30, 1.9.2009.

<sup>17</sup> Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on alternative dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC, OJ L 165/63, 18.6.2013.

<sup>18</sup> Regulation (EU) No 524/2013 of the European Parliament and of the Council of 21 May 2013 on online dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC, OJ L 165/1, 18.6.2013.

<sup>19</sup> Directive 98/27/EC of the European Parliament and of the Council of 19 May 1998 on injunctions for the protection of consumers' interests, OJ L 166, 11.6.1998, p. 51–55.

superior to individual procedures (Rosenberg, 2002, 831) or controversial, even unnecessary (Stadler, 2015, ix-xix). Collective redress mechanisms enable consumer protection where consumers would not be inclined to initiate individual procedures. These mechanisms also reduce costs and risks for consumers, contribute to procedural economy and can have a deterrent effect on businesses as a means of market control (Benöhr, 2013, 192-193; Poretti, 2014). However, they may contribute to over-regulation of the market. Also, these mechanisms can lead to abusive practices and cause additional cost (Benöhr, 2013, 194-195). From the perspective of some MS' procedural systems collective redress mechanisms cannot adequately ensure the right to be heard for members of the group (consumers) whose rights have been violated. (Poretti, 2014, 276-277). Although aimed at harmonizing collective redress procedures for consumers both at national and cross-border level, the Consumer Injunctions Directive has had only limited effect. In Croatia for example, due to the fact that only an action for injunction is available and damages claims need to be filed in a separate individual procedure collective redress mechanism was used scarcely by consumers.<sup>20</sup> At the EU level, the latest criticism in regard to Consumer Injunctions Directive concerns the limited scope of its application. Namely, only in case of harm to collective interests of consumers under the directives listed in Annex I to the Consumer Injunctions Directive a collective redress procedure can be initiated. But, lately it has been suggested to extend its application to the scope of the CPC Regulation or even to consumer law in general.<sup>21</sup> Nonetheless, it seems that collective redress mechanisms are beginning to receive certain support from MS.

Although competences of the EU originally did not include the possibility to regulate in the field of Alternative Dispute Resolution (hereinafter: ADR) the latest pieces of legislation adopted on the basis of 114 TFEU are a sign of readiness and willingness of the EU legislator to strengthen out-of-court resolution of consumer disputes. Whether the new ADR legislation will be able to remove the identified obstacles in out-of-court dispute resolution caused by the diversity in national practices remains to be seen. The Directive on consumer ADR should remove differences of ADR systems for consumer dispute resolution in MS and harmonize criteria for the ADR entities in order for the consumers to be adequately protected regardless whether they initiate the procedure at the national level or in another MS. Thereby, the *online* platform for consumer dispute resolution which began to operate in 2016 should afford additional support and enable consumers to initiate ADR procedures against the traders from another MS without the need to access qualified entities and initiate procedures in person. For now it should be noted that due to the fact that MS are left with the choice of appropriate way of their transposition in the national legal system, diversities between national solutions should be expected. In Croatia, the Directive on consumer ADR was transposed and measures for the application of the Regulation on consumer ODR were adopted in the Act on Alternative Resolution of Consumer Disputes<sup>22</sup> which came into force on 31st December 2016.<sup>23</sup> However, among potential weaknesses of the introduced system which could reduce the efficiency of ADR procedure in Croatian legal system is an inadequate level of information available to Croatian consumers (Petrašević, Poretti, 2016, 46), the possibility of traders to decide whether the solution of a dispute reached in an ADR

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<sup>20</sup> So far, there has been only one injunction procedure initiated by the Croatian Union of Consumer Protection Organisations-Potrošač and Association Franak (against banks because of the unfair terms in bank loan agreements in Swiss francs) which was partially successful (26.P -1401/2012). At the moment there is an injunction procedure against HT- Croatian Telekom.

<sup>21</sup> Study to support the Fitness Check of EU Consumer law-main report, p. 8.2.

<sup>22</sup> Act on Alternative Resolution of Consumer Disputes (Official gazette 121/16).

<sup>23</sup> Due to the failure of Croatian legislator to adopt the ADR Directive before 9<sup>th</sup> July 2015, the EC initiated a procedure against Croatia on the basis of Articles 258 and 260 para. 3 TFEU (Official notification – Infringement No 2015/0430).

procedure is binding on them (Petrašević, Poretti, 2016, 47)<sup>24</sup> and the lack of an obligation of traders to notify the consumers if they are not willing to participate in ADR procedures (Hodges, 2012, 5; BEUC, 2012, 11-12).

Unlike the majority of consumer protection measures analyzed above which have been adopted on the basis on Article 114 TFEU and require market integration objective, the Lisbon Treaty has brought broader powers of the EU legislator to adopt civil procedure measures. According to legal theory, Article 169 TFEU in conjunction with Article 81 TFEU became a potential basis for the adoption of EU *access to justice* measures for consumers. Based on Article 81 TFEU first there were three optional instruments whose introduction was expected to contribute to enhancing *access to justice* for consumers (Benöhr, 2013, 192). Although they mainly serve as EU legislative acts (in a form of a regulation) which promote judicial cooperation in civil matters with cross-border implications, they have proven to be important for enhancement of procedures for settling individual consumer disputes. These instruments – optional forms of civil procedure are European Small Claims Procedure (hereinafter: ESCP), the European Order for Payments Procedure (hereinafter; EOPP) and European Account Preservation Order (hereinafter: EAPO). The most recent instrument which could pertain to the followed approach of creating optional instruments for resolution of consumer disputes is the mechanism for online consumer dispute resolution regulated in the Resolution on consumer ODR. However, only the ESCP procedure will be elaborated in more detail further.

Based on the EC Report on the application of the ESCP it seems that overall it was a useful tool for simplifying a small claims procedure, making it inexpensive, less time-consuming and easier to access for consumers. Moreover, one of the advantages of the ESCP in comparison to the Brussels I bis Regulation<sup>25</sup> is the direct enforceability of a judgment rendered under the ESCP regulation which unlike the Brussels I bis has narrower grounds for opposing enforcement (Maňko, 2015, 17). At the same time, the analysis of its five year application has shown deficiencies which undermine its efficiency and should be removed with the application of the Regulation 2015/2421 amending ESCP Regulation from 14<sup>th</sup> July 2017<sup>26</sup>. In order to improve the overall efficiency of the procedure and reduce cost and the duration (arg. *ex Recital* 6, 7), especially in regard to the service of the documents and taking of evidence (arg. *ex Recital* 12, 13) the Regulation 2015/2421 relies heavily on the use of electronic communications and new tools available to the court and the parties. Although general support to the revision of the ESCP Regulation was given by the Croatian Government and the Parliament, it was emphasized that the use of means of electronic communication should not be obligatory for MS. The request should be understood in the light of the current state of Croatian judiciary which is not adequately equipped or prepared for the use of the means of electronic communication in the ESCP procedure (Poretti, 2016, 103).<sup>27</sup> So, it seems that regardless of the efforts of the EU legislator in amending the previous Regulation, the efficiency of the “new” ESCP procedure can still be undermined by the inadequacy of background rules of the national civil procedure.

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<sup>24</sup> The results of a conducted research show that only in 9 % of the cases in which the solution is not binding on the trader according to the law the traders accept the binding effect of such a solution on them. Flash Eurobarometer 300, Retailers' attitude towards cross-border trade and consumer protection, 2011, 8.

<sup>25</sup> Regulation No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), OJ L 351/1.

<sup>26</sup> Regulation (EU) 2015/2421 of 16 December 2015 amending Regulation (EC) No 861/2007 establishing a European Small Claims Procedure and Regulation (EC) No 1896/2006 creating a European order for payment procedure from 14<sup>th</sup> July 2017, OJ L 341, 24.12.2015, p. 1–13.

<sup>27</sup> Opinion of the Parliament of the Republic of Croatia available at: <http://www.sabor.hr/misljenje-odbora-za-pravosude-o-stajalistu-rep0002>.

Finally, as explained earlier, consumer *access to justice* has developed significantly in the case law of the CJEU. The recent *Finanmadrid* case<sup>28</sup> can be considered as an important step in this regard. In the case at hand the CJEU delivered a judgment in regard to the interpretation of UCTD and Article 47 of the Charter. In the first two referred questions the national court asked in essence whether UCTD precludes national legislation, such as that at issue in the main proceedings, which does not permit the court ruling on the enforcement of an order for payment to assess *ex officio* whether a term in a contract concluded between a seller or supplier and a consumer is unfair, when the authority hearing the application for an order for payment does not have the power to make such an assessment. In the other two questions the national court asked in essence whether the Charter and, more precisely, the right to effective judicial protection enshrined in Article 47 thereof, preclude national legislation such as that at issue in the main proceedings. The CJEU confirmed that procedures such as the one examined in the case are contrary to the UCTD. But more importantly, the questions regarding the Charter which remained unanswered by the CJEU were considered by the AG Szpunar in his Opinion. As AG Szpunar explains, the level of judicial protection of the rights that consumers derive from UCTD is higher than that flowing from Article 47 of the Charter for the parties to a civil action involving EU law. *Access to justice* under Article 47 of the Charter does not include an obligation of the court to conduct an *ex officio* review. This obligation is provided under UCTD in order to safeguard consumers as weaker parties in the contract in cases of an imbalance between the parties. However, Article 47 of the Charter safeguards procedural rights which only in cases where the defendant does not have access to an effective remedy enabling him to object to the order for payment and argue that his rights of the defence have been infringed can be interpreted to preclude national legislation as the one considered in the case.

#### 4. Conclusion

A development of a coherent consumer redress policy is currently at the focus of EC. As the analysis revealed, regardless of the efforts put in creating EU substantive consumer law and policy, if there is no efficient enforcement, consumer interests cannot be adequately protected. Since the Lisbon Treaty empowered the EU to adopt legislation and introduce measures which enhance *access to justice* for consumers, the approach of the EU legislator in ensuring fundamental (procedural) rights protection for consumers is twofold.

On one side, the EU legislator adopts directives as sector-specific instruments based on Article 114 TFEU which are aimed at harmonisation of national rules in the field of consumer law. The ‘older’ generation of harmonization directives provided for harmonization of standards of consumer substantive law. Since these directives could not be directly invoked by consumers before court in order for the consumers to exercise their rights, they did not directly provide for procedural protection of consumers. Although relying on the market integration objective under Article 114 TFEU, a ‘new’ generation of harmonization directives addresses purely procedural aspects of national and cross-border cases (Consumer Injunctions Directive, Directive on consumer ADR). Interestingly, these instruments contain procedural rules for a certain type of procedure, an out-of-court procedure, ADR procedure or collective redress. So, obviously they do not provide for harmonization of national rules for traditional civil procedure either.

At the same time, the CJEU is concerned with examination of the level of *access to justice* of consumers which is provided in national civil procedures on the basis of harmonization directives. Although in the recent *Finanmadrid* case the CJEU failed to examine the interplay

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<sup>28</sup> Case C-49/14 *Finanmadrid* EFC SA, ECLI:EU:C:2016:98.

between the Charter and the UCTD in providing procedural protection of consumer rights, in his opinion AG Szpunar made an important point. He emphasized the difference between the level of protection guaranteed under the right to court according to Article 47 as a ‘pure procedural rule’ and the right to judicial protection of a consumer as a weaker party according to Article 6 UCTD as a rule of a ‘sector-specific’ instrument for consumer protection .

On the other side, harmonisation of national procedural laws by way of optional horizontal instruments (ESCP, EOPP, EOPN) which the EU legislator based on Article 81 TFEU will influence the standards of procedural guarantees afforded to consumers. Although these instruments are aimed at removing obstacles created by inconsistencies of the national procedures in cross-border transaction, they might influence the level of standards provided in national procedures as well even more directly than the case law of the CJEU has done. Namely, by applying procedural rules provided under optional instruments, national judges are importing higher and more harmonized standards of procedural rights protection in their national judicial system in a faster and a more straightforward manner. This is at least to be hoped.

It seems that the EU legislator is becoming aware that realisation of the goal of harmonized standards of judicial protection of consumer rights and interests at EU level is challenging. This is influenced by the different means of redress available to consumers at national level. So, possible solutions are explored in the framework of the initiatives for prevention of excessive court litigation and affording *access to justice* through ADR and collective redress mechanisms. At the same time, cross-border judicial cooperation optional instruments could prove to be beneficial for increasing the level of standards of consumer procedural protection at EU level as well. But only insofar as mutual trust requirement prompts the MS to adhere to high standards of the fundamental (procedural rights) protection promoted at EU level. In the light of the notion of the CJEU’s denial of the horizontal effect of the directives which would afford consumers the right to directly invoke them before court, divergences in the approach of MS towards collective redress mechanisms, uncertain efficiency of ADR mechanisms and insufficient application of optional instruments across MS it remains to be seen what the future holds for the measures aimed at the development for effective EU consumer law enforcement at the national and EU level.

## REFERENCES

Act on Alternative Resolution of Consumer Disputes (Official gazette 121/16).

Adolphsen, J. (2015): *Europäisches Zivilverfahrensrecht*, Springer, Berlin-Heidelberg.

Benöhr, I. (2013): *EU Consumer Law and Human Rights*, Oxford University Press, Oxford.

Case C-382/87 Buet v Ministère Public [1989] ECR 1235, para. 3.

Case C-49/14 Finanmadrid EFC SA, ECLI:EU:C:2016:98.

Case C-376/98 Germany v Parliament and Council (Tobacco Advertising I) [2000].

Case 148/78 Ratti [1979] ECR 1629.

Case C-120/78 Rewe Zentrale AG v Bundesmonopolverwaltung für Branntwein [1979] ECR 649, para. 8.

Council Directive 84/450/EEC of 10 September 1984 relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning misleading advertising, OJ L 250, 19/09/1984 P. 0017 – 0020.

Council Directive 98/55/EC of 17 July 1998 amending Directive 93/75/EEC concerning minimum requirements for vessels bound for or leaving Community ports and carrying dangerous or polluting goods, OJ L 215, 1.8.1998, p. 65–70.

Council Directive 93/13/EEC on unfair terms in consumer contracts, OJ L 95, 21.4.1993, p. 29–34.

Consumer Protection Act (Official gazette 41/14, 110/15).

Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on alternative dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC, OJ L 165/63, 18.6.2013.

Directive 98/27/EC of the European Parliament and of the Council of 19 May 1998 on injunctions for the protection of consumers' interests, OJ L 166, 11.6.1998, p. 51–55.

Directive 2009/22/EC of 23 April 2009 on injunctions for the protection on consumers' interests, OJ L 110/30, 1.9.2009.

Hodges, C., Benöhr, I and Creutzfeld-Banda N. J. (2012): *Consumer ADR in Europe*, Hart publishing, Oxford.

Howells, G., Wilhelmsson, T. (2003): *EC Consumer Law: Has it Come of Age?*, European Law Review, No. 4, pp. 370-388.

Keirsblick, B. (2011): *The New European Law of Unfair Commercial Practices and Competition Law*, Hart publishing, Oxford.

Mańko, R. (2015): *Europeanisation of civil procedure, Towards common minimum standards*, European Union.

Mišćenić, E. (2014): *Consumer Protection Law*, in Josipović, T., ed.: Introduction to the Law of Croatia, Wolters Kluwer, Alphen aan den Rijn.

Petrašević, T. and Poretti, P. (2016): *Zaštita prava potrošača u RH s posebnim osvrtom na ugovore sklopljene izvan poslovnih prostorija ponuditelja i ugovore na daljinu*, Društveni ogledi, No. 1, pp. 9-54.

Poretti, P. (2014): *Kolektivna pravna zaštita u parničnom postupku*, (PhD) doctoral dissertation, Zagreb.

Poretti, P. (2015): *Consumer Protection in Enforcement Proceedings in Light of the Recent CJEU Case Law*, in SEE I EU Cluster of Excellence in European and International Law, ed., *South Eastern Europe and the European Union-Legal Aspects*, Verlag Alma Mater, Saarbrücken, pp. 171-185.

Poretti, P. (2016): *Pravo EU u građanskom procesnom pravu*, in Petrašević, T. and Vuletić, I., ed., *Procesno-pravni aspekti prava EU*, Pravni fakultet Sveučilišta J.J. Strossmayera u Osijeku, Osijek.

Regulation (EU) 2015/2421 of 16 December 2015 amending Regulation (EC) No 861/2007 establishing a European Small Claims Procedure and Regulation (EC) No 1896/2006 creating a European order for payment procedure from 14<sup>th</sup> July 2017, OJ L 341, 24.12.2015, p. 1–13.

Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast), OJ L 351/1.

Regulation (EU) No 524/2013 of the European Parliament and of the Council of 21 May 2013 on online dispute resolution for consumer disputes and amending Regulation (EC) No 2006/2004 and Directive 2009/22/EC, OJ L 165/1, 18.6.2013.

Reich, N. (2006): *A European Concept of Consumer Rights: Some Reflectionson Rethinking Community Consumer Law*, Nomos, Baden-Baden.

Reich, N. and Micklitz, H-W. (1980): *Consumer Litigation in the EC Countries: A Comparative Analysis*, Van Nostrand Reinhold, New York.

Single European Act, OJ L 169, 29.06.1987.

Stadler, A. (2015): *Foreword*, in Lein E. et al., ed., *Collective Redress in Europe-Why and How?*, British Institute of International and Comparative Law, London, pp. ix-xix

Study to support the Fitness Check of EU Consumer law (Final report Part 1-Main report), 2017-not yet officially published.

Weatherill, F. (2013): *EU Consumer Law and Policy*, Elgar European Law, Cheltenham.



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## **LEGAL SECURITY IN THE FUNCTION OF ECONOMIC GROWTH**

### **PRAVNA SIGURNOST U FUNKCIJI GOSPODARSKOG RASTA**

#### ***ABSTRACT***

*The rule of law and economic development are two sides of an advanced country. The stronger the rule of law, the more attractive the investment conditions; investors feel secure, and their capital is protected.*

*Although in recent years Croatia made some progress with disburdening of the economy, this is still not a strong incentive for investors who complain about the lack of long-term development strategy, frequent legislative changes, and legal insecurity.*

*According to the World Bank's ease of doing business criteria, Croatia is still at the bottom of the European list. Judicature is still inefficient, despite the fact that we have the largest number of judges per population in the EU. The procedures are long and unpredictable.*

*The mismatch of land register and cadastral records generates incalculable losses and damage to the Croatian economy every day, hindering the investment potential. Organising land register and cadastral records is a precondition without which there can be no investment wave, nor business security.*

*Frequent legislative changes are a great obstacle to investments and economic growth. The laws keep changing and the reason for these changes is unknown, because regulations are not evaluated. In the last two convocations, the Croatian Parliament adopted about 1800 laws, of which 800 in an emergency procedure. Along with by-laws, regulations and ordinances, it is an impenetrable jungle of regulations that entrepreneurs and investors have problems with.*

*In order for the effect of the rule of law to be as stimulating as possible for the growth of economy, it is necessary to evaluate the impact of the already passed laws on the economy and then leave some time for the implementation of new ones. Instead of frequent legislative changes, it would be far more effective to establish a system that would quickly detect and eliminate bureaucratic obstacles and inconsistencies, and make sure that new regulations do not bring new obstacles and problems to businesses.*

*The objective of this paper is to define key problems in the functioning of the rule of law that prevent investment security and economy development, to analyse the current situation, set goals and propose possible solutions, especially regarding problems with ownership registration, functioning of commercial courts, and legislation.*

**Key words:** *investments, legislation, land register, judicature, economic recovery, competitiveness.*

## SAŽETAK

*Vladavina prava i ekonomski razvoj predstavljaju lice i naličje napredne zemlje. Koliko je snažna pravna država toliko su uvjeti za ulaganja privlačniji, a investitori se osjećaju sigurnim i njihov kapital zaštićenim.*

*Iako je u posljednjih nekoliko godina Hrvatska napravila određene pomake u rasterećenju gospodarstva, to još uvijek ne predstavlja snažan poticaj ulagačima koji se žale na nedostatak dugoročne strategije razvoja, česte izmjene zakona i pravna nesigurnost.*

*Hrvatska je prema kriterijima Svjetske banke o lakoći poslovanja još uvijek na dnu europske ljestvice. Pravosuđe je i dalje neefikasno unatoč činjenici da imamo najveći broj sudaca po broju stanovnika u EU. Postupci su u dugi i nepredvidivi.*

*Neusklađenost zemljišnih i katastarskih evidencija svaki dan donosi neprocjenjive gubitke i štetu hrvatskom gospodarstvu i koči ulagački potencijal. Sređivanje zemljišnih i katastarskih evidencija je uvjet bez kojega nema investicijskog zamaha i sigurnosti u poslovanju.*

*Velika smetnja ulaganjima i gospodarskom rastu predstavlja česta izmjena regulative. Zakoni se mijenjaju, a da se pri tome uopće ne zna razlog promjena jer se ne radi evaluacija propisa. U posljednja dva saziva Hrvatski sabor je donio oko 1800 zakona od čega 800 po hitnom postupku. Kada se dodaju podzakonski akti, uredbe i pravilnici izrasla je neprohodna šuma propisa u kojoj se poduzetnici i investitori slabo snalaze.*

*Kako bi utjecaj pravne države bio što stimulativniji za rast gospodarstva potrebno je izraditi procjenu učinka već donesenih zakona na gospodarstvo i nakon toga ostaviti vremena za primjenu novih. Umjesto čestih zakonskih izmjena bilo bi daleko efikasnije ustrojiti takav sustav koji će brzo uočavati i rješavati birokratske prepreke i nelogičnosti, te voditi računa o tome da novi propisi ne uvode nove prepreke i probleme u poslovanju.*

*Ovaj rad ima za cilj definirati ključne probleme u funkcioniranju pravne države koji sprečavaju sigurnost ulaganja i razvoj gospodarstva, analizirati postojeću situaciju, postaviti ciljeve i ponuditi moguća rješenja posebno na području problema evidentiranja vlasništva, funkcioniranja trgovačkih sudova i zakonske regulative.*

***Ključne riječi:*** ulaganja, zakoni, zemljišne knjige, pravosuđe, gospodarski oporavak, konkurentnost.

### 1. Introduction

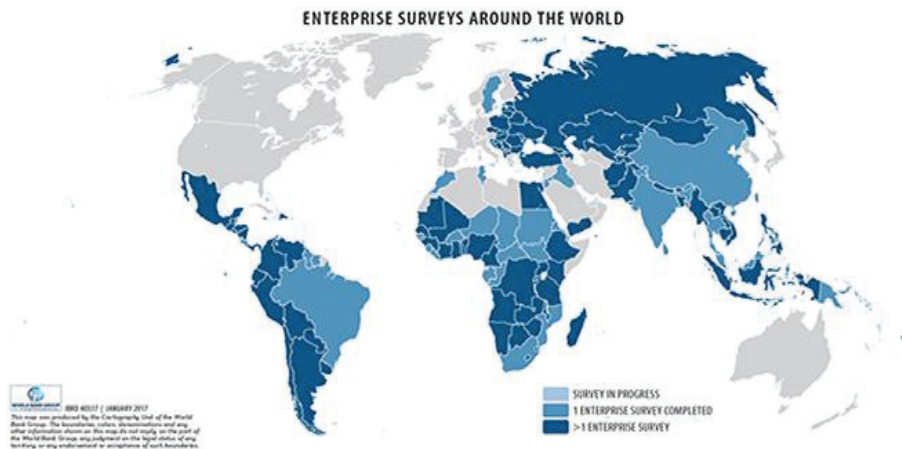
In recent years, the investment climate in Croatia has been gradually improving. The reason is improvement in the functioning of the rule of law, which is also indicated by the completion of Croatian pre-accession negotiations and the achieved benchmarks regarding the judicial reform. According to the 2015 EU Justice Scoreboard Report of the Council of Europe Commission for the Evaluation of the Efficiency of Justice (CEPEJ), Croatian rankings related to the effectiveness of resolving civil disputes are comparable to those of other EU Member States.

However, structural reforms have not yet been completed. Inefficiency and unpredictability of the judicial system remain among the biggest obstacles to business and investments and have a direct impact on the business environment. According to the Business Environment and Enterprise Performance Survey (BEEPS) for 2014, only 36 per cent of enterprises in Croatia stated that the judicial system was fair, impartial and uncorrupted.<sup>1</sup>

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<sup>1</sup><http://www.enterprisesurveys.org/>

*Image 1 The Enterprise Surveys, business experience, World Bank Group 2014*



Source: <http://www.enterprisesurveys.org/~media/giawb/enterprisesurveys/images/billboards/es-billboard-global-coverage3.jpg>

In the Global Competitiveness Report of the World Economic Forum (WEF), Croatia has made progress on the competitiveness list; however, entrepreneurs are warning that the pace of the rise is too slow and that the government is still not doing its part, given that it has been avoiding stronger reforms, all of which reflects on the economy which is among the least competitive in the environment.<sup>2</sup>

In developing a certain country's economic profile, the World Bank monitors 10 areas that affect the business cycle among which judicature has a very important role in enforcing measures that could develop the business environment and boost the current ranking.

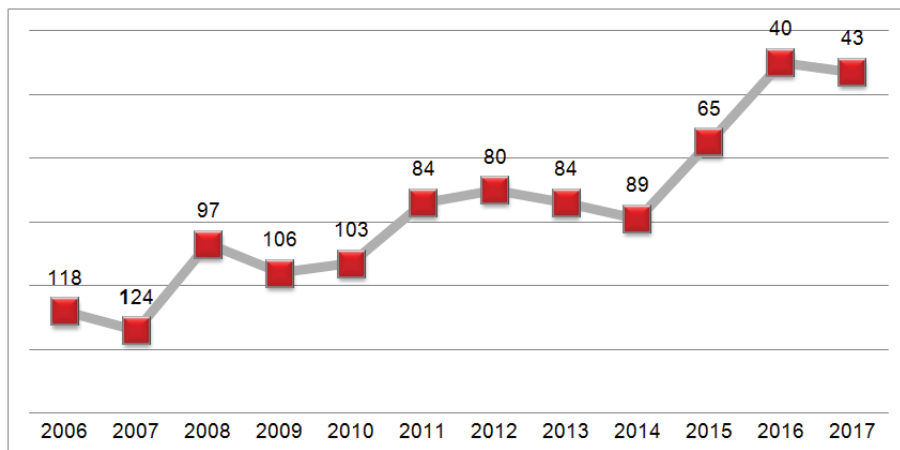
To start a business in Croatia, one needs to go through seven procedures, which can in reality take up to 60 days. In order to register property in Croatia, one needs to undergo five procedures, which on average takes 62 days.<sup>3</sup>

Although Croatia has made a serious step forward in improving the business climate in the past few years, the most recent 2017 World Bank Development Report for Croatia shows that, in terms of business climate, of 190 countries, Croatia is ranked 43<sup>rd</sup> compared to last year, when it was ranked 40<sup>th</sup>.

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<sup>2</sup>World Economic Forum WEF, Global Competitiveness 2016  
<sup>3</sup><http://www.enterprisesurveys.org/data/exploreeconomies/2013/croatia>

*Table 1 Croatia Doing Business comparable period 2006-2017*



*Source: AIK / Competitiveness / Measuring competitiveness / Doing Business report  
<http://www.aik-invest.hr/en/competitiveness/measuring-competitiveness/doing-business-report/>*

Despite these encouraging indicators, investors and entrepreneurs point out the problems that could block long-term foreign direct investments in Croatia. In this regard, they identified the most difficult problems in terms of business environment: Croatia has disorganised land records, cadastre and land register, it is impossible to collect receivables and there is a problem of legislative over-regulation.<sup>4</sup>

## **2. Success factors**

### **2.1. Organising Land Records**

Organising land records – the cadastre and land register – is an important element of legal security for each investor in Croatia. However, there are problems because property records in Croatia are kept in several places. Property records are kept in the land register departments in 107 courts and regional departments. Cadastre records are kept in the State Geodetic Administration in 20 regional offices and 112 branch offices.

Responsibilities for real property registration are divided between the Ministry of Justice, which regulates and supervises the work of all land register departments in the courts and the State Geodetic Administration, a body within the Ministry of Construction and Physical Planning that manages the Cadastre. State-owned property is managed by the Ministry of State Property.

This overview clearly shows that the current system of property registration is disorganised and has a series of negative impacts that affect legal security.

Investors are discouraged by the lack of clarity of property ownership. Property record numbers, names of cadastral municipalities and surfaces do not match.

<sup>4</sup>The White Paper 2016 by the Foreign Investors Council Croatia page 36

Many properties are registered under old institutes of the former socialist system such as public property, social property, various municipal committees, etc. To an investor's question who owns the property that was in 1947 registered in the land register as public property, with no indication of the person authorised to use the property, even the greatest experts for ownership structures in Croatia have difficulties providing an answer.<sup>5</sup>

The mismatch of the records creates serious legal insecurity for investors. For example, a property in Zagreb, at the address Trg sv. Marka 3, registered in the Land Registry Department of the Municipal Civil Court in Zagreb, is marked cadastral plot 155 in the cadastral municipality City of Zagreb, in-kind a house, reference number 81, a courtyard and a business facility, and a wall with the surface area of 255m<sup>2</sup> in Mletačka ulica, registered as the property of the Republic of Croatia, and in the Cadastre Office of the City of Zagreb, it is marked cadastral plot 1517, cadastral municipality Centar, in-kind a house No. 3,2,2, Mletačka ulica -Trg sv. Marka, but with the surface area of 828m<sup>2</sup>.

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<sup>5</sup>Zagreb Chamber of Economy, Italian investment in Croatia: current situation and future prospects 25/05/2016

*Image 2 Cadastral Certificate Possessory sheet of property, City Office for Cadastre and Geodetic Affairs of the City of Zagreb*



REPUBLIKA HRVATSKA  
GRAD ZAGREB  
GRADSKI URED ZA KATASTAR I GEODETSKE POSLOVE

**NESLUŽBENA KOPIJA**

Stanje na dan: 30.03.2017. 23:34

**PRIJEPIS POSJEDOVNOG LISTA**

Katastarska općina: CENTAR (Mbr. 335240)

Posjedovni list: 3073

| Udio | Prezime i ime odnosno tvrtka ili naziv, prebivalište odnosno sjedište upisane osobe | OIB |
|------|---|-----|
| 1/1  | REPUBLIKA HRVATSKA-VLADA R.H, TRG SV. MARKA 2, ZAGREB, HRVATSKA<br>(KORISNIK)       |     |

**Podaci o katastarskim česticama**


| Zgr.  | Dio | Broj katastarske čestice | Adresa katastarske čestice/Način uporabe katastarske čestice/Način uporabe zgrade, naziv zgrade, kućni broj zgrade | Površina/<br>m <sup>2</sup> | Broj D.L. | Posebni pravni režimi | Primjedba |
|---|-----|--------------------------|--|-----------------------------|-----------|-----------------------|-----------|
|   |     | 1517                     | MLETAČKA ULICA - TRG SV. MARKA   | 828                         | 16        | KD                    |           |
|   |     |                          | KUĆA BR. 3,2,2 ZGR., Zagreb, Mletačka ulica 2, Zagreb, Trg sv. Marka 3   | 735                         |           |                       |           |
|   |     |                          | DVORIŠTE   | 93                          |           |                       |           |
| <b>Ukupna površina katastarskih čestica</b> |     |                          |  | <b>828</b>                  |           |                       |           |

NAPOMENA: Ovaj prijepis posjedovnog lista nije dokaz o vlasništvu na katastarskim česticama upisanim u posjedovnom listu.

Značenje oznaka pravnih režima: KD-KULTURNO DOBRO.

*Source: Electronic databases Zagreb cadaster Registry*

*Image 3 An excerpt from the land register of the Municipal Civil Court in Zagreb for the cadastral municipality Zagreb*



**REPUBLIKA HRVATSKA**

Općinski građanski sud u Zagrebu  
ZEMLJIŠNOKNJIŽNI ODJEL ZAGREB  
Stanje na dan: 11.04.2017. 23:32

Katastarska općina: 999901, GRAD ZAGREB

Broj zadnjeg dnevnika: Z-20984/2003  
Aktivne plombe:

**NESLUŽBENA KOPIJA**

Verificirani ZK uložak

Broj ZK uložka: 37

**IZVADAK IZ ZEMLJIŠNE KNJIGE**

**A**

**Posjedovnica**

**PRVI ODJELJAK**

| Rbr. | Broj zemljišta (kat. čestice) | Oznaka zemljišta   | Površina |       |      | Primjedba |
|------|-------------------------------|--|----------|-------|------|-----------|
|      |                               |  | jutro    | čhv   | m2   |           |
| 1.   | 4                             | KUĆA BROJ: 133 UPUTNI BROJ: 1 MARKOV TRG, BROJ: 10 KAPUCINSKA ULICA I BROJ: 2 KAZALIŠTNA ULICA, DVORIŠTE I VRT |          | 565,6 | 2034 |           |
| 2.   | 5                             | KUĆA BROJ: 2 UPUTNI BROJ: 2 MARKOV TRG I BROJ: 12 KAPUCINSKA ULICA, GOSPODARSKA ZGRADA I DVA DVORIŠTA          |          | 466,1 | 1677 |           |
| 3.   | 368/3                         | ZGRADA, ZID, ŠUMA I PUT  |          | 401,3 | 1443 |           |
|      |                               | UKUPNO:  |          | 1433  | 5154 |           |

**DRUGI ODJELJAK**

| Rbr. | Sadržaj upisa  | Primjedba |
|------|--|-----------|
|      | Zaprimljeno 22.09.2003. broj Z-20983/2003  |           |
| 1.1  | Na temelju rješenja Ministarstva kulture RH, Uprave za zaštitu kulturne baštine klasa:UP-I-612-08/02-01/810 ZABILJEŽBA ur.broj:532-10-1/8(JB)-03-2 od 31.siječnja 2003.godine zabilježuje se da Palača Banski dvori u Zagrebu, Trg Svetog Marka 2 sagrađena na zk.čbr. 5 (po novoj izmjeri kč. 1476 k.o. Centar) ima svojstvo kulturnog dobra. |           |
|      | Zaprimljeno 22.09.2003. broj Z-20984/2003  |           |
| 2.1  | Na temelju rješenja Ministarstva kulture RH, Uprave za zaštitu kulturne baštine klasa:UP-I-612-08/02-01/809 ZABILJEŽBA ur.broj:532-10-1/8(JB)-03-2 od 31.siječnja 2003.godine zabilježuje se da Palača Banski dvori u Zagrebu, Trg Svetog Marka 1 sagrađena na zk.čbr. 4 (po novoj izmjeri kč. 1475 k.o. Centar) ima svojstvo kulturnog dobra. |           |

**B**

**Vlastovnica**

| Rbr. | Sadržaj upisa      | Primjedba |
|------|--------------------|-----------|
| 1.   | Vlasnički dio: 1/1 |           |
|      | REPUBLIKA HRVATSKA |           |

Zemljišnoknjižni izvadak (datum i vrijeme izrade)

12.04.2017. 18:22:29

Stranica: 1

Source: Electronic databases Zagreb Landr Registry

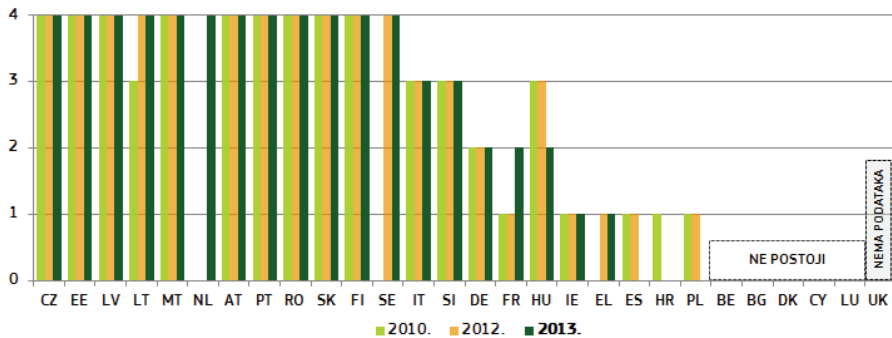


## 2.2. Disputes before Commercial Courts

The business climate also depends on the efficiency of settlement of commercial disputes before courts. Since there is lack of effective commercial courts, enterprises invest less and business transactions are scarcer. The use of modern information technologies has still not been used to increase the efficiency of the system. Not all resources of the modern technology are used to accelerate and simplify the processes and reduce labour costs in the commercial courts.

The possibilities of using modern information technologies in communication between the courts and the parties has not even reached the initial stage yet; namely, it is impossible to file a lawsuit in Croatia online. In comparison with other European countries, we are seriously lagging behind in the application of electronic communication.

**Image 4** Electronic Submission of Claims\* (0 = available at 0% courts; 4 = available at 100% courts)



Source: CEPEJ Study, European Commission; The 2016 European Scoreboard, page 29

Croatia has no courts for low-value claims, nor has low-value procedure been regulated.

An effective procedure for low-value claims is crucial for the improvement of the accessibility of the justice system to citizens, because it allows them better execution of their consumer rights. The importance of cross-border procedures for low-value claims carried out via the Internet has been increasing due to cross-border e-commerce. Therefore, one of the objectives of the European Commission's policy is to simplify and speed up the procedure for low-value claims by improving communication between judicial bodies. The goal is to reduce the administrative burden for all groups of users: courts, stakeholders in the judicature, and end users.

## 2.3. Frequent Legislative Changes

Although frequent legislative changes are not solely and primarily the responsibility of the judicature, they have a direct influence on the functioning of the justice system, and thus on legal security of everyone in the society, including legal security of investors and entrepreneurs. Namely, frequent legislative changes have had on several occasions the direct consequence of increasing the inflow of cases to courts, which also brought the justice system to a situation in which it could not effectively handle such an increase in the influx of cases.

In order for the effect of the rule of law to be as stimulating as possible for the growth of economy, it is necessary to evaluate the impact of the already passed laws on the economy and then leave some time for the implementation of new ones.

In the last two convocations, the Croatian Parliament adopted about 1800 laws, of which 800 in an emergency procedure. Along with by-laws, regulations and ordinances, it is an impenetrable jungle of regulations that entrepreneurs and investors have problems with. Instead of frequent legislative changes, it would be far more effective to establish a system that would quickly detect and solve bureaucratic obstacles and inconsistencies, and make sure that new regulations do not bring new obstacles and problems to businesses.

Croatia has about a thousand laws, without their amendments, and several thousand by-laws, and it is about to create new ones. How much time do we need to handle this? This is serious work that could be done gradually in a few years. One should also consider the time required to conduct a regulation amendment procedure for every change; the procedure is longer and more complex for laws, and shorter and simpler for other regulations.

The goal is to significantly disburden the legal framework that affects business activities of enterprises – bureaucratic procedures – in 2016. This will be achieved by better use of tools for elimination of the current procedures, as well as better preparation of new regulations. In the judicial reforms, the emphasis will be placed on amendments to legislation aimed at reconciling the judicial practice, releasing judges of performing non-judicial tasks, reducing the inflow of new cases, shortening the duration of the process, and an even greater reduction of the number of pending cases.

### 3. Objectives

Croatia can quickly raise its legal efficiency level and boost the confidence of the investors and the public, as well as competitiveness, and improve its business environment.

| <b>WITH REGARD TO PROPERTY RECORDS, IT IS NECESSARY TO:</b>   |
|---|
| 1. complete the synchronisation of data from the land register and the cadastre   |
| 2. complete the project Real Property Registration and Cadastre Joint Information System (JIS), which will synchronise the land register and cadastre databases |
| 3. allow the electronic land-registry certificates to be considered official documents  |
| 4. ensure their availability through the e-Citizens system.   |

| <b>WITH REGARD TO COMMERCIAL COURTS, IT IS NECESSARY TO:</b>   |
|--|
| 1. accelerate procedures and strengthen coordination by improving the exchange of information between court databases and government systems                               |
| 2. adopt a rapid procedure for minor disputes by applying the experience of other EU Member States   |
| 3. provide increased two-way electronic communication between courts and users   |
| 4. strengthen the automation of external services by improving websites, e-services, e-files, etc.   |
| 5. use EU structural funds to improve court buildings at important locations   |
| 6. develop alternative means of resolving disputes. Promotion of alternative dispute-resolving measures would reduce the backlogs of pending cases in the Croatian courts. |
|  |

|  |
|--|
| <b>WITH REGARD TO LEGISLATION, IT IS NECESSARY TO:</b> |
|--|

- |  |
|--|
| 1. conduct a thorough assessment of the impact of regulations on every new law or by-law   |
| 2. increase the capacity for impact assessment   |
| 3. refrain from the retroactivity principle, i.e. regulatory change „backwards“  |
| 4. leave enough time prior to the execution for compliance with a new law or act   |
| 5. recognise the key role in the creation of an investment-friendly environment, restore confidence and ensure greater regulatory predictability and sustainable growth. |

#### 4. Conclusion

Croatia has in recent years returned to positive growth; however, structural weaknesses are still present. It is necessary to immediately implement structural reforms, especially in the area of judicature as a guarantee of legal security. Strengthening of the rule of law would eliminate some of the main obstacles to doing business and increase investment success.

#### REFERENCES

Dimitrić, M., Škalamera-Alilović, D. (2016). *Ocjena indikatora reformskih zahvata zemalja Europske unije u stečajnim i ovršnim postupcima.*

The Council of Europe, the Commission's Communication to the European Parliament, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions. Pregled stanja u području pravosuđa u EU-u za 2015. / The 2015 EU Justice Scoreboard

Economic Institute Club: *Kakopobuditi rast hrvatskoga gospodarstva?*

World Economic Forum, WEF, Global Competitiveness Report 2016

Largeinvestorsavoid Croatia due to legal uncertainty Glas Slavonia, September2016

Croatian Economic Outlook 2016

FIC 2016 White Paper

AIK / Competitiveness / Measuring competitiveness / Doing Business report

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## **ADVANTAGES OF USE OF THE FUTURES CONTRACTS IN THE RAPESEED TRADE. THE CASE OF POLAND**

### **PREDNOSTI KORIŠTENJA TERMINSKIH UGOVORA U TRGOVINI ULJANOM REPICOM – PRIMJER POLJSKE**

#### **ABSTRACT**

*The article focuses on specific aspects of price risk management in agricultural business, with the aim of discussing a relevant hedging method for managing the commodity risks associated with agricultural production. The purpose of the paper is to carry out a simulation of one-month futures contracts on rapeseed offered by a foreign commodity exchange. The Euronext platform allows hedging of raw material purchase prices for rapeseed processing enterprises in Poland. The results of the simulation are preceded by a detailed analysis of the process of securing raw material prices, along with an assessment of its financial viability for potential buyers.*

**Key words:** commodity price management, hedging, futures contracts on rapeseed, Euronext, Poland.

#### **SAŽETAK**

*Ovaj rad fokusira se na specifične aspekte upravljanja rizikom cijena u poljoprivrednom poslovanju, s ciljem rasprave o odgovarajućoj metodi zaštite za upravljanje robnim rizicima povezanim s poljoprivrednom proizvodnjom. Svrha ovoga rada je provesti simulaciju jednomjesečnog terminskog ugovora za uljanu repicu pomućenu od strane robne burze. Euronext platforma omogućuje zaštitu nabavnih cijena sirovina za poduzeća za preradu uljane repice u Poljskoj. Rezultatima simulacije prethodi detaljna analiza procesa osiguravanja cijena sirovine, zajedno s procjenom financijske održivosti za potencijalne kupce.*

**Ključne riječi:** upravljanje robnim cijenama, zaštita, terminski ugovori za uljanu repicu, Euronext, Poljska.

#### **1. Introduction**

Each enterprise involved in a business activity is exposed to different threats and risks. Business entities acting in agricultural markets are subject to production, cyclical and seasonal fluctuations in prices, characterized by high price elasticity of supply and low elasticity of consumer demand. These characteristics cause a high risk of price volatility in the industry, and trigger a need for

securing a specific price level for raw material and, consequently, corporate profits. Polish participants in the rapeseed market who wish to protect future raw material prices using derivatives have to use the foreign futures markets, since the current markets in Poland do not create conditions for regular rapeseed futures. This situation is an impediment to the development of the future market instruments, but does not eliminate the possibility of their use by participants in the Polish rapeseed market.

The article consists of four coherent sections, which are as follow: literature review on risk and risk in agriculture and specification of the rapeseed contracts (section 2), presentation of the methodology and used data (section 3), results and discussion (section 4). In the final section the conclusions are listed.

## 2. Literature review on risk

Sources of the word risk can be found in the Greek word *Rhiz*, which refers to the daring circumnavigation of a cape. The Latin word *risicum* refers to the probability of positive or negative consequences of an event, or its success or failure. Colloquially, risk is understood as an adverse result of a decision. The risk is a concept present in almost all the achievements of science, in particular social, math, and engineering. Mutual coexistence concepts, theories, and methods of measurement made contemporary knowledge about risk interdisciplinary, based on a common foundation (Urbanowska-Sojkin, 2012).

In the literature, there are various attempts to systematize the concept of risk and uncertainty, and to determine the relationship between them. In the traditional sense, risk can be defined as "stochastic elements of the decision problem, which can be defined as a numerical objective probabilities, while uncertainty refers to the conditions of decision-making with random results, in which cannot be determined probabilities in an objective manner" (Moschini, Hennessy 2001, Rembisz, 2012). These authors are of the opinion that uncertainty is used to characterize the environment in which decisions are made, while the risk is used to determine the economic consequences of the decision-making under uncertainty.

In the literature, beyond the discourse of the relationship between the concepts of risk and uncertainty, there are disagreements about the interpretation of the duality of risk, which is defined as neutral or negative (Urbanowska-Sojkin, 2013). In the concept of neutrality, it is considered that the risk is neither negative nor positive. However, in the concept of negative risk, it is associated with the concepts of negative meaning, for example: risks, losses, uncertainties (Wilson, 2005; Polish Language Dictionary, 2009).

Historically, the first conceptualization of risk in the achievement of economic sciences is considered to be written by A. Willett's *The Economic Theory of Risk and Insurance*. In this work, he considers that "the risk is the objective state of the environment, correlated with subjective uncertainty" (Willett, 1901). According to the author risk refers to the degree of uncertainty, and not the probability of the event. Generally, a more popular concept is that of F. Knight, who in 1921 published the theory of measurable and immeasurable uncertainty, in which he made a clear distinction between the concepts of certainty, uncertainty, and risk. According to F. Knight, a source of uncertainty are unique events that dominate in the reality, about which it is difficult to obtain objective information (Knight, 1921).

Today, S. Diacon and R. Carter recognize uncertainty as a state in which future possibilities, and chances of their occurrence, are unknown (Diacon, Carter, 1992). In this view, risk is the objectified uncertainty of any adverse event. Risk varies with uncertainty, and not the degree of

probability. Waśniewski T. and W. Skoczylas are of the opinion that uncertainty is associated with the realization of future tasks and there is no way to calculate the probability of an event. They argue that people are not able to insure the uncertainty, therefore calculations of the probability of a randomly occurring accident can be taken into account in the plans and calculations (Waśniewski, Skoczylas 2002). Risk is characterized by the fact that its scale priori can be measured based on empirical statistical surveys, characterizing economic activity (Dziawgo 1998, p.13, Rembisz 2012). Chavas (2004) states that "risk represents any situation in which some events are not possible to determine with certainty". On the other hand, Hardaker, Huirne, and Anderson (1997) believe that "any discussion of ex-ante decision-making process refers to the uncertainty in the sense of predicting an unknown future, and the risk relates more to measure the ex-post estimated ex-ante economic impact of decisions ". It is widely understood that risk is "uncertainty in the results" (Commission 2001). Guided by this understanding of risks and uncertainties, it may be concluded that the level of risk generally rises significantly the longer the time horizon is, which will reveal the effects of the decisions taken. This relationship is obvious, because firstly, the longer the perspective of time, the greater the uncertainty about the conditions that occur in the distant future. Secondly, an additional risk arises with the timing of the measurement: At first, the risk can only be estimated, but after actual results are achieved, the real risk is revealed, as opposed to the original estimate. Thus, policy-makers make a subjective assessment of the risks ex ante (perceived subjective risk), not having full knowledge of the likely course of events.

On the basis of the above mentioned concepts of risk in business, authors of the paper understand risk as the possibility of failure to achieve objectives, including losses due to lack of all necessary information (See Kaczmarek, 2008).

### **1.1. Literature review on risks in agriculture**

Considering the risk of agricultural activities it should be noted that it is a very broad concept which includes not only the risk in agricultural production but also processing of agricultural products and trading them. The specific nature of agricultural activity is accompanied by various risks that, to a greater or lesser extent, jeopardize the functioning of each enterprise. Dealing with a farm, processing plant, or a trading company, one can distinguish specific risks existing in agriculture: trade risk, price risk, and foreign exchange risk.

Trade risk is connected to price and business risk. The essence of price risk is associated with price volatilities of agricultural products, which as a result, may lead to lower level of economic income gained by an agribusiness entity. In that sense, price risk means the expenditures of an agribusiness entity which might not be covered by its profit. Of course, unexpected price changes can bring positive effects, in the sense of additional profit, not only loss. With price risks are equally confronted producers, such as: farmers, as well as processing and trading enterprises. For the purpose of this paper the case of a rapeseed trading company which acts speculative, price risk is highly relevant because for that rapeseed trading company it may be a source of large loss as well as large gain. Therefore, it seems reasonable to adopt a more general definition of price risk that defines risk as the deviation of the prices expected compared to the prices paid.

Storage of rapeseed grains requires advanced technology and already during the storage stage there exists the risk of loss in quality. It is due to the fact that a manufacturer does not know what quality of grain they will get and whether it will be exposed to pests or not. Rapeseed are loose

goods transported by trucks, trains, or ships and are insured against theft or loss caused by the accident.

Foreign currency risk is the potential change in income due to unexpected changes in foreign currency exchange rate to which an analyzed rapeseed trading company is exposed to.

Commodity derivatives such as: *futures* and options can be used to minimize price risk by since hedging and speculation. Due to their complexity and limited availability for producers they are appropriate for large business enterprises or factories in the agricultural sector.

## 1.2. Hedging the rapeseed price with *futures* contract

The primary objective of the hedging transactions is the neutralization of risk. This part of the paper presents the essence and the mechanism of hedging transactions, using *futures* contracts to trade agricultural products. The Polish and foreign literature describing the issues of hedging and futures were reviewed (Čajka, Taušer 2014; Čajka, Taušer 2014 a; Zielińska-Chmielewska, Walawski 2016). The authors presented a mechanism for hedging transactions with possible market scenarios.

Hedging contracts can be used in various derivative instruments. The focus of the paper is tied to *futures* contracts. In the literature, derivatives are classified as financial instruments, the main purpose of which is the transfer of risk, not capital, as it is done in equity instruments (shares) and debt instruments. The value of a derivative depends on the value of another instrument called "the base". There are three main objectives for the use of derivatives: hedge against exchange risks, speculation, and arbitrage. It should be emphasized that any derivative is a contract between two parties, and due to this type of relationship derivatives are divided into two types (Jajuga 2009; Jorion, 2000):

- a) *futures* meaning future or forward contracts, and swaps, where both parties undertake obligations. Futures are contracts to buy or sell specific assets (goods) at a specified time in the future at a given price (Hull 1998, p. 1).
- b) options – where one party acquires the right and the other the commitment. Options are contracts. A contract allows the holder to buy or sell an underlying security at a given price known as the strike price. The two most common types of options contracts are put and call options, which give the holder-buyer the right to sell or buy the underlying option at the strike if the price of the underlying option crosses the strike (Stephens, 2001).

Rapeseed is one of the most important oil seeds produced in Europe. In Europe, rapeseed crushed into oil, meal, or meal cake is used by local companies for domestic purposes. Out of all 28 European Union (EU) countries, Poland is the third largest producer of rapeseed with a total production equal to 2,778,000 Mt in the crop year 2013/2014; 3,276,000 Mt in the crop year 2014/2015; 2,779,000 Mt in 2015/2016, and forecast of 2,764,000 Mt in 2016/2017 [Strategię Grains- oilseed report Fourth year - N°41 / 3 December 2015].

Due to a favorable climate and excellent quality of soil, Polish rapeseed production, located in the northern and western parts of the country, makes up 97% of all oil seed production in Poland. After Poland's accession to the EU, the rapeseed production has sharply risen from below 1 mln Mt to 1,8 mln Mt on an yearly average in the period from 2004-2008, up to 2,4 mln Mt on an yearly average from the period 2009-2014 (Rynek Rzepaku. Stan i Perspektywy, Nov. 2015). Rapeseed overproduction in Poland is exported to EU countries. The increase in Polish rapeseed production could not happen without the increase in sown area. For example, in 2004 the sown area hovered around 4% and doubled in 2009. As a result, Polish rapeseed production is one of



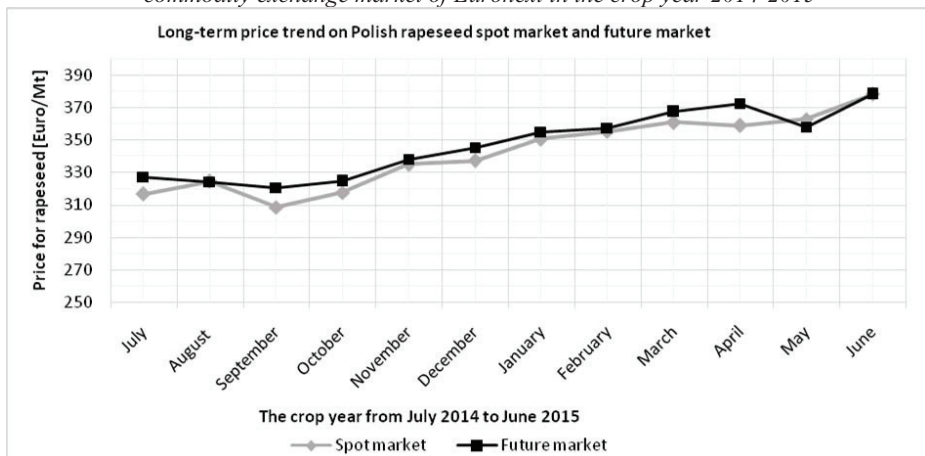
the most dynamic in Europe. Furthermore, the EU policy regarding biofuels created additional demand for rapeseed oil. Poland is able to process and consume on average 72% of all its harvested rapeseed, and export the remaining 28% to Germany, Belgium and the Netherlands. Worldwide, the best known players in processing industry are ADM, Bunge and Glencore- also active in Poland. Moreover, prices of rapeseed in Poland are regulated by supply and demand as a result of EU policy, and the Polish government does not intervene in the pricing or purchasing of it. Import and export of oilseed is not protected by any duties (Rynek Rzepaku. Stan i perspektywy, Nov 2015, pp. 18-24).

## 2. Methodology

In this study, secondary research materials derived from price reports of the commodity exchange Euronext and historical quotations exchange rates from the Polish National Bank, as well as from trade studies and domestic and foreign literature, were used. In the paper, a descriptive and comparative data analysis, supplemented with graphical presentation of the results in the form of tables and graphs, was presented.

The aim of the study was to determine the economic effects of the rapeseed *futures* available on the Euronext commodity exchange in order to hedge the purchase price of rapeseed through a hypothetical rapeseed processing enterprise operating in Poland. The analysis covered the crop year 2014-2015. The hypothesis formulated in the article is that despite the lack of access in Poland to futures contracts, it is still possible for Polish rapeseed processing enterprises to use Euronext futures, in order to hedge the price of rapeseed in the domestic spot market. The formulated hypothesis was verified by conducting a simulation demonstrating that it is possible to protect the selling price of rapeseed on Euronext by Polish rapeseed processing enterprises through more favorable economic effects, than those achieved without the use of foreign commodity exchange, by buying rapeseed on the domestic spot market. Furthermore, the work identified some of the factors supporting the management of risk in the market price of rapeseed, such as market information and standardization of raw materials.

**Figure 1** Presentation of long-term price trend on the Polish rapeseed spot market and commodity exchange market of Euronext in the crop year 2014-2015



Source: own research based on Annual Data derived from the Central Statistical Office of Poland in the period 2014-2015 and historical data from future commodity exchange in Euronext and [<http://www.nbp.pl>].

In Figure 1, two curves show the development of the historical rapeseed prices on the domestic cash market and historical raw material prices for rape at the Euronext stock exchange. Long-term trends in prices on the cash market for rapeseed in Poland and raw material for rapeseed at Euronext stock exchange market proceeded in a similar way. However, during the analyzed periods there are months in which trends were not consistent, f. ex.: September – October 2014, December 2014 – January 2015, March –May 2015. The matching correlation of both markets' price trends allow for the use of futures contracts available on the stock exchange, in order to secure raw material purchase prices for rapeseed processing enterprises in Poland.

### 3. Results

Before analyzing the economic effects of hedged and unhedged rapeseed *futures* transactions, the assumptions for the simulation have to be presented:

1. Monthly prices of rapeseed were divided into crop year starting from July to June.
2. In the crop year 2014-2015 three one-month periods giving 3 samples were observed.
3. In order to hedge, the transactions were taken from Euronext rapeseed monthly futures with the expiration date after one month.
4. In each example the long position was opened and closed after a period of one month.
5. For all months, purchase and sale basis were calculated
6. Economic effect is a difference between a purchase and a sale basis.

To compare economic effect of hedged and unhedged transactions, a simulation was conducted, first by opening and then by closing the positions. In both cases without intention to buy or sell any futures contracts. The simulation of opening and closing positions allowed to assess economic effects of hedging. The assumption of this simulation were the open positions in August 2014, November 2014, February 2015 which were closed after one month, starting from: October 2014, January 2015 and April 2015. The effect based on basis of purchases and sale was calculated. The basis is defined as a difference between market price and futures price.

The analyzed spot and future prices of rapeseed fluctuated during the crop year depending on the situation on the local and global markets (Figure 1). As a result of fluctuation, companies should hedge to avoid the negative effect of price changes. Nevertheless, hedging is not always a suitable tool for avoiding a negative hedge effect, but can also lead negative economic effects.

The simulation showed that hedging transactions are used to minimize the risk but under no circumstances can they eliminate it. Additionally, hedging transactions protect against negative currency rate changes and bring profits in a case of positive price fluctuations.

**Table 2** Presentation of all simulated rapeseed future transactions on the Euronext platform for a rapeseed processing enterprises located in Poland.

| Duration of the transaction                            | SPOT MARKET  | FUTURE MARKET  |
|--|--|--|
| <b>The first one-month hedged transaction</b>          |  |  |
| The beginning of the hedged transaction in August 2014 | Planning of the purchase of 50 Mt of rapeseed at current market price 324.65 Euro/Mt | The purchase of 50 Mt rapeseed resulted in 1 lot sale futures contract at 324.25 to hedge this transaction |
| Purchase basis   | 324.65 - 324.25 = 0.40   |  |
| The closure of the hedge transaction in October 2014   | Planning of the sale of 50 Mt of rapeseed at current market price 308.62 Euro/Mt     | The sale of 50 Mt rapeseed resulted in 1 lot purchase futures contract at 320.73 to hedge this transaction |
| Sale basis   | 308.62-320.73 = - 12.11  |  |
| <b>Economic effect of the transaction</b>              | <b>LOS equal to 12.51</b>  |  |
| <b>The firstone-month non-hedgedtransaction</b>        |  |  |

|  |  |  |
|--|--|--|
| Purchase of 50 Mt of rapeseed in August 2014             | Planning of the purchase of 50 Mt of rapeseed at current market price 324.65 Euro/Mt           |  |
| Sale of 50 Mt of rapeseed in October 2015                | Planning of the sale of 50 metric tons of rapeseed. The current market price is 308.62 Euro/Mt |  |
| <b>Economic effect of the transaction</b>                | <b>LOSS equal to 16.03</b>   |  |
| <b>The second one-month hedged transaction</b>           |  |  |
| The beginning of the hedged transaction in November 2014 | Planning of the purchase of 50 Mt of rapeseed at current market price 334.94 Euro/Mt           | The purchase of 50 Mt rapeseed resulted in 1 lot sale futures contract at 338.02 to hedge this transaction |
| Purchase basis   | 334.94- 338.02=-3.08   |  |
| The closure of the hedged transaction in January 2015    | Planning of the sale of 50 metric tons of rapeseed at current market price 337.33 Euro/Mt      | The sale of 50 Mt rapeseed resulted in 1 lot purchase futures contract at 345.37 to hedge this transaction |
| Sale basis   | 337.33 - 345.37 = - 8.04   |  |
| <b>Economic effect of the transaction</b>                | <b>LOSS equal to 4.96</b>  |  |
| <b>Non-hedged transaction</b>                            |  |  |
| <b>The second one month non-hedged transaction</b>       |  |  |
| Purchase of 50 Mt of rapeseed in November 2014           | Planning of the purchase of 50 Mt of rapeseed at current market price 334.94 euro/Mt           |  |
| Sale of 50 Mt of rapeseed in January 2015                | Planning of the sale of 50 Mt of rapeseed at current market price 337.33 Euro/Mt               |  |
| <b>Economic effect of the transaction</b>                | <b>GAIN equal to 2.39</b>  |  |
| <b>The third one-month hedged transaction</b>            |  |  |
| The beginning of the hedged transaction in February 2015 | Planning of the purchase of 50 Mt of rapeseed at current market price 355.28 Euro/Mt           | The purchase of 50 Mt rapeseed resulted in 1 lot sale futures contract at 357.45 to hedge this transaction |
| Purchase basis   | 355.28 - 357.45 = - 2.17   |  |
| The closure of the hedge transaction in April 2015       | Planning of the sale of 50 Mt of rapeseed at current market price 360.89 Euro/Mt               | The sale of 50 Mt rapeseed resulted in 1 lot purchase futures contract at 367.36 to hedge transactions     |
| Sale basis   | 360.89 - 367.36 = - 6.47   |  |
| <b>Economic effect of the transaction</b>                | <b>LOSS equal to 4.30</b>  |  |
| <b>The third one-month non-hedged transaction</b>        |  |  |
| Purchase of 50 Mt of rapeseed in August 2014             | Planning of the purchase of 50 metric tons of rapeseed at current market price 355.28 Euro/Mt  |  |
| Sale of 50 Mt of rapeseed in October 2014                | Planning of the sale of 50 Mt of rapeseed at current market price 360.89 Euro/Mt               |  |
| <b>Economic effect of the transaction</b>                | <b>GAIN equal to 5.61</b>  |  |

*Source: own preparation based on Annual Data derived from the Central Statistical Office of Poland in the period 2014-2015 and historical data from futures commodity exchange in Euronext received from Ph.D. student M. Walawski and [http://www.nbp.pl].*

In the first hedged transaction starting from August 2014 to October 2014, a one-month *futures* transaction was made, which resulted in the loss equal to 12.51 Euro/Mt. But still it had a smaller negative economic effect compared to the loss of 16.03 Euro/Mt observed on the spot market resulting from the purchase of a non-hedged rapeseed contract.

In the second hedged transaction starting from November 2014 to January 2015, a one-month *futures* transaction was observed, which resulted in the loss of 4.96 Euro/Mt. However, on the domestic spot market the gain of 2.39 Euro/Mt resulting from the fact of non-hedged rapeseed contract, was observed.

In the third hedged transaction starting from February 2015 to April 2015, a one-month *futures* transaction was made and resulted in the loss of 4.30 Euro/Mt. On the other hand, on the domestic spot market the gain of 5.61 Euro/Mt resulting from the fact of non-hedged rapeseed contract, was observed.

To sum up the results of one-month hedged *versus* non-hedged contracts, it must be said that in the analyzed crop year 2014-2015 loss equal to 26.74 Euro/Mt has been observed on the futures market. In the same analyzed period gain equal to 7.4 Euro/Mt has been observed on the spot market. Nevertheless, but it should be stressed that hedging strategy undertaken in the analyzed crop year was a source of additional loss and depended on the current market situation and correlation between market prices and commodity prices.

#### 4. Conclusions

The results of the analysis and evaluation of the economic viability of the use of futures contracts in the crop year 2014-2015 for a rapeseed trading enterprise located in Poland allow to make the following general and specific applications, and draw important insights:

1. The procedure for classification of rapeseed processing enterprises on the basis of their financial status has enabled the selection of those entities that may be potential participants in trading commodity futures markets.
2. The speculation analysis provides objectified distribution of rapeseed processing enterprises from the standpoint of minimizing the risk of an increase in purchase prices required in rapeseed processing.
3. The spatial arrangement of rapeseed processing enterprises had no effect on the economic results obtained in a simulation.
4. Conducting the simulation with the use of foreign commodity markets by a hypothetical rapeseed processing enterprise to hedge the purchase price of the raw material is technically and organizationally possible and highly desirable.
5. During the time of analysis, rapeseed prices in the domestic market and observed Euronext prices develops in a very similar way, which means that both market prices followed similar price trends.
6. Use of the futures on Euronext to secure the raw material purchase prices for rapeseed processing enterprises over a long period was beneficial. Positive economic effect of hedging was observed in the first part of a crop year. In exactly in 3 out of 6 cases, hedging allowed to gain additional income.
7. A slightly better economic effect was observed for unhedged transitions than hedged transitions.
8. Higher variation of economic effects (gain or loss) were noted for hedged transitions.
9. In most cases, stronger positive or negative economic effects were observed for hedged transitions closed after a two-month period than after a one-month period. This is a more reasonable result, as the longer the period of transition lasts, the more convenient the outcome can be.
10. The hedging strategy can be a source of additional gain or loss, depending on the market situation and correlation between market prices and commodity prices.
11. There is no universal strategy of hedging, but the decision of taking a position (opening and closing) should be made based on market analyses.

## REFERENCES

- Commission (2001): Risk management tools for EU Agriculture with special focus on insurance - working documents, Commission of European Communities, DG Brussels, January 2001.
- Chavas J-P. (2004): Risk analysis in theory and practice, Elsevier.
- Dziawgo D. (1998): Ryzyko i obligacje na międzynarodowym rynku finansowym, PWN, Warszawa.
- Diacon S.R., Carter R.L. (1992): Success in Insurance, Hodder and Stoughton, London.
- Hardaker J., Huime R., Anderson J. (1997): Coping with risk in agriculture, CAB International, Oxon, United Kingdom.
- Hull J., (1998): Kontrakty terminowe i opcje. Wprowadzenie, Wydawnictwo Finansowe-WIG Press, Warszawa.
- Jajuga K., (2009): Instrumenty pochodne, Komisja Nadzoru Finansowego, Warszawa.
- Jorion P. (2000): Value at Risk: The New Benchmark for Managing Financial Risk, Second Edition, Mc Graw-Hill.
- Kaczmarek T., (2008): Ryzyko i zarządzanie ryzykiem. Ujęcie interdyscyplinarne, Difin Warszawa.
- Knight F. (1921): Risk, Uncertainty and Profit, Chicago-London.
- Moshini G., Hennessy D. (2001): Uncertainty, risk aversion and risk management for agricultural producers in: Handbook of Agricultural Economics, Elsevier, ed. 1, vol. 1, s. 91.
- Rynek Rzepaku. Stan i perspektywy, Nov 2015, p. 18-24.
- Rembisz W. (2012): Kwestie ryzyka, cen, rynku, interwencji i stabilności dochodów w rolnictwie, Vizja Press & IT, Warszawa.
- Polish Language Dictionary [Słownik języka polskiego] (2009): Wydawnictwo Naukowe PWN, Warszawa.
- Central Statistical Office of Poland [Główny Urząd Statystyczny] annual price data in the period 2014-2015.
- Stephens J.J., (2001): Managing Commodity Risk: Using Commodity Futures and Options, John Wiley & Sons Ltd, New York.
- Strategię Grains- oilseed report Fourth year - N°41 / 3 December 2015
- Tarczyński W., Mojsiewicz M. (2003): Zarządzanie ryzykiem, PWN, Warszawa.

Tauser J., Cajka R., (2014), Weather derivatives and hedging the weather risks, *Agric. Econ.*, - Czech, 60, 2014 (7), p. 309–313.

Tauser J., Cajka R., (2014 a), Hedging techniques in commodity risk management, *Agric. Econ.* - Czech, 60, 2014 (4), p. 174–182.

Urbanowska-Sojkin E. (2013): *Ryzyko w wyborach strategicznych w przedsiębiorstwach*, PWN, Warszawa.

Urbanowska-Sojkin E. (ed.), (2012): *Ryzyko w zarządzaniu strategicznym: teoria i praktyka*, Wyd. Uniwersytetu Ekonomicznego w Poznaniu, Poznań.

Waśniewski T., Skoczylas W. (2002): *Teoria i praktyka analizy finansowej w przedsiębiorstwie*, Fundacja Rozwoju Rachunkowości w Polsce, Warszawa.

Wilson D. (2005): *Risk*, the Blackwell Encyclopedia of Management, Strategic Management, McGee J. (ed.), Blackwell Publishing, Oxford.

Willet A. (1901): *Economic theory of risk and insurance*, vol. XIV, No. 2, New York, the MacMillan Company Agents, London P.S. King & Sons.

Zielińska-Chmielewska A., Walawski M., 2016: The use of futures rapeseed contracts exemplified by a trading company in Poland [in]: *Problemy ekonomii, polityki ekonomicznej ifinansów publicznych*, Sokołowski J. (ed.), wyd. UE we Wrocławiu, 2016 (3).

Internet source:

[www.derivatives.euronext.com/en/products/commodities-futures/ECO-DPAR/contract-specification](http://www.derivatives.euronext.com/en/products/commodities-futures/ECO-DPAR/contract-specification): [access on 1.01.2016].

[www.nbp.pl](http://www.nbp.pl): [access on 1.01.2016].



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**CONDUCTING WEB SURVEYS IN ENTERPRISES FROM EASTERN CROATIA: THE ANALYSIS OF COOPERATION RATE****PROVOĐENJE WEB ANKETA U PODUZEĆIMA IZ ISTOČNE HRVATSKE: ANALIZA RAZINE SPREMNOSTI PODUZEĆA NA SURADNJU****ABSTRACT**

*In order to get quick feedback from enterprises for a low price, web surveys are the best tool for doing that. On that way, the crucial problems in enterprises can be identified quickly, and possible solutions may be proposed. Consequently, enterprises could significantly improve their business results. However, researchers are struggling with very low response rates in business web surveys. The aim of this paper is to investigate the situation considering willingness of enterprises in Eastern Croatia to participate in a web survey. The analysis is based on the results of conducted business web survey which topic was "use of statistical methods in enterprises". The web survey took all limited liability enterprises in Croatia into account, but for the purpose of this research, only enterprises from following five counties are observed: County of Osijek-Baranja, County of Požega-Slavonia, County of Slavonski Brod-Posavina, County of Virovitica-Podravina, and County of Vukovar-Sirmium. The research results have shown that among the enterprises included in this research in Eastern Croatia, nearly one half of them have provided an e-mail address to contact, and around 2/5 of them have received the invitation to participate in the web survey by e-mail, but they did not perform any, positive or negative, action. Finally, less than 1% of enterprises in Eastern Croatia have completely filled the questionnaire. The identified main reasons of such a low response rate are that an enterprise does not have an e-mail address, and that an enterprise does not perform any action. These two reasons should be more inspected in closely and possible solutions for solving these problems should be given in the future research.*

**Key words:** E-mail address, Eastern Croatia, Enterprise, Response rate, Web survey.

**SAŽETAK**

*Web anketa se može smatrati jednim od najboljih alata za efikasno prikupljanje informacija od strane poduzeća. Na taj način iznimno važni problemi u poduzećima mogu biti brzo identificirani te se mogu predložiti njihova rješenja. Posljedično, poduzeća mogu značajnije poboljšati svoje rezultate poslovanja. Ipak, istraživači se suočavaju s veoma niskim stopama odgovora kod poslovnih web anketa. Cilj rada je istražiti situaciju u poduzećima u Istočnoj Hrvatskoj u svezi*

*njihove spremnosti na sudjelovanje u poslovnim web anketama. Kako bi se to napravilo korištena je web anketa u kojoj se je istraživala primjena statističkih metoda u poduzećima u Hrvatskoj, a koja se prema svojem pravnom obliku svrstavaju među društva kapitala. Ipak, ovdje se promatraju samo ona poduzeća koja se nalaze u sljedećim županijama: Osječko-baranjska županija, Požeško-slavonska županija, Brodsko-posavska županija, Virovitičko-podravska županija, Vukovarsko-srijemska županija. Rezultati istraživanja su pokazali da je samo 3.861 ili 47,86% poduzeća iz Istočne Hrvatske pružilo informaciju o posjedovanju e-mail adrese. Također se pokazalo da 41,26% poduzeća u Istočnoj Hrvatskoj nije uopće ni na koji način reagiralo na primitak poziva na sudjelovanje u web anketi putem e-mail-a. Naposljetku, samo 0,84% poduzeća iz Istočne Hrvatske je u potpunosti ispunilo anketni upitnik. Kako bi se ispravili razlozi tako niske razine sudjelovanja poduzeća u web anketama, u budućim istraživanjima potrebno je probleme neimanja službenih e-mail adresa i neaktivnog sudjelovanja u anketnim istraživanjima pobliže istražiti u budućim istraživanjima. Ispravljanje navedenih problema zasigurno će dovesti do više razine sudjelovanja poduzeća u anketnim istraživanjima što će ići u prilog istraživačima, ali, u krajnjoj liniji, i poduzećima.*

**Ključne riječi:** *E-mail adresa, Istočna Hrvatska, Poduzeće, Stopa odgovora, Web anketa.*

**Acknowledgments:** *This work has been partially supported by the Croatian Science Foundation within the project STRENGTHS (project no. 9402).*

## **1. Introduction**

Nowadays, very often, one of the easiest and the most cost efficient way to collect business data is to conduct a web survey. Web survey is a data collection method in which a computer administers the questions on a Web site (Groves et al., 2004). Web survey belongs to group of self-administrative survey data collection method (Wang, 2010). Consequently, a respondent can start with web survey whatever and wherever she/he wants. Furthermore, she/he can make a break and continue with web survey later. This characteristic of web surveys is very important when business surveys are conducted. Namely, employees are often interrupted by customers, phones, received e-mails or by other employees. Because of fast development of information and communication technologies, especially of development of Internet use (World Bank, 2016) and e-mails, researchers can reach wider population by conducting web surveys. What's more, respondents became very skilful in conducting web surveys what makes researcher a job somewhat easier.

Unfortunately, nowadays the main problem with web surveys is the fact that response rates are falling (Sheehan, 2001, Nulty, 2008). There are so many web surveys and respondents are being fed up with them especially if they are not scientific oriented. This problem of decreased responses rate is more emphasized and business surveys. Enterprises do not have enough time and free employees that would participate in all web surveys for which they are invited for. Because of that some enterprises have even defined a politics of non-participating in none web survey. The additional reason of low response rates at web surveys can be found in security concerns. Enterprises may have development some patents or new products and they do not want that competition get them so easily.

The aim of this paper is to investigate the situation considering willingness of enterprises in Eastern Croatia to participate in a web survey. Because of that, in the paper enterprises are going to be divided according their involvement level in the web survey. On that way, the most important and the most influential reason of low response rate could be identified. Despite of high Internet penetration rate in Croatia when individuals are observed, enterprises are lagging behind

when e-mail use is observed (OECD, 2014). Therefore, it is assumed that the main reason why low response rates on business web surveys in Eastern Croatia are is the lack of e-mail communication use by enterprises. Accordingly, the research hypothesis is that the main reason for low response rates in business web surveys in Eastern Croatia are enterprises that do not have e-mail address.

The paper is organised as follows. After the brief introduction, in the second chapter data and methods used in the analysis are described. In the third chapter, enterprises in Eastern Croatia are analysed and classified according to their willingness to participate in the web survey. The last, fourth, chapter concludes the paper and bring some recommendations for further research.

## **2. Data and methods**

In the paper the focus will be given to the enterprises from Eastern Croatia. Here under enterprises are considered those enterprises that are registered in the Court Register of the Republic of Croatia as limited liability enterprises. Accordingly, joint stock enterprises, limited liability enterprises and simple limited liability enterprises are observed (Official Gazette, 152/11, Official Gazette, 111/12). Furthermore, only active enterprises are here under inspection. An enterprise is considered active if it has sent obligatory financial statements to the state institutions (Official Gazette, 78/15). According to the Accounting act (Official Gazette, 78/15) a distinction between enterprises according to their size is going to be made also. However, micro and small enterprises will be observed as one group of enterprises. The enterprises are going to be observed according to their main activity also. The main activities of enterprises are defined in the National Classification of Economic Activities (Official Gazette, 58/07) but for sake of simplicity, the enterprises are going to be grouped into four groups of enterprises: Industrial, Trade, Service and Other.

According to different definitions, the Eastern Croatia can be viewed from different angles. In the paper, geographical approach is used according to which Eastern Croatia is consisted from following five counties: County of Osijek-Baranja, County of Požega-Slavonia, County of Slavonski Brod-Posavina, County of Virovitica-Podravina, and County of Vukovar-Sirmium (Blagojević, 2008).

The general information about enterprises is collected by using the Croatian Company Directory of the Croatian Chamber of Economy (Croatian Chamber of Economy, 2017). The Croatian Company Directory includes all registered enterprises in the Republic of Croatia and it can be observed as an administrative source of information about enterprises (Žmuk, 2017). The information about enterprises was collected in July 2016. On that way enterprises, which have announced their obligatory financial statements for 2015, are observed. In other words, active enterprises from 2015 are under inspection in the paper.

In order to determine the cooperation level of enterprises in business web surveys, the data from conducted web survey about statistical methods use in Croatian enterprises is used. The web survey was conducted in period from December 4, 2016 to December 31, 2016. Originally all Croatian enterprises were observed in this web survey but here emphasize will be given only to those from the five counties in Eastern Croatia. It is important to say that invitations to enterprises were sent by their official e-mail address provided in the Croatian Company Directory. During the survey period, overall two reminders were sent also.

In the analysis mainly descriptive statistics methods will be used. However, where would be applicable, chosen inferential statistical tests will be conducted.

### 3. Analysis of web surveys position in enterprises in Eastern Croatia

According to the Croatian Company Directory there were 102,474 active enterprises in Croatia in 2015. The most limited liability enterprises are limited liability enterprises (90,760 enterprises or 88.57% of total number of enterprises). On the other side, there are only 891 joint stock enterprises with share of 0.87% in the total number of enterprises. As expected the most enterprises are small (100,954 enterprises or 98.52% of total number of enterprises) whereas the least enterprises are large (339 enterprises or 0.33% of total number of enterprises). The distribution of active enterprises in Croatia in more detail is given in Table 1.

**Table 1** Distribution of active enterprises in Croatia in 2015 according to their legal form and size

| Legal form                           | Size              |                    |                   | Total   |
|--------------------------------------|-------------------|--------------------|-------------------|---------|
|                                      | Small enterprises | Medium enterprises | Large enterprises |         |
| Joint stock enterprises              | 529               | 230                | 132               | 891     |
| Limited liability enterprises        | 89,602            | 951                | 207               | 90,760  |
| Simple limited liability enterprises | 10,823            | 0                  | 0                 | 10,823  |
| Total                                | 100,954           | 1,181              | 339               | 102,474 |

Source: Croatian Chamber of Economy, 2017.

In Croatia there are 102,474 active enterprises but in Eastern Croatia it can be found them only 8,097. Therefore, in the five counties in Eastern Croatia only 7.90% enterprises have their main headquarters. Almost half of enterprises in Eastern Croatia are in County of Osijek-Baranja (3934 enterprises or 48.59%). County of Požega-Slavonia is a county with the lowest number of enterprises (624 enterprises or 7.71%)

**Table 2** Distribution of active enterprises in Eastern Croatia in 2015 according to their size

| Size               | County of               |                |                 |                      |                 | Total |
|--------------------|-------------------------|----------------|-----------------|----------------------|-----------------|-------|
|                    | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica-Podravina | Vukovar-Sirmium |       |
| Small enterprises  | 1,455                   | 3,857          | 607             | 715                  | 1,289           | 7,923 |
| Medium enterprises | 24                      | 55             | 14              | 11                   | 32              | 136   |
| Large enterprises  | 3                       | 22             | 3               | 2                    | 8               | 38    |
| Total              | 1,482                   | 3,934          | 624             | 728                  | 1,329           | 8,097 |

Source: Croatian Chamber of Economy, 2017.

According to Table 2, in Eastern Croatia convincingly predominant are small enterprises with share of 97.85%. There are only 38 large enterprises or 0.47% of total number of enterprises in Eastern Croatia. County of Osijek-Baranja has the most enterprises in each observed category of enterprises. On the other side, County of Požega-Slavonia has the lowest number of small enterprises in Eastern Croatia whereas County of Virovitica-Podravina has the lowest number of medium and large enterprises.

**Table 3** Distribution of active enterprises in Eastern Croatia in 2015 according to their legal form

| Legal form                           | County of               |                |                 |                        |                 | Total |
|--------------------------------------|-------------------------|----------------|-----------------|------------------------|-----------------|-------|
|                                      | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica - Podravina | Vukovar-Sirmium |       |
| Joint stock enterprises              | 18                      | 53             | 12              | 3                      | 19              | 105   |
| Limited liability enterprises        | 1,243                   | 3,190          | 497             | 610                    | 1,113           | 6,653 |
| Simple limited liability enterprises | 221                     | 691            | 115             | 115                    | 197             | 1,339 |
| Total                                | 1,482                   | 3,934          | 624             | 728                    | 1,329           | 8,097 |

Source: Croatian Chamber of Economy, 2017.

Table 3 shows that the most enterprises in Eastern Croatia are in legal form of a limited liability enterprise. The share of limited liability enterprises in Eastern Croatia is 82.17%, share of simple limited liability enterprises is 16.54% and the share of joint stock enterprises is 1.30%. County of Osijek-Baranja has again the most enterprises in each observed category of enterprises. County of Virovitica-Podravina has only three joint stock enterprises whereas County of Požega-Slavonia has the least number of limited liability enterprises in Eastern Croatia. The lowest number of simple limited liability enterprises can be found in County of Požega-Slavonia and in County of Virovitica-Podravina. Namely, in both counties there 115 simple limited liability enterprises.

**Table 4** Distribution of active enterprises in Eastern Croatia in 2015 according to their main activity

| Main activity          | County of               |                |                 |                      |                 | Total |
|------------------------|-------------------------|----------------|-----------------|----------------------|-----------------|-------|
|                        | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica-Podravina | Vukovar-Sirmium |       |
| Industrial enterprises | 540                     | 1,017          | 222             | 230                  | 451             | 2,460 |
| Trade enterprises      | 345                     | 1,115          | 145             | 196                  | 357             | 2,158 |
| Service enterprises    | 513                     | 1,561          | 222             | 212                  | 442             | 2,950 |
| Other enterprises      | 84                      | 241            | 35              | 90                   | 79              | 529   |
| Total                  | 1,482                   | 3,934          | 624             | 728                  | 1,329           | 8,097 |

Source: Croatian Chamber of Economy, 2017.

According to Table 4 the most enterprises in Eastern Croatia can be found in the group of enterprises which main activity can be viewed as a service. So, in Eastern Croatia there are 36.43% service enterprises, 30.38% industrial enterprises, 26.65% trade enterprises and 6.53% enterprises which main activity is classified as other. Because of very large number of enterprises in compare to the other counties from Eastern Croatia, County of Osijek-Baranja has the most enterprises in each category. In compare to the other counties from Eastern Croatia, County of Požega-Slavonia has the least enterprises in three categories (industrial, trade and other enterprises) and County of Virovitica-Podravina in one (service enterprises).

In order to conduct a web survey, enterprises must be first contacted and be invited to participate in the web survey. Furthermore, the hyperlink to the web survey also should be provided in the invitation. The most elegant, cheapest and user-friendly way to do that is to send invitation with included web survey hyperlink by e-mail (Couper, 2008, Dillman, Smyth, Christian, 2014). Unfortunately, not all enterprises have provided information about their official business e-mail address. Because an administrative source of information about enterprises has been used, it is assumed that such enterprises do not use this kind of communication in their business.

**Table 5** Distribution of active enterprises in Eastern Croatia with an e-mail address in 2015 according to their size

| Size               | County of               |                |                 |                      |                 | Total |
|--------------------|-------------------------|----------------|-----------------|----------------------|-----------------|-------|
|                    | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica-Podravina | Vukovar-Sirmium |       |
| Small enterprises  | 777                     | 1,179          | 400             | 549                  | 790             | 3,695 |
| Medium enterprises | 24                      | 49             | 14              | 11                   | 30              | 128   |
| Large enterprises  | 3                       | 22             | 3               | 2                    | 8               | 38    |
| Total              | 804                     | 1,250          | 417             | 562                  | 828             | 3,861 |

Source: Croatian Chamber of Economy, 2017.

Table 5 shows that 3,861 enterprises or 47.68% of all enterprises in Eastern Croatia have provided information about their e-mail address. So, more than half of enterprises in Eastern Croatia do not

use e-mails in their regular business communication. If that is observed by taking into account size of enterprises, it can be concluded that for that situation small enterprises can be found guilty. Namely, 3,695 or 46.64% small enterprises have provided e-mail address. On the other side, all large enterprises (100%) and almost all medium enterprises (94.12%) have given their e-mail address. If the situation is observed according to counties, it can be concluded that the highest share of enterprises with e-mail address has County of Virovitica-Podravina (77.20%) whereas in County of Osijek-Baranja the share of enterprises with e-mail address is the lowest (31.77%).

**Table 6** *Distribution of active enterprises in Eastern Croatia with an e-mail address in 2015 according to legal form*

| Legal form                           | County of               |                |                 |                        |                 | Total |
|--------------------------------------|-------------------------|----------------|-----------------|------------------------|-----------------|-------|
|                                      | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica - Podravina | Vukovar-Sirmium |       |
| Joint stock enterprises              | 15                      | 36             | 12              | 2                      | 18              | 83    |
| Limited liability enterprises        | 721                     | 1,113          | 341             | 478                    | 739             | 3,392 |
| Simple limited liability enterprises | 68                      | 101            | 64              | 82                     | 71              | 386   |
| Total                                | 804                     | 1,250          | 417             | 562                    | 828             | 3,861 |

*Source: Croatian Chamber of Economy, 2017.*

In Table 6 the number of active enterprises in Eastern Croatia with an e-mail address according to legal form is shown. If results from Table 3 and Table 6 are compared it can be concluded that joint stock enterprises have the highest share of e-mail communication use. Namely, 79.05% of joint stock enterprises have provided e-mail address, 50.98% of limited liability enterprises and 28.83% of simple limited liability enterprises use this way of communication.

**Table 7** *Distribution of active enterprises in Eastern Croatia with an e-mail address in 2015 according to their main activity*

| Main activity          | County of               |                |                 |                      |                 | Total |
|------------------------|-------------------------|----------------|-----------------|----------------------|-----------------|-------|
|                        | Slavonski Brod-Posavina | Osijek-Baranja | Požega-Slavonia | Virovitica-Podravina | Vukovar-Sirmium |       |
| Industrial enterprises | 318                     | 377            | 153             | 188                  | 289             | 1,325 |
| Trade enterprises      | 159                     | 329            | 98              | 150                  | 226             | 962   |
| Service enterprises    | 290                     | 474            | 147             | 167                  | 264             | 1,342 |
| Other enterprises      | 37                      | 70             | 19              | 57                   | 49              | 232   |
| Total                  | 804                     | 1,250          | 417             | 562                  | 828             | 3,861 |

*Source: Croatian Chamber of Economy, 2017.*

In Table 7 distribution of active enterprises in Eastern Croatia with an e-mail address according to their main activity is shown. Comparison of Table 4 and Table 7 reveals that industrial enterprises have the highest share of e-mail use. So, 53.86% of industrial enterprises use e-mail for their business communication. At other three groups of enterprises, shares of enterprises that use e-mails are quite similar. It has been shown that 44.58% of trade enterprises have an e-mail address, 45.49% of service enterprises and 43.86% of other enterprises.

However, the fact that an enterprise has provided an e-mail it does not necessarily mean that this enterprise uses e-mail for its business communication. Therefore, in the conducted web survey some e-mail addresses were invalid because of different technical reasons (full mailbox, unknown user, and similar). Table 8 shows that 238 or 6.16% of enterprises that have provided their business e-mail address have not been able to be invited to participate in the survey because of some technical reasons.

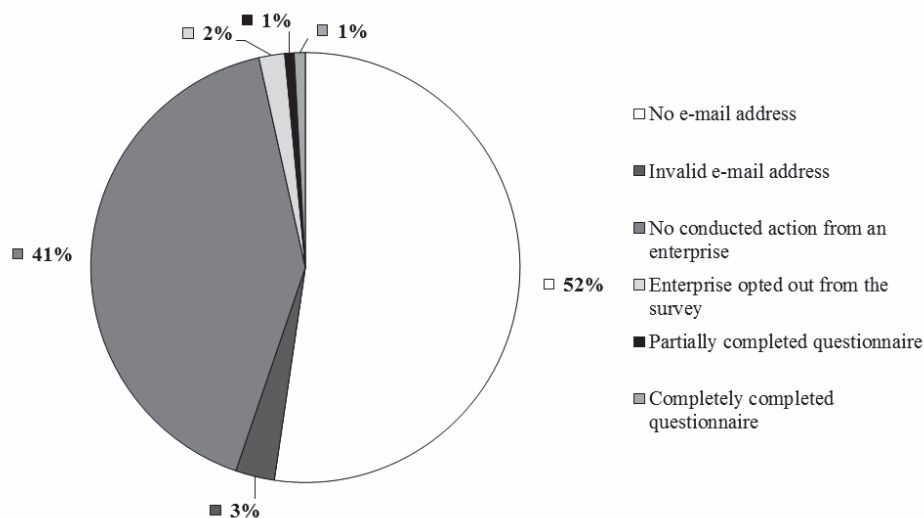
**Table 8** Distribution of active enterprises in Eastern Croatia with an e-mail address in 2015 according to their participation level in the web survey

| Web survey participation level         | County of               |                |                   |                       |                 | Total |
|--|-------------------------|----------------|-------------------|-----------------------|-----------------|-------|
|  | Slavonski Brod-Posavina | Osijek-Baranja | Požega - Slavonia | Virovitica- Podravina | Vukovar-Sirmium |       |
| Invalid e-mail address                 | 57                      | 81             | 30                | 43                    | 27              | 238   |
| No conducted action from an enterprise | 689                     | 1,078          | 362               | 472                   | 740             | 3,341 |
| Enterprise opted out from the survey   | 32                      | 50             | 12                | 29                    | 34              | 157   |
| Partially completed questionnaire      | 12                      | 14             | 7                 | 11                    | 13              | 57    |
| Completely completed questionnaire     | 14                      | 27             | 6                 | 7                     | 14              | 68    |
| Total                                  | 804                     | 1,250          | 417               | 562                   | 828             | 3,861 |

Source: conducted web survey.

It is assumed that, except those 238 enterprises, other enterprises have received one or more invitations to participate in the web survey. Unfortunately, according to Table 8, the vast majority of enterprises did not conduct any action after receiving the web survey invitations. It has been shown that 3,341 or 86.53% of enterprises with provided a business e-mail address did not react on the received invitation e-mails. The rest of enterprises with provided an e-mail address took some action. However, 157 enterprises or 4.07% of enterprises with provided an e-mail address have explicitly say that they do not want to participate in the web survey and to receive additional invitations or e-mails regards that web survey. Following 57 enterprises or 1.48% of enterprises with an e-mail address started to fulfil the questionnaire but, for some reason, they did not manage to come to the end of the questionnaire. All that lead to the conclusion that only 68 enterprises or 1.76% of enterprises with given e-mail address have completely completed the questionnaire. In order to make better insight in how that bad and demanding for a researcher is, in Figure 1 structure of active enterprises in Eastern Croatia by their participation level in web survey is shown.

**Figure 1** Structure of active enterprises in Eastern Croatia enterprises by their participation level in the conducted web survey



Source: Croatian Chamber of Economy, 2017, conducted web survey.



Figure 1 clearly and undoubtedly reveals that the main reasons why enterprises do not participate in web surveys are not having a business e-mail address and no conducting any action after an invitation for participating in a web survey is received. According to Figure 1, overall 93% of active enterprises in Eastern Croatia can be found in those two categories. Furthermore, that would mean that a researcher in the best possible case could expect to have response rate of only about 7% (6.42% to be more precise) by using web survey approach.

If the situation by counties is observed, similar conclusions can be made. So, in County of Slavonski Brod-Posavina in the best case a response rate of 7.76% is expected, in County of Osijek-Baranja 4.37%, in County of Požega-Slavonia 8.81%, in County of Virovitica-Podravina 12.36%, and in County of Vukovar-Sirmium 6.62%. The conducted chi-square test of proportions equality has shown that at significance level of 5% the hypothesis that all five proportions are equal can be rejected (chi-square=80.70; df=3; p-value<0.0001). Consequently, it can be concluded that possible response rates, which can be achieved by using web survey approach, between the five counties in Eastern Croatia are statistically different. Furthermore, shares of enterprises without an e-mail address and enterprises that do not perform any action after received invitation for participating in a web survey is quite different between the five counties. In County of Požega-Slavonia, County of Virovitica-Podravina and in County of Vukovar-Sirmium the problem of inactive enterprises in web surveys is more expressed than the problem of not having an e-mail address. Thus, in County of Požega-Slavonia 33% of enterprises do not have an e-mail address and 58% of enterprises do not react on the web survey invitations. In County of Virovitica-Podravina can be found 23% enterprises without an e-mail address and 65% of enterprises have passive role in web surveys. In County of Vukovar-Sirmium 38% of enterprises do not have an e-mail address and 56% of enterprises do not even say that they are not interested in the web survey for which they have been invited. In County of Slavonski-Brod can be found equal share of enterprises that do not have an e-mail and share of enterprises that do not perform any action upon received web survey invitation. There the share of such enterprises is 46%, respectively. County of Osijek-Baranja is the only county where the problem of not having a business e-mail address is more expressed. In that county the share of enterprises that do not have an e-mail address is 68% whereas the share of enterprises that do not react on the received web survey invitation is 27%.

The analysis results are pointing out that the emphasized two problems (not having an e-mail address and lack of reaction on received web survey invitation) are differently expressed in the counties of Eastern Croatia. Consequently, the solutions of solving those problems could be different for each of the five observed counties in Eastern Croatia. Still, the solutions certainly should include additional education of enterprises and their employees of importance and benefits of using e-mail communications and of scientific research conducted by using web survey approach.

#### **4. Conclusion**

In order to improve their business process and to achieve better business results, enterprises sometimes need help from researchers who are not their employees, which are considered to be an external source of information. However, to provide some conclusion and give solutions and advices, researchers need some additional data and information about processes and characteristics of enterprises. The easiest and the most efficient way to collect precise needed data and information, which are needed to researchers, is to collect them by using web survey approach.

Unfortunately, because of different reasons, response rates in business web surveys are rather low. That was also confirmed by conducted web survey in Croatian enterprises. The topic of here

described web survey was “statistical methods use in enterprises”. Obviously, the topic was serious and possibly very useful for enterprises but still the response rate was low. In the contacted enterprises from Eastern Croatia, only 0.84% of them completed the provided questionnaire in full. However, the research has identified two main reasons why the response rate was so low. The first reason lies in the fact that more than half of enterprises in Eastern Croatia do not have an officially provided e-mail address. However, the research pointed out another main reason. Namely, about 41% of enterprises received the invitations to participate in the web survey but they did not react afterwards at all.

Future research should be oriented to investigate how e-mail penetration in enterprises could be increased. Furthermore, enterprises should be familiarized why web surveys are conducted and they should become aware of possible benefits that come out as results and conclusions of web surveys. By solving these problems, the response rate should be increased what is not only good for a researcher, making him the analysis to be simpler, but it is useful for enterprises also, which could enable some benefits that would lead to better business results.

## REFERENCES

- Blagojević, A. (2008): *Zemljopisno, povijesno, upravno i pravno određenje istočne Hrvatske – korijeni suvremenog regionalizma*, Zbornik Pravnog fakulteta Sveučilišta u Rijeci, Vol. 29, No. 2, pp. 1149-1180.
- Couper, M. P. (2008): *Designing Effective Web Surveys*, Cambridge University Press, New York
- Croatian Chamber of Economy (2017): *Croatian Company Directory*, <http://www1.biznet.hr/HgkWeb/do/extlogon>, (accessed 24 January 2017)
- Dillman, D. A., Smyth, J. D., Christian, L. M. (2014): *Internet, Phone, Mail, and Mixed-mode Surveys: The Tailored Design Method*, John Wiley & Sons, Hoboken
- Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., Tourangeau, R. (2004): *Survey Methodology*, John Wiley & Sons, Hoboken
- Nulty, D. D. (2008): *The adequacy of response rates to online and paper surveys: what can be done?*, Assessment & Evaluation in Higher Education, Vol. 33, No. 3, pp. 301-314.
- OECD (2014): *OECD Reviews of Innovation Policy: Croatia 2013*, OECD Publishing
- Official Gazette (2007): *The National Classification of Economic Activities*, No. 58, [http://narodne-novine.nn.hr/clanci/sluzbeni/2007\\_06\\_58\\_1870.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2007_06_58_1870.html), (accessed 24 January 2017)
- Official Gazette (2011): *Companies act*, No. 152, [http://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_12\\_152\\_3144.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2011_12_152_3144.html), (accessed 24 January 2017)
- Official Gazette (2012): *Act of companies act changes and amendment*, No. 111, [http://narodne-novine.nn.hr/clanci/sluzbeni/2012\\_10\\_111\\_2392.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2012_10_111_2392.html), (accessed 24 January 2017)
- Official Gazette (2015): *Accounting act*, No. 78, [http://narodne-novine.nn.hr/clanci/sluzbeni/2015\\_07\\_78\\_1493.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2015_07_78_1493.html), (accessed 24 January 2017)

Sheehan, K. B. (2001): *E-mail Survey Response Rates: A Review*, Journal of Computer-Mediated Communication Vol, 6, No. 2, pp. 0-0.

Wang, T. (2010): *Web Surveys*, Wiley International Encyclopedia of Marketing, Part 2.

World Bank (2016): Internet users (per 100 people), <http://data.worldbank.org/indicator/IT.NET.USER.P2>, (accessed 26 January 2017)

Žmuk, B. (2017): *Are available sampling frames good enough to be used in business surveys? The case of Croatian enterprises*, Business Systems Research, Vol. 8, No. 2 (to be published).

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## **NEW FORMS OF COOPERATION IN DEVELOPMENT OF KNOWLEDGE FUNCTION – THE CASE STUDY OF THE THREE SEAS INITIATIVE**

### **NOVI OBLICI SURADNJE U FUNKCIJI RAZVOJA ZNANJA - INICIJATIVA „TRI MORA“ CASE STUDY**

#### ***ABSTRACT***

*In the conditions of the world market, after the fall of the Berlin Wall in 1989 and the beginning of the third millennium, the global market is organized on the basis of new economic and political groups. Totalitarian regimes are disappearing, new countries and nations are born, large new global markets are being opened. All of these facts raise the question about the world governance based on these new circumstances.*

*The European Union, as one of the forms of European countries unification, is facing a problem related to its functioning and development. The fact that the EU consists of highly developed economies, but also of several economies in transition, imposes the need for new thinking about the unity of so diversified economies. The issues of: economics, politics, civil society, human relations, human rights, democracy and others have their foundations in knowledge and the level of education of the society. Knowledge is a key factor of development. It must be understood by politicians who govern the European nations.*

*The former East-West relations widened the difference between the developed and transition economies. The idea to establish new North-South relations can not only relieve negative tensions arising from the East-West, but with time it can reduce them. Croatia and Poland put forward an initiative to link economies in the triangle: the Adriatic, the Baltic and the Black Sea. It is called the Three Seas initiative, which covers 12 countries, of which only Austria was not within the communist totalitarian regime. Thus, the Three Seas initiative has a special significance, not only for the relations in the European Union, but also for the whole world development policy.*

*The idea of the Three Seas was presented on 29 September 2015 by the President of the Republic of Croatia on the preparatory meeting on the side-lines of the UN General Assembly in New York. The goal of the initiative is to strengthen the overall Central European cooperation, creating neither new international organizations nor new mechanisms of cooperation. The expected advantages and potential disadvantages of this initiative will be the subject of the research presented in this paper.*

*The aim of the work is collate and evaluate factors that can support or weaken the Three Seas initiative.*

*In this paper the research methods used were: the methods of the analysis of strategic documents, the historical method and the methods of analysis and synthesis. Moreover the multi-criteria analysis of the level of development of the project's initiators economies was used.*

**Key words:** *European Union, Three Seas Initiative, economies in transition.*

## SAŽETAK

*U uvjetima mega svjetskog tržišta, nakon pada Berlinskog zida 1989., i ulaska u treći milenij, globalno svjetsko tržište razvrstava se na nove velike ekonomsko-političke grupacije. Totalitaristički režimi nestaju, rađaju se nove države i narodi, otvaraju se velika nova globalna tržišta, a sve to postavlja pred svijet pitanje upravljanja tim novim sustavom. Da se ne bi ponovila povijest sličnog previranja iz druge polovine 19. stoljeća, kad je „dvojni revolucija” potaknula gospodarski razvoj i promovirala nove europske velesile, a koje je na kraju završilo sa dva krvava svjetska rata, postavlja se problem upravljanja razvojem u današnjim uvjetima.*

*Europska unija, kao jedan od novih oblika svekolikog ujedinjenja država Europe, slično kao i svi drugi, ima problem svog funkcioniranja i razvoja. Činjenica da se EU sastoji od visoko razvijenih ekonomija, ali i niza ekonomija u tranziciji, nameće potrebu novih promišljanja o zajedništvu takve konstelacije ekonomija. Pitanje ekonomije, politike, međuljudskih odnosa, ljudskih prava, demokracije i drugo, svoje temelje ima u znanju i stupnju obrazovanosti. Znanje se ističe kao temeljna potreba i činitelj razvoja, a shvaćanje njegove uloge od presudne je važnosti da shvati i politika i političari koji vode europske nacije.*

*Dosadašnja relacija istok-zapad potencirala je razliku između razvijenih i ekonomija u tranziciji. Potreba uspostavljanja relacije sjever-jug ne samo da ublažava negativne tenzije nastale iz relacije istok-zapad, nego kreće putem njihovog rješavanja. Hrvatska i Poljska inicijatori su povezivanja ekonomija u trokutu „Tri mora”, Jadranskog, Baltičkog i Crnog mora, čime se obuhvaća 12 država/ekonomija, od kojih jedino Austrija nije bila unutar komunističkih totalitarističkih režima. Stoga, „inicijativa tri mora” ima poseban značaj ne samo u relacijama Europske unije nego i cijele svjetske razvojne politike. Ideja „inicijative tri mora” predstavljena je 29. rujna 2015. od strane Predsjednice RH na pripremnom sastanku na marginama Opće skupštine UN-a u New Yorku. Cilj inicijative jest ojačavanje sveukupne srednjoeuropske suradnje, istovremeno ne predstavljajući stvaranje nove međunarodne organizacije ili novih mehanizama suradnje. Koje su dobre, a koje moguće loše strane te inicijative biti će predmet ovog istraživanja.*

*Cilj ovog rada je prikupljanje i valoriziranje čimbenika koji mogu podržati ili oslabiti inicijativu „Tri mora”.*

*U ovom radu, kao metode istraživanja, korištene su metoda analiza strateških dokumenata, povijesna metoda, kao i metoda analize i sinteze. Izvršiti će se također analiza po više kriterija i to obzirom na stupnju razvijenosti ekonomije država inicijacije ovoga projekta.*

**Ključne riječi:** *Inicijativa „Tri mora”, ekonomija u tranziciji, Hrvatska strategija razvoja, Poljska strategija razvoja.*

## 1. Introduction

What is good in today's political world is intensive communication. Besides, it develops lobbying, through which the global world level peacefully promotes certain strategic goals and plans. This study presents the important initiative that was launched by the President of Croatia,

Ms. Kolinda Grabar-Kitarovic. She was elected the President of Croatia after having served as the Assistant Secretary General of NATO. Her perfect knowledge of the Croatian people, as well as the neighboring nations, and other cooperation and personal contacts with the leaders of NATO, and through them the entire American public administration, have made her one of the leading women in the European policy. Therefore, it is not surprising that just on her own initiative, already in the autumn of 2015, on the margins of the autumn session of the UN General Assembly in New York, a preparatory meeting on the initiatives of "Adriatic-Baltic-Black Sea" was held. This was followed in the summer of 2106 by Dubrovnik Forum dedicated to strengthen Europe and connect the north and the south. What this is all about and what the benefits of this project are will be the subject of this study. Therefore, the aim of the research is to evaluate the factors that are positive and negative components of the "Three Seas". The hypothesis, which reads *knowledge is a fundamental factor in the success of the "Three Seas" and links successfully the north and the south Europe*.

## **2. Historical aspects, nationality and transition**

Historical aspects related to the project "Three Seas" began in the early 19th century, at the Vienna Congress, which was held on 1st September 1814 and that lasted nine months. The Congress brought together the five major powers of the time, led by Britain and France. The purpose of the congress was to establish the borders of Europe and ensure peace, regardless of other factors, such as national aspirations of small nations. The intellectual elite of the leading countries in Europe re-established the borders and divided the European territory among themselves, and the basic principle was not allow small nations to found their state. In the best case they could be allowed to form a province of big countries. So, it was a period of domination of the great powers, some of which are particularly important to mention: France and Great Britain, because of their European links with the double revolution, which occurred in the first half of the 19th century; political in France and industrial in the UK (Hobsbawm E.J., 1962). The second half of the 19th century was marked by emergence of new European countries, especially Germany, which gradually endangered the maritime and industrial domination of Great Britain. But peace, albeit fragile and through constant less conflict, maintained. During these hundred years, the members of the "Three Seas", with the exception of Austria, and to some extent Hungary, fought unsuccessfully for recognition of their nationality, or on the other hand seemingly had their nationality, but characterized by vassal relationships with the powerful sovereign. In the north, it was Russia, and further in the south, near the Adriatic Sea, the Habsburg Monarchy. The beginning of the 20th century, especially the end of the First World War, brought a new attempt to redraw Europe's borders and the birth of new states. The disappearance of the great Ottoman Empire in the 19th century from Europe, and the collapse of Austria-Hungary after the Second World War, left a void to fill in the map of Europe, which caused another redrawing of Europe. Some countries from the north formed the new state, thus establishing the state of Czechs and Slovaks, two different ethnic groups. In the area around the Adriatic, the great victorious powers of the war, again redrew the map of Europe and formed a new country. This was artificial, without the will of the people; the state created was: the so-called state of "South Slavs" the Kingdom of Serbs, Croats and Slovenes (Stanic A., 2001). In fact, it was the Serbian Karadordevic monarchy, which in 1929 was renamed for the Kingdom of Yugoslavia (Horvat R., 1992). This was the Serbian kingdom based in Belgrade, an artificial state entity which promoted the Serbian government through the state of Yugoslavia. Some countries, such as Poland, Lithuania, Latvia, Estonia and Romania even took advantage of the post-war option and formed independent states. Also Bulgaria, between the two wars, was one of the countries with the repressive regime ruled. The similar thing happened to Romania. Totalitarian regime, in this part of Europe, apparently found fertile ground for its emergence and

development. After a short period of new states that were created between the two wars, after the Second World War, totalitarian regimes in Central and Eastern Europe started to dominate. In the south, Serbian and communist-oriented Yugoslavia, engulfed today's Croatia and introduced totalitarianism. In the north, at the Baltic Sea: Poland, Lithuania, Latvia, Estonia, and at the Black Sea: Romania and Bulgaria became victims of the totalitarian Soviet Union.

Why is this history important for the "Three Seas"?

The communion, which is built on the same torment, historically proved to constitute foundation for successful existence and development. National consciousness has always been important for national development, and has linked nations of similar historical heritage. Along with many other coincidences this is a good basis for connection. Where to look for and develop these coincidences?

### **3. Platform of cooperation of the Member States "Three Seas"**

The initiative "Adriatic-Baltic-Black Sea", which was launched in the autumn of 2015 on the margins of the autumn session of the UN General Assembly, continued until Dubrovnik Forum the next year. Dubrovnik forum brought together representatives of the EU Member States located between the Adriatic, the Baltic and the Black Sea. There were: Austria, Bulgaria, the Czech Republic, Estonia, Croatia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Slovenia (Agnosiewicz M., 2016). The Forum, which focused on strengthening Europe and connecting the north and the south, was led by the Croatian President Kolinda Grabar-Kitarovic and the President of Poland, Andrzej Duda (EuroActive.pl., 2017) . Support for this initiative was also given by Chinese and American representatives, who attended the Forum (Macetic M., Manovelo I., 2016). What is defined as the basis and is gradually carried out:

1. The whole project has an informal character, which means it does not have any official state political platform, in terms of formation of new administration or creation of a new international organization for the purpose of cooperation. The political engagement of the subjects of this initiative is contained in the terms of political support and the general economic cooperation and development, as well as a stronger use of structural, cross-border infrastructure and European funds.
2. The project is conceptually focused on (i) politics, (ii) economy, (iii) energy, (iv) infrastructure, (v) communications (Digital Agenda), (vi) forms of security cooperation, as well as on planning digital connectivity in Central Europe. Also, the project aims at strengthening synergies formats such as the Baltic cooperation, the Visegrad Group and the various trilateral and quadrilateral agreements.
3. The declared primary goal of the initiative "Three Seas" is contained in strengthening the overall cooperation between the member states in Central Europe, particularly in transition economies, in order to in the near future join the developed economies of Western Europe. In addition to this primary goal, there are also supporting goals, such as:
  - 3.1. Investigate possibilities and develop a system of cooperation through concrete economic projects of the networking business entities members, take the initiative, take advantage of a favorable geostrategic position of the states, achieve favorable economic results and create added value. In that way encourage development and raise economic security to a higher level.
  - 3.2. Given that it is here, above all, the economic cooperation, strengthening and stabilizing the economy; the initiative has the strong political and economic dimension, which refers to energy independence building up the security side. This primarily refers to the relations with Russia, but not in terms of any form of hostility; on the contrary, cooperation and development on the principles of civil society, its values and



transformation of all remnants of totalitarianism in the development of positive forms of cooperation.

- 3.3. Edge of the country/ economies of this initiative bordering the two European great powers, which have different views on this project, and for now, have not approved of them, namely Germany and Russia. This is especially true for Poland, which borders both, but under tension low grade security are the other seven states, which more or less border Russia. Due to development of civil society and democracy they must be alert to significant differences between the somehow conflicting interests of Germany within the initiative "Three Seas", and the interests of Russia within this initiative. Germany will have to hold a neighborly dialogue on the initiative to create their new interests, as they certainly exist. At the same time, Russia will gradually realize what is desirable for a good dialogue on this initiative and what principles of mutually fruitful cooperation are essential to satisfy its interests with the support of the interests of the subjects of this initiative (Views and News, 2015).

So, the fact is that the new millennium is bringing major changes to the global and European overall scene, and that there are no plans to redraw the borders through any agreement of the "Great Powers", or any form of occupation. In doing so, populism and national commitment should be respected, because it brings in motivation to work, cultural development, satisfaction with life, and all that with dominance of the values of civil society which is constantly evolving. Simply, one should realize that civil society on the one hand, and the capitalist economic system on the other hand, have no alternative and they are *sine qua non* of the modern life. Sure, there is significant criticism of the capitalist economic system, which is facing many problems and which has to conduct a serious process of review and adjustment of the current environment and requirements that are primarily social (Thurow L., 1996).

#### **4. Knowledge as a way to success**

The problems of today's current lifestyles within each European nation are fundamentally different, which is primarily connected with differences between the developed economies of Western Europe and transition economies. The problems of transition economies are more or less similar, but their vision and the manner of solving problems look more like the system of "trial and error" rather than a systematic and efficient method of problem solving. The fact that these are economies that are emerging from the Communist system imposes a certain perspective and this leads to identification of problems or inability to solve them. Nobody likes to admit the problem, but the problem exists and remains inside the person. This is especially true of people, who have not had a chance to live out the system in which they are located. Thus, the need to engage capable people, who have performed well in the developed economies and see very differently the situation in their country, the country, the economy of which is in transition. Such people see the problem more clearly and know how to approach it and tackle it. Therefore, the lucky situation for Croatia is that they have the President who studied in America, and who through her high status in NATO has gained not only experience, but also friendships. The similar situation is with the Prime Minister, Mr. Plenkovic, who spent a significant part of his life in Canada. Thus, for example, the President Kolinda Grabar Kitarovic has a very interesting and useful approach to the situation in Croatia. Her views related to the initiative "Three Sea", as well as international cooperation also of great significance. In an interview published recently the President warns people of the mentioned problems (*Intervju: Predsjednica...*, 2017). She emphasizes the need for strategic harmonization of the Government and of her as the President, which she has now achieved and which guarantees better coordination of their work together. She further on warns of a problem of Croatian diplomacy, and points out that the most important

characteristics of diplomats are: patriotism, and following the official policy. Yet, some diplomats do not do that and do not change. This leads to chaos in the system, results in other negative issues. The President calls it "sloppiness". Due to negligent work and poor coordination of some ministries the President is taking steps and actions that should be realized. She sees problems, which are really very serious and destructive, and understands that this way of thinking and work in the same as in the time of the former communist regime. She says and warns that some "experts" and long-serving diplomats do not adapt to the new circumstances. This means that incompetent people are elected, who do not act in the interests of the Croatian people and who are enslaved by old customs. Given the fact that Croatia is a young country, a slave to the old customs, in essence, means that they do not work or think beyond the scope of the communist-oriented economy and politics. The President clearly and openly says that Croatia lags behind and adds that Croatia must not "walk, but run", which means that better economic decisions should be made and better results should be achieved. She emphasizes the need for a higher degree of responsibility of politicians, businessmen and all citizens, stressing that each country has to solve quickly their problems, and to have its own national vision. In this context, she says a very important thing: "no one will do things for us". This draws attention to the ingrained way of action imposed by the former communist regime, in which everyone was waiting for that party to do what needed to be done and that this is the line the Party used to work in. Now, there is no more Party, but people are still waiting for someone else to do what they should. The President points out that the fate of every country lies in its hands and the hands of its citizens. Considering the crisis in Ukraine she emphasizes the need for reconciliation and co-existence, which refers to a way of life, not just the problem of Ukraine. She also highlights erosion of the European value of solidarity, the common European foreign policy and security policy. What is perhaps most important, she stresses the need for teaching young people responsibility, teamwork, planning and execution, problem solving, empathy and care of each other. With that she also emphasizes problem solving on the basis of old practices that no longer exist, and which is the reason for slow development. The out President talks also about the need to develop young people so that they can use the knowledge of Croatia emigrants and people who have returned and gain experience in the developed countries of the world. That emphasizes the need for the education reform. So, what is most important, the President has recognized that knowledge is crucial. But the question remains which and what knowledge we need and how to acquire it, because the reform itself will not solve much, because it will be carried out again by those whose education has led to the old way (Views and News, 2015).

However, before we explain the role of knowledge in the "Three Seas", and beyond, it is good to look at positive and negative burden which Croatia, and possibly other members of the group "Three Seas", bear with the exception of Austria. First, we will highlight some of the good conditions, which have recently occurred, and then these problems, which need to be still addressed:

1. There are more educated people in politics, who lived outside Croatia and proved their abilities.
2. There is better connection and communication between the EU and the United States and the President of the country and the Prime Minister.
3. The high level of security in the country.
4. Croatia is rich in resources, especially water, wind and natural beauty.
5. In Croatia in recent years tourism has been developing very intensively, which encourages development of other activities, especially quality food.
6. The ecology and cleanliness is of high level.
7. In Croatia, there is high percentage of inhabitants, who speak or communicate in many foreign languages.
8. The bank has a surplus of money, but the lack of projects.

9. Teachers are still gradually improving.

What is bad in Croatia, and what urgently needs to be addressed, are the following:

1. Corruption.
2. Nepotism, which often goes beyond political interests, because it is a function of negative interests of individuals or small groups, and party affiliation is of no significance here.
3. The political and party system is still more like the Party in the past than that of democratic parties. Basically the motto "if you're not with us you're against us".
4. National interests, as well as patriotism, it is not clear, not yet developed.
5. In political and economic terms, it is and feels like we were still in communism, in which the Communist Party deals mainly with free will of the people.
6. The judiciary system is not efficient and still favors the debtor, not the lender; so many good small businesses fail.
7. There is no entrepreneurial climate yet for development of entrepreneurship, and because of unstable laws the investment risk in Croatia, is very high. Yet, it is being reduced now, but very slowly.
8. There is still a development strategy modelled on the former system of the communist economy, but there is no model of execution and but the strategy is completely ineffective.
9. On macro-economic and political level there is no document, which represents the consensus of all parties and citizens, regarding the national economic interests and resources, which would be above the party, and which every government and the opposition should protect and manage.
10. Companies still do not develop their operational and strategic plans, and most activities of management means only collection. Planning and controlling, which are the basic management functions, are not taught at universities, which contributes to supporting the economy that is not market-oriented.
11. The link between science and practice, particularly in the economy, does not exist.
12. The level of education of Croatian managers is still low, as their primary e-literacy.

These problems in Croatia and Poland, as well as in all the countries of the group "Three Seas", apart from Austria, can be seen through the basic indicators of development (Table 1.).

**Table 1** Basic indicators of development of a member of the "Three Seas" (2015 and 2016)

| Countries | Population<br>[in 000] | GDP<br>per capita<br>(current<br>prices) [€]<br>2016 | Income<br>[% of<br>EU] | Unemployed<br>[%] | Students of 18<br>years old as % of<br>18-year-old<br>population<br>2015 | Investment<br>in higher<br>education<br>per capita [€]<br>2015 | Total<br>population<br>change |
|-----------|------------------------|--|------------------------|-------------------|--|--|-------------------------------|
|           | 2016                   | 2016   | 2015                   | 2016              | 2015   | 2015   | 2015                          |
| 1         | 2                      | 3  | 4                      | 5                 | 6  | 7  | 8                             |
| Austria   | 8.690                  | 39.400   | 136,2                  | 6,0               | 29,4   | 296,2  | 113.815                       |
| Bulgaria  | 7.154                  | 6.300  | 24,5                   | 7,7               | 3,2  | 3,3  | -48.414                       |
| Croatia   | 4.191                  | 10.400   | 36,1                   | 12,8              | 10,6   | 21,5   | -34.647                       |
| Czech R.  | 10.554                 | 15.800   | 45,3                   | 4,0               | -  | 76,8   | 15.568                        |
| Estonia   | 1.316                  | 15.400   | 53,3                   | -                 | 1,3  | 95,3   | 1.074                         |
| Hungary   | 9.830                  | 11.100   | 27,4                   | -                 | 5,1  | 18,6   | -25.086                       |
| Latvia    | 1.969                  | 12.300   | 40,4                   | 9,7               | 3,7  | 38,1   | -17.139                       |
| Lithuania | 2.889                  | 12.900   | 37,5                   | 8,0               | 7,7  | 74,1   | -32.704                       |
| Poland    | 37.967                 | 11.200   | 34,5                   | 6,3               | 2,0  | 32,8   | -38.405                       |
| Romania   | 19.760                 | 8.100  | 13,8                   | 6,0               | 5,8  | 6,9  | -110.333                      |
| Slovakia  | 5.426                  | 14.500   | 38,7                   | 9,7               | 3,0  | 74,9   | 4.903                         |
| Slovenia  | 2.064                  | 18.700   | 68,8                   | 7,9               | 3,3  | 42,1   | 1.314                         |
| EU (28)   | 510.284                | 28.900   | 100,0                  | 8,5               | -  | 136,4  | 1.780.110                     |

Note: For updating the data of 2016 is used, but in the case of lack of the data of 2016, the data of 2015 is used. Due to the fact that there is no essential difference between the two years, the general conclusion on development can be accepted.

Source: Eurostat, <http://ec.europa.eu/eurostat>, (accessed 3 March 2017).

The Group member of "Three Seas" covers 28% of the European Union, 22% of the EU population, and contains 10% of GDP of the Union. Already from this data, you can see the development disparities group in relation to the EU. The data contained in Table 1 indicates significant differences in development that can be seen from the indicators used. As a result of poor conditions 11 members of the group noticed negative demographic phenomena, such as emigration, which comes as a result of unemployment, or other adverse circumstances. The fact that young and educated people leave their countries points to the problem of education and science. Adverse heritage or education from the communist era is no longer adequate for the market economy. This fact points to the low level of investment in science and education, especially secondary and higher. And this is the devastating conclusion for education. If we look at column 6., it is clear that there is direct, complete and functional positive correlation between education and development. For example, Austria shows that almost one out of three young people enrolled for college, and in Estonia almost only one out of nineties, in Poland only every fiftieth and one out of ten in Croatia. Investment in higher education in Austria with 296.2 Euros *per capita*, is the largest in the group, and in Bulgaria only 3.3 *per capita* is the least. In Poland, higher education invested 32.8 Euros *per capita*, while Croatia only 21.5 Euros, in relation to the EU average of 136.4 Euros. These unfavorable indicators also show the state of mind or a negative view on development, because without good education and high quality of personnel there is no development. Therefore, this issue should be specifically dealt with. In all, it is difficult not to get the impression that this group has a dual character. On the one hand the developed economies of the EU help economies in transition; on the other hand they force economies in transition to accelerate their development so that they can as soon as possible to join the developed economies. The development of the economy in the triangle between the Adriatic, the Baltic and the Black Sea, just or higher level becomes interesting for the developed members of the EU. Thus, it is clear that for the overall success, this group with 11 member states in transition, must on the one hand, develop its national economy, and on the other hand, all of them need to find areas of cooperation, such as the significant areas that Croatian President promotes. When you look at Table 1. with indicators the question arises: what works in Austria, a member of the Group "Three Seas"? Its economy according to the indicators of development exceeds the EU average, the question is: what is their role and interest in it? However, at first glance it looks as if Austria had no place in the group "Three Seas", but its role is still clear. Although it provides necessary budget initiatives for "Three Seas" in the amount of 50 billion Euros, the sources of funds are provided by the EU. Austria has a well-developed banking and finance and its role in this regard is of great importance. Furthermore, considering all the members of the Group, whose economies are in transition, Austria plays the role of a "guinea pig" or a role model, which checks practically the views of others, because it is not just about economic development, but also civil society and European civic values. And because of all this, the basic prerequisite knowledge is indispensable. Therefore, it is necessary to thoroughly restructure education, especially high, and set it on the basis of practical applications in accordance with the needs of the economy. Accordingly, intensive cooperation and transfer of knowledge and understanding is needed between universities, not only within the member firms, but primarily with the developed universities of Western Europe. Elie Wiesel, the Auschwitz prisoner and Nobel Peace Prize in 1986, in the inaugural speech after receiving the award, finally concluded by saying: "Hatred does not kill, but lack of knowledge". And Claus Moser said: "Education is expensive, but lack of knowledge is much more expensive".

Here it is advisable to ask the question, why so much knowledge is needed. As the President Kolinda says, the problem are people, who do not solve problems in an adequate manner using the methods of the former system, and all this is caused by lack of knowledge. Therefore, it is urgent to create a generation of new, competent, educated young people who will through education at universities, and practice abroad, acquire knowledge and make it possible to "run,

not walk". At the same time within the group of professors radical changes should be carried out and in many ways this will contribute to their faster training. Einstein once said, "you cannot solve the problem with the same people who created this problem". New people will create a more or less uniform EU economy, some new EU as a real economic unit, which has not been formed before; current differences are too great and so are the problems, all of which came as a result of not having sufficient knowledge.

## 5. Conclusion

The initiative "Three Seas", which was launched by Croatia and Poland and has found a positive response and support of America and the European Union, is a project that has its significance for the national aspects of the State, both in terms of the interests of the European Union and America, and wider. This initiative requires initiating and achieving a faster rate of development of all its members, through cooperation and joint investments in projects that would be the foundation for future development. Although this is a large-scale project involving large corporations, such as OT "Logistic" (Poland) and the Port of Rijeka, one must not forget the need to develop the system of the distribution and small and medium enterprises, because their development is a pillar of stability of any economy. A key to knowledge, which is now missing.

## REFERENCES

- Agnosiewicz, M. (2016): *Europa Srodkowa powolala Inicjatywe Trojmorza pod Patronatem Chin i USA*, <http://www.racjonalista.pl/kk.php/s,10032>, (accessed 21 February 2017).
- EuroActive.pl. (2017): *Duda: Infrastruktura i energetyka polacza kraje Trojmorza*, <http://binesalert.pl/duda-infrastruktura-energetyka-polacza-kraje-trojmorza/>, (accessed 15 March 2017).
- Eurostat (2017), <http://ec.europa.eu/eurostat>, (accessed 3 March 2017).
- Hobsbawm, E. J. (1962): *The Age of Revolution: Europe 1789-1848*, Vintage Books, New York.
- Horvat, R. (1992): *Hrvatska na mucilistu*, Skolska knjiga, Zagreb.
- Intervju: Predsjednica Kolinda Grabar-Kitarovic o prve dvije godine svog mandata*, in: Kamenjar (2017): <http://kamenjar.com/intervju-predsjednica-kolindagrabarkitarovic-prve-dvije-godine-svog-mandata/>, (accessed 20 February 2017).
- Macesic, M., Manovelo, I. (2016): *Croatia hosts forum on Three Seas Initiative to strengthen north-south corridor*, <http://www.internationallawoffice.com/Newsletters/Energy-Natural-Resources/Croatia/Macesic-Partners/Croatia-hosts-forum-on-Three-Seas-Initiative-to-strengthen-north-south-corridor>, (accessed 22 February 2017).
- Stanic, A. (2001): *Financial Aspects of State Succession: The Case of Yugoslavia*, European Journal of International Law, Vol. 12, No.4., pp. 751-779.
- Thurow, L. (1996): *The Future of Capitalism: How Today's Economic Forces Shape Tomorrow's World*, Penguin Books, New York.
- Views and News* (2015): [http://predsjednica.hr/files/NEWSLETTER%20VIEWS%20and%20NEWS\\_no%202.pdf](http://predsjednica.hr/files/NEWSLETTER%20VIEWS%20and%20NEWS_no%202.pdf), (accessed 18 February 2017).

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**THE ROLE AND INFLUENCE OF COOPERATIVES ON EASTERN  
CROATIAN ECONOMY**

**ULOGA I UTJECAJ ZADRUGA NA GOSPODARSTVO  
ISTOČNE HRVATSKE**

**ABSTRACT**

*The lack of long-term development strategy of Croatian agriculture and food industry has resulted in inadequate structural measures and guidelines for the development of agriculture. Family farms are, in relation to the ownership of agricultural land, their position and influence on the development of rural areas most significant holders of the agricultural resources in Croatia. At the same time, most of the family farms also facing with competition, caused by among other things with insufficient knowledge of the market trends, poor positioning in the market and lack of access to supply chains. The aim of this paper is to present different forms of business associations and to explore the basic barriers of development and interest of agricultural farms towards cooperative business. The survey that was conducted in June 2016 on the sample of 210 farms in Eastern Croatia included questions that evaluated the potential of an association of farms interest for the cooperative way of doing business. It can be concluded that only 9% of respondents are included in some form of business cooperation, but over half the majority of respondents are ready to cooperate with other farms due to a possibility of getting major projects, achieving greater subvention and economies of scale. Further guidelines for the development of the cooperative should be based on education (formal, no formal, informal education), the involvement of young people in farming and to encourage the finalization of agricultural products as well as the development of services in the cooperatives. By accomplishing these objectives, cooperatives will achieve their common economic and social*

*interests and at the same time, they will strength the local community and effect on sustainable development.*

**Key words:** *cooperative, economy, association potential, Eastern Croatia.*

## **SAŽETAK**

*Nedostatak dugoročne strategije razvoja hrvatske poljoprivrede i prehrambene industrije rezultiralo je neodgovarajućim strukturnim mjerama i smjernicama razvoja poljoprivrede. Obiteljska poljoprivredna gospodarstva, u odnosu na vlasništvo nad poljoprivrednim zemljištem, njihov razmještaj i utjecaj na razvoj ruralnog prostora, nositelji su većeg dijela poljoprivrednih resursa u Republici Hrvatskoj. Veći dio obiteljskih poljoprivrednih gospodarstava suočava se s problemima konkurentnosti uvjetovanih, između ostalog, s nedovoljnim znanjima o tržišnim kretanjima, lošim pozicioniranjem na tržištu i nedostupnošću distributivnih lanaca. Cilj ovog rada je predstaviti različite oblike poslovnog povezivanja te istražiti osnovne prepreke razvoja, kao i zainteresiranosti poljoprivrednih gospodarstava prema zadružnom poslovanju. Anketno ispitivanje koje je provedeno u lipnju 2016. godine na uzorku od 210 poljoprivrednih gospodarstava na području istočne Hrvatske obuhvatilo je pitanja koja procjenjuju potencijal udruživanja, odnosno zainteresiranost poljoprivrednih gospodarstava za zadružnim načinom poslovanja. Može se zaključiti kako je samo 9% ispitanika uključeno u jedan od oblika poslovnog povezivanja, ali je iznad polovična većina ispitanika spremna udružiti se sa drugim poljoprivrednim gospodarstvima zbog mogućnosti dobivanja većih projekata, ostvarivanja većih poticaja i ekonomije obujma. Daljnje smjernice razvoja zadruga trebaju se temeljiti na edukaciji (formalnoj, neformalnoj, informalnoj), uključivanju mladih u poljoprivrednu proizvodnju te u poticanju finalizacije poljoprivrednih proizvoda kao i razvoja uslužnih djelatnosti u zadrugarstvu. Ostvarivanjem ovih ciljeva zadruga će ostvariti svoje zajedničke ekonomske i socijalne interese te istovremeno jačati lokalnu zajednicu i utjecati na održivi razvoj.*

**Ključne riječi:** *zadruga, gospodarstvo, potencijal udruživanja, istočna Hrvatska.*

## **1. Introduction**

Croatia is mostly rural country, as three - fourth of its territory make rural areas, while almost half population is living in rural areas. Croatian agriculture is the sector which is very important for the total economy of the country in order to achieve economies of scale (ES) in primary agriculture production as well as developing of secondary and tertiary activates connected with agriculture in order to develop rural areas as well as the national economy in the whole.

However, Croatia in the global economic context was not prepared for entering the European Union, which was emphasized by numerous of studies (Franić et al., 2005; Radinović and Žutinić, 2007), in fact, the Croatian agriculture is dominated by fragmented, uncompetitive and elderly farms with high production costs. These family farms have their place in the rural economy because they provide a wide range of different products that are not produced by big farms, especially local products, and therefore their members are guardians of the tradition of rural areas.

Family farms, according to the ownership of agricultural land, their deployment and impact on the development of rural areas, are holders of most agricultural resources in the Republic of Croatia. Most of the family farms are faced with problems of lack of competitiveness



conditioned, among other things, with insufficient knowledge of market trends, poor positioning in the market and lack of access to distribution chains. The average agricultural holdings in the Republic of Croatia are 5.6 ha (while the average in the European Union is 14,5 ha) [www.savjetodavna.hr](http://www.savjetodavna.hr).

Analysis of the socioeconomic structure of family farms are the subject of many agricultural economists research which recognized the importance through the perception of life in rural areas with different aspects, where the economy is only one component of the overall sustainable rural development. In this context, Franić et al (2003) emphasize that it is an effort to achieve sustainable rural development of economic growth and that cannot be considered in isolation, but in accordance with the environmental requirements of environmental protection, as well as the coordination of human possibilities, rights and obligations. In this context, with environmental and economic aspects, cooperative action brings social "*touch*" of agricultural production because the entire business was not directed towards maximizing profits but the business motivation is primarily focused on strengthening the joint mission members of cooperatives (Nicholls, 2006) and the creation of social security (Hullgard, 2010). Cooperatives cultivate ethical integrity, train and educate its members and encouraging decent exit from the poverty cycle, providing them access to financial services and information (Škrtić, 2007). The paper emphasizes the development and importance of cooperatives from the socio-economic point of view. Furthermore, this paper will display and other forms of business cooperation's, especially those that are important for the agriculture development.

## **2. Objectives and methodology of the paper**

The aim of this paper is to present different forms of business associations and to explore the basic barriers of development and interest of agricultural farms towards cooperative business. The survey that was conducted in June 2016 on the sample of 210 farms in Eastern Croatia included questions that evaluated the potential of association of farms interest for the cooperative way of doing business and identify relevant factors that could stimulate the cooperation potential.

Besides empirical research, the secondary database of the State Statistics Institute, the Ministry of Agriculture, the Agency for payment in agriculture, Croatian Agricultural Chamber and many others which have contributed to the formation of the conceptual part of the paper confirming certain development guidelines have been used. The methodology used in the work is descriptive statistics and the application of inferential methods that contribute to the analysis, data generalization and conclusions.

## **3. The role of cooperatives in Eastern Croatian economy**

Agriculture of Eastern Croatia (Osijek-Baranja County, Vukovar-Srijem County, Požega-Slavonia County, Brod-Posavina County and Virovitica-Podravska County) is the most important part of the national agriculture due to their comparative advantages, but their efficiency and overall economic development is inadequate. In Eastern Croatia high unemployment rate, lower GDP p/c and a negative migration balance is present.

The Table 1. indicates that Eastern Croatian economy belongs to the most unfavorable group value according to the arithmetic mean (M) where GDP p/c is 48 695 kn, high unemployment rate (28.5%), compared with the lowest value of 8.6% in some parts of Croatian (Istria, Zagreb). The share of young people unemployed (15-24 years) in total unemployment in the Eastern

Croatia is 20.28%. The analysis of natural increase and net migration of Eastern Croatia noticed a strong depopulation and deruralization what is also effected and in other parts of the Croatia with a slightly more favorable value. The share of employees in Eastern Croatia in the total population is 24.14%. Negative indicators of development and the lack of long-term development strategy of Croatian agriculture and food industry has resulted in inadequate structural measures and guidelines for the agriculture development.

**Table 1** *The economic development of Eastern Croatia by selected macroeconomics indicators in 2016. year*

|               | GDP p/c (kn) | Share of unemployment | Natural growth | Migration            | Average neto income (kn) |
|---------------|--------------|-----------------------|----------------|----------------------|--------------------------|
| OB County     | 61.503       | 29,0%                 | -1.260         | -1.127               | 5.076                    |
| VS County     | 45.629       | 30,0%                 | -619           | -1.307               | 4.799                    |
| PS County     | 46.214       | 23,4%                 | -294           | -317                 | 4.797                    |
| BP County     | 44.366       | 27,7%                 | -545           | -702                 | 4.887                    |
| VP County     | 45.764       | 32,6%                 | -408           | -377                 | 4.676                    |
| Average CRO   | 77.465       | 17,4%                 | -11.273        | Total CRO<br>-10.220 | 5.507                    |
| Minimum value | 44.366       | 8,6%                  | -1.260         | -1.307               | 4.429                    |
| Maximum value | 137.321      | 32,6%                 | 93             | 130                  | 6.437                    |

Source: DZS, 2017; <http://trzisterada.hzz.hr/Wages/Counties>

According to the methodology of "bottom-up" approach, relevant stakeholders agree that structural measures and guidelines for development in agriculture should be oriented to family farms, which are the key holders for agriculture development, confirmed in all Croatian strategic development documents, because they have the largest part of agricultural capacity. These small and fragmented holdings represent the largest gap between the Croatian agriculture and those in developed European countries. Therefore, the imperative of the Croatian agriculture must be clearer restructuring in two directions. One is the maintenance of small businesses with mixed sources of income, and the other, an increase in the number of farms that will strive to increase the economic size of land holdings, and that will influence on the overall growth of Croatian agriculture (Tratnik, 2007). In the process of restructuring and development for Croatia agriculture, cooperatives and cooperative business model is one possible solution. In Croatia are registered 1.302 cooperatives with 21.462 cooperative members and 2.744 employees, or 0.17% of total employment. The average number of employees in cooperatives is 2.1, and the average number of its members by the cooperative is 16.5. Cooperatives total annual income is 1.6 billion kn, which is about 0.5% of GDP in Croatia.

**Table 2** *The role and significate of cooperatives in Eastern Croatia*

|  | Number of cooperative | Number of cooperative members | Number of employees |
|--|-----------------------|-------------------------------|---------------------|
| Croatia (total number)   | 1.302                 | 21.462                        | 2.744               |
| <i>Eastern Croatia</i>   | 309                   | 3.433                         | 873                 |
| <i>Share of Eastern Croatia cooperatives in Croatia</i>              | 23.7%                 | 15.9%                         | 31.8%               |
| Agricultural cooperatives in Croatia                                 | 531                   | 8.061                         | 1.240               |
| Agricultural cooperatives in Eastern Croatia                         | 174                   | 1.431                         | 566                 |
| <i>Share of Eastern Croatia agricultural cooperatives in Croatia</i> | 34.1%                 | 17.7%                         | 45.6%               |

Source: work of an author according to the Croatian Centre for Cooperative Entrepreneurship (Annual report of the cooperative enterprise, 2016)

Croatia has a sufficient number of cooperatives (according to the surface of the country), but cooperatives have not been sufficiently effective, because cooperatives should include a greater number of farms and a growing number of employees in order to significantly contribute to their own development and the national economy. In the European Union the share of employees in cooperatives is 3-10%, while in some countries the share of income of cooperatives in GDP is up to 15% (Italy, Denmark).

In Croatia, the most important are agricultural cooperatives (40.1%), followed by manufacturing, services, construction, trade, tourism, fishing and many others. In East Croatia cooperatives contribute with 43.7% of the total cooperative's income in which the most important are the Osijek-Baranja County and Vukovar-Srijem County. Of the total number of agricultural cooperatives in Eastern Croatia is located 32.7%.

Cooperatives are the largest NGO in the world where members of the cooperative with their business and management realize their common economic and social interests, and at the same time strengthen the local community and have influence on sustainable development

The International Co-operative Alliance (ICA) identifies five interrelated priority activities where a new model of cooperative emphasizes increasing the level of members' participation in management, positioning cooperatives as creators of sustainability, developing a message of cooperatives and strengthening identity, ensuring an enabling legal framework which will enable the growth of cooperatives and ensure stable capital while maintaining control by the members. Numerous experiences point out that cooperatives provide better conditions of life and contribute to the overall and sustainable development of the economy that is precisely the cooperative business model that effectively contributes to the balance of the global economy.

[http://www.zadruga.coop/upload\\_data/site\\_files/croatian-ica-blueprint-june-16-v2.pdf](http://www.zadruga.coop/upload_data/site_files/croatian-ica-blueprint-june-16-v2.pdf)

The cooperative provides business organization and communication that are adapted to the market because it can function as a large business subject (and receiving benefits of large entities) as well as each farm can act independently and not restraining freedom of entrepreneurship in their own farm.

#### **4. Interest of agricultural farms towards cooperative business**

The survey that was conducted in 2016 on the sample of 210 farms in Eastern Croatia included questions that evaluated the potential of association of farms interest for the cooperative way of doing business and identify relevant factors that could stimulate the cooperation potential.

During the research, randomly chosen agricultural farms covered 69% of male and 31% of female. 36% of respondents were holders or owners of the farms while other respondents were family members or employees on the farm (64%).

The statistical sample included in the most significant proportion of respondents in the age group between 40 and 60 (43.81%). The level of education of most respondents is secondary vocational education (68.09). However, even 12.86% have only completed primary school or did not complete primary school (1.43%). 93.33% is registered in the register of agricultural producers.

According to the size of holdings, the most significant share of the respondents is with more than 10 ha of agricultural land (35.24%) followed by the farms with 3-10 ha (32.39%) and the least represented are farms with less than 1 ha (8.09%).

The base activity of respondents is primary agricultural production (93.3%) where is significantly share is crop production (78.54%). Finalization and processing of agricultural products is engaged with only 5.7% of respondents. Service industry deals with 6.6% of respondents.

63.8% of respondents are ready to cooperate with other farms in order to achieve major projects, greater subvention and economies of scale, while even 80,47% of respondents completely or partly agree that cooperative agricultural farms are more resilient to market changes. A significant proportion of respondents (81.43%) also completely or partially agree that with the cooperation farms can be competitive in front of larger companies.

Measures of the Rural Development Program of the Republic of Croatia for the period 2014-2020 emphasize and encourage investment in agriculture and infrastructure, quality system, encourage young people in agriculture, cooperation and the establishment of producer groups and organizations (Measure 9).

[www.ruralnirazvoj.hr/files/documents/MPS\\_program-ruralnog-razvoja](http://www.ruralnirazvoj.hr/files/documents/MPS_program-ruralnog-razvoja)

Questions that evaluate the *informed potential* and *corporate potential* indicate a relatively high potential of interest for agro-entrepreneurs in the cooperative way of doing business.

**Table 3** Interest of agricultural farms for the cooperative way of doing business

| Statement  | Frequencies | %   |
|--|-------------|-----|
| 1. Lack of information is one of the main reasons for not taking part in the cooperative | 118         | 56  |
| 2. Associated with other farms can help to be more innovative in business                | 126         | 60  |
| 3. Associated with other farms can effect on the quality of products                     | 113         | 54  |
| 4. Associated with other farms can influence on the quantity of the products             | 143         | 68  |
| 5. I have a great fear of the cooperative collapse                                       | 95          | 45  |
| 6. There is a lack of trust and ethics in cooperatives                                   | 98          | 47  |
| 7. Legislative regulatory and subsidies are not encourage enough cooperatives            | 111         | 53  |
| 8. I am more successful as an individual producer than a member of the cooperative       | 84          | 40  |
| Total  | 210         | 100 |

*Source: work of an author according to the empirical research*

Respondents believe that their 51.9% are partly informed by the cooperative way of doing business, and 54% of them are familiar with the work of some cooperatives in Eastern Croatia. Replies indicate that the largest proportion of respondents is informed about the cooperative by word of mouth (47%), through the media (20%), official institutions (17%) and only 7% through expert workshops, seminars and scientific conferences.

According to the research (Sudarić, Zmaić, Sinković, 2011) national system increasingly start to recognized cooperatives as the possibility of new employment, creating new income and achieving significant market share of agricultural and food products, but the multiple problems is reflected not only in the problems of the past but also through the new created conditions or problems through lack of information, knowledge and ignorance of farmers.

Croatian Center for Cooperative Entrepreneurship (HCZP) is a main public institution in the cooperative's development according to the Law on Cooperatives (N.N., No.76/14.), and it

represent and coordinate the interests of cooperatives and cooperative unions, monitor and data analyze in the field of cooperatives, proposes measures for its improvement, provides professional assistance to cooperatives and cooperative unions, organizes and conducts training and consulting in the field of cooperatives.

On respondent's opinion one of the main reasons for not joining the cooperative is a lack of information (56%) but significant and high share is of those who are undecided in answering this question or have no opinion (33%). That there is no enough ethics and trust in business generally agree 46.6% respondents or they have no opinion (31.4%).

Cooperatives emphasize the importance of the social economy, and as such, they represent the foundation of this modern trend. Social entrepreneurship and social economy are very close terms, but social economy except similarity in the objectives and method of organization, including wider philosophical orientation in the economic and social field and historical tradition based on the folk associations and cooperatives whose system of values and business principles shaped today's modern concept of social economy understanding (Nedanov, Žutinić, Kuš, 2014). Cooperatives also emphasize the importance of cooperative principles as fundamental values of business: help, responsibility, democracy, equality, justice, solidarity and care for the local community.

Answers indicate that the majority of respondents believes that joining into a cooperative can have a positive impact on the quality of agricultural products (53.8%) as well as quantity and continuity of delivery (68%). It is still a significant share of those who have no opinion.

Also, the majority of respondents believes that cooperatives affirm the innovative and creative business (60%) but on the other hand there is a great fear of mismanagement and destruction of cooperative business (44.7%). The cooperative still carries a certain "burden of the past" where cooperatives went through a phase of weakening and strengthening of cooperative actions, or unknown activities and the position of the cooperative activities in all economic sectors, including agriculture.

"Legal and regulatory incentives are not enough to affirm the cooperative development" is considered by 52.8% of respondents. The laws are changed frequently but not in favor of cooperatives. The cooperative pays taxes like any other company (although the cooperative is a society of people), and pay the tax on reinvested profit which even companies do not have to. A large share of respondents believe that they are more successful as individual producers (40%) than through a cooperative, but even 42% of them have no answer to this question.

From the association and questions about other business connections such as clusters, associations, producer organizations or LAGs there is an apparent low level of awareness. Only 9% of respondents are involved in associations or LAGs.

## **5. Forms of business connections in agriculture**

Cooperatives may associate to producer organizations, can be part of LAGs, or may be associated with clusters. Clusters are one of the models of business cooperation that can be formal or informal. In the Croatian agriculture clusters are not present enough, however, the regional development strategy, export strategy as well as rural development measures emphasize the universality and importance of clusters, especially in agricultural and food products.

Competitive ability of the business entity means that it can have a competitive advantage in the current market, but also it is able to achieve competitiveness on future markets. Thus, the formation of clusters would create an objective basis for a long-term fixed connection of producers and consumers. Clusters should contribute to reducing procurement costs, more active and less expensive performance in foreign markets and significant raising on the quality of products (*Horvat, Đ., 2004*).

In recent years, the LEADER approach is recommended as a tool for encouraging less developed areas, for which is evolved into LEADER Community - led local development (CLLD) approach. LEADER and CLLD encourage cooperation and networking of civil, public and business sectors with the aim of integrated and multi-sectoral linking key stakeholders in local development. The implementation of the LEADER/CLLD are based on a "bottom-up approach" in local communities with active individuals and associations as initiators of development initiatives, which should result in the founding of LAGs - Local Action Groups (*Tolic, Markotić, 2015*). LAGs organize educations, training information sessions and animations in order to give support for the rural economy.

Producer organizations as new trends in the European Union are very well sustained and developed in the European context, although in Croatia they are in the initial phase (7 PO are registered: 3 in the fruit&vegetable sector, 3 in the dairy sector and 1 in the sector of cattle). Many cooperatives are small and inefficient and therefore they can see their perspective in the consolidation of the producer organizations. Capital and administrative barriers are the initial challenges, but in the long term, this kind of business connection will have an echo in the entire agriculture in both the European Union and in the Republic of Croatia.

## **6. Conclusion**

Consolidation of farms through cooperatives as an economic and entrepreneurial system, which can accelerate the growth and agriculture development, and other activities associated with agriculture should be a strategic national orientation. Cooperative projects should have a favorable development, credit and tax conditions. In order that Croatian agricultural cooperatives in the future could compare with the cooperative in the European environment, there should be better coordination between state and local communities, marketing to promote the cooperatives advantages, organize and encourage training workshops and systematic and coordinated approach making short, medium and long-term plans for the cooperative's development. Encouraging cooperatives contributes to the elimination of the informal economy, unfair competition and poverty and, most importantly, supports employment, growth and development in their community (*Sudarić, Zmaić, Lončarić, 2013*).

According to the analysis of empirical research, the potential of cooperation's or farms interest for the cooperative way of doing business is evaluated, and based on the results of research, relevant guidelines for the development of cooperative activity is defined.

It can be concluded that only 9% of respondents is included in some form of business connection, but over half the majority of respondents is willing to cooperate with other farms because of the possibility of getting major projects, achieving greater subvention and to achieve economies of scale. Further guidance for development should be based on:

- Education

A large proportion of respondents is who do not have formed opinion or do not know the answer to these questions. It requires implementation of formal education (higher education institutions), informal (HCZP - seminars, professional journals, websites) as well as informal learning.

- Youth involvement in agricultural production

Young people have less and less interest to work in agriculture, not only because of hard work, but also because of the living conditions in rural areas. The share of unemployed youth in total unemployment in the Eastern Croatia is 20.28%. The young and educated population through business associations in agriculture would contribute to their personal development as well as influence on the overall economic development that could impact on development of a specific rural area, the economic viability and reducing of depopulation trends.

- Finalization of agricultural products and services development in cooperatives

The base activity of respondents' is primary agricultural production (93.3%) and significantly bigger share of crop production. With finalization and processing of agricultural products deals only 5.7% of respondents while with service industry deals only 6.6% of respondents. Creating added value through processing and finalization of agricultural products, as well as the transition from capital-intensive culture to labor-intensive culture is a necessary for economic empowerment of agriculture in the Republic of Croatia.

## REFERENCES

Franić, R., Mikuš, O., Grgić, I. (2012): *Poljoprivredna politika u radovima hrvatskih autora 20.stoljeća*; Društvena istraživanja, 21,4; 989-1006

Horvat, Đ. (2004): *Clusteri i konkurentnost gospodarskih subjekata u uvjetima globalizacije*; Koža i obuća (0450-8726) 51, 7-9; 24-26.

Hulgard, L. (2010): *Discourses of Social Entrepreneurship-Variations of the same theme?*, EMES WP no. 10/01, EMES European Research Network, str. 1-5.

Nedanov, A., Žutinić, Đ., Kuš, S. (2014): *Uloga zadruga u promicanju socijalne ekonomije i socijalno odgovornog poduzetništva*; 49. hrvatski i 9 međunarodni simpozij agronoma u Dubrovniku/ Marić, S., Lončarić, Z. (ur.). Osijek, Poljoprivredni fakultet u Osijeku, 166-170)

Nicholls, A. (2006): *Social Entrepreneurship – New Models of Sustainable Social Change*, Oxford University Press, str. 1-12.

Radinović, S., Žutinić, Đ. (2007): *Može li hrvatska imati konkurentnu hrvatsku poljoprivredu – prilog istraživanju agrarne strukture*; Društvena istraživanja, 16, 1-2; 175-197

Sudarić, T., Zmaić, K., Lončarić, R. (2013): *Economic effect, experiences and expectations in agricultural cooperation in the Republic of Croatia // Fourth International Agronomic Symposium / Kovačević, Dušan (ur.). Jahorina, Bosna i Hercegovina: Poljoprivredni fakultet, Sarajevo, Bosna i Hercegovina., 1254-1259*

Sudarić, T., Zmaić, K., Sinković, K. (2011): *Zadrugarstvo - potencijal razvoja gospodarstva // Proceedings of the 46th Croatian and 6th International Symposium on Agriculture / Pospišil, M. (ur.). Zagreb : Agronomski fakultet Sveučilišta u Zagrebu, 333-336*



Tolić, S., Krstinić Markotić B. (2015): *Implementation of leader measures of rural development in Croatia*, Journal of Hydraulic Engineering and Design (1857-8489) 10 (2015); 41-48

Škrtić, M.; Mikić, M. (2007): *O socijalnom poduzetništvu u svijetu i u Republici Hrvatskoj*, Zbornik Ekonomskog fakulteta u Zagrebu, godina 5, str. 153-163.

Tratnik, M., Radinović S., Žutinić Đ. (2007). *Zadugarstvo Hrvatske: Izazovi stabilnosti poljoprivrednih gospodarstava*, Agronomski glasnik 1: 63-76

Godišnje izvješće o stanju zadružnog poduzetništva za 2015. godinu, (2016.), Zagreb, Croatian Centre for Cooperative Entrepreneurship, Available at: [http://zadruga.coop/upload\\_data/site\\_files/02-godisnje-izvjesce-o-stanju-zadugarstva.pdf](http://zadruga.coop/upload_data/site_files/02-godisnje-izvjesce-o-stanju-zadugarstva.pdf) (accessed 04 March, 2017).

Državni zavod za statistiku-DZS, raspoloživo na: <http://www.dzs.hr/>, (accessed 02 March, 2017).

[www.zadruga.coop/upload\\_data/site\\_files/croatian-ica-blueprint-june-16-v2.pdf](http://www.zadruga.coop/upload_data/site_files/croatian-ica-blueprint-june-16-v2.pdf) (accessed 02 March, 2017).

[www.savjetodavna.hr](http://www.savjetodavna.hr) (accessed 21 March, 2017).

[www.ruralnirazvoj.hr/files/documents/MPS\\_program-ruralnog-razvoja](http://www.ruralnirazvoj.hr/files/documents/MPS_program-ruralnog-razvoja) (accessed 17 March, 2017).

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## **TRANSFORMATIVE TOURISM, SOCIAL ENTREPRENEURS AND REGENERATIVE ECONOMY**

### **TRANSFORMATIVNI TURIZAM, DRUŠTVENI PODUZETNICI I REGENERACIJSKA EKONOMIJA**

#### **ABSTRACT**

*Some call it 'restorative economics' (Tasch, 2010), some 'regenerative economy' (Fullerton, 2015), some 'caring economy' (Reisler, 2007), or 'soil economy' (Shiva et. al., 2015). Yet they all share the same departure point – in a direction opposite to the current global economy that is speeding out of control, promoting unlimited consumption and always chasing after distant markets, with destructive consequences for local economies, communities and all living things. In the face of all-pervasive crisis at all levels, the paradigm shift for the new economy model is called upon – for economics of harmony and quality, of honesty and health, for the care of the commons, for the economics of cultural and biological diversity, carrying capacity, and the importance of the local. In this paper we focus on the phenomenon of transformative tourism and how it is increasingly claimed to be one of the catalysts in assisting this shift, as travellers are increasingly using their holidays to reflect upon their lives and reinvent the world in which they live (Ateljevic, Sheldon and Tomljenovic, 2016). We specifically report on one aspect of our longitudinal research project (funded by the Croatian Science Foundation, see [www.transtourism.com](http://www.transtourism.com)) through which we have been investigating a group of social entrepreneurs involved in transformative tourism practices (in the UK, Germany, Hungary and Croatia). Our research has shown that these entrepreneurs who, either out of their significant individual life change and/or the heightened awareness of planetary crisis, are prompted to change their lifestyles. They are often urban professionals who consequently set up different forms of transformative and mostly rural tourism social enterprises that resonate with the principles of regenerative/restorative economics.*

**Key words:** *transtourism, transformative travelers, regenerative, restorative economics, social entrepreneurs.*

#### **SAŽETAK**

*Neki je nazivaju 'restorativna ekonomija' (Tasch, 2010), neki 'regenerativna ekonomija' (Fullerton, 2015), neki 'brižna ekonomija' (Reisler, 2007), ili 'ekonomija tla' (Shiva et. al. 2015).*

*Ali svi oni dijele zajedničku početnu točku- oni idu suprotno od trenutne svjetske ekonomije koja izmiče kontroli, promovirajući neograničenu potrošnju i stalno posežući za novim sve udaljenijim tržišta, s destruktivnim posljedicama za lokalne ekonomije, društvene zajednice i sva živa bića. Suočeni s krizom koja prožima sve segmente, dolazi do potrebe za pomakom paradigme k novom modelu ekonomije - za ekonomijom sklada i kvalitete, poštenosti i zdravlja, ekonomijom koja se brine o zajednici, kulturnoj i biološkoj raznolikosti, za ekonomijom koja se brine o nosivim kapacitetima i poštuje lokalno. U ovom radu se fokusiramo na fenomen transformativnog turizma i njegovom sve češćem poimanju kao jednog od nositelja tog pomaka, stoga što turisti sve više koriste svoj odmor da bi se reflektirali na svoje živote i nanovo osmislili svijet u kojemu žive (Ateljević, Sheldon i Tomljenović, 2016). Posebno se fokusiramo na jedan aspekt našeg longitudinalnog istraživačkog projekta (koji financira Hrvatska zaklada za znanost, vidjeti [www.transtourism.com](http://www.transtourism.com)) u kojem smo istražili grupu društvenih poduzetnika koji su uključeni u prakse transformativnog turizma (u Velikoj Britaniji, Njemačkoj, Mađarskoj i Hrvatskoj). Naše istraživanje je pokazalo da ti poduzetnici koji, ili zbog suočavanja s nekim ključnim životnim izazovima i/ili zbog povećane svijesti o planetarnoj krizi, žele promijeniti svoj način života. Oni su često urbani profesionalci koji osnivaju različite oblike transformativnih i većinom ruralnih društvenih turističkih tvrtki koje su u skladu s restorativnom ekonomijom.*

**Ključne riječi:** transturizam, transformativni putnici, regenerativna, restorativna ekonomija, društveno poduzetništvo.

## 1. Introduction

Global threats – from climate change and ever-growing social inequality, to the major financial crisis of 2008 – have led an increasing number of thought leaders, academicians and policymakers to question the long-term viability of today’s dominant global economy model. That is a model based on promoting unlimited economic growth and consumption, always chasing after distant markets, with destructive consequences for local economies, communities and all living things (Fullerton, 2015, Tasch, 2010). Consequently, the new economic models are being increasingly envisioned that go beyond mere discourse of sustainability but rather question the overall mindset and values that underpin the current economic system and ways of thinking. While many different terms and concepts are used, the key message underlies them all is that we need to shift from our 500-year-old mechanistic/reductionist worldview, which focuses on breaking complex systems down into simpler parts in order to manage them, ‘to the emerging *holistic worldview*, which recognizes that the proper functioning of complex wholes (like an economy) cannot be understood without understanding the ongoing, dynamic relationships among parts that give rise to greater “wholes” (Fullerton, 2015, 13). Fullerton (2015, 40) describes this holistic approach as a new systems-based mindset built around the idea of a ‘regenerative economy’, which defines economic vigor as ‘*a product of human and societal vitality, rooted in ecological health and the inclusive development of human capabilities and potential*’. This is very much in contrast to both neoliberal and Keynesian economics, which use GDP - a measure of the value of goods and services produced nationally, as their primary measure of economic health.

Similarly, Eisler (2013) shows through the example of the United States, where consumer spending accounts for no less than 70 percent of GDP, much of what is produced and consumed is known to cause disease, even *death* rather than *health*. Multi-billion dollar industries – ranging from the chemical pesticide and fast food industries to the cigarette, alcohol, and gun industries – lead to enormous medical and funeral costs, all of which, in turn, are also included in GDP. Also,

a growing segment of the GDP consists of financial speculations that produce no real value. In the U.S. the financial sector is now almost ten percent of the GDP, with its value fluctuating wildly, as when 3.6 trillion dollars of 'wealth' disappeared into thin air through the Great Recession of 2008 (Eisler, 2013). In contrast to this unhealthy economic system, renowned macroeconomics historian Eisler (2007) proposes the concept of '*caring economics*' where the *quality of life* is a measure of *progress*, taking into account the full spectrum of economic activities - from the household, to the life-enriching activities of caregivers and communities, to the life-supporting processes of *nature*.

Along similar lines, Tasch (2010), (an entrepreneur, investor and a thought leader in patient capital, mission-related investing and community development venture capital), proposes the shift towards 'Slow-Money-Restorative Economics'. In his book '*Inquiries into the Nature of Slow Money: Investing as if Food, Farms and Fertility mattered*' (2008) he argues that we must bring money back down to earth and slow it down — not all of it, but enough to matter. He claims that the 20th Century was the era of 'Buy Low/Sell High' and 'Wealth Now/Philanthropy Later', while the 21st Century will be the era of *nurture capital*, built around principles of carrying capacity, care of the commons, sense of place, diversity and nonviolence. In his provocative, yet fully empirically grounded work he invites investors to connect to the places where they live, creating healthy relationships and new sources of capital for small-scale, food enterprises. Shiva et. al. (2015) likewise speak about the shift from the linear economic paradigm of ruthless and selfish exploitation of natural resources to a circular approach of soil economy, based on cycles of renewal and regeneration of mutuality, respect and human solidarity. They make the analogy of the relationship between soil and society as a relationship based on reciprocity, on the '*Law of Return*', of giving back. The ecological law of return maintains the cycles of nutrients and water, and hence the basis of sustainability. For society, the law of return is the basis of ensuring justice, equality, democracy and peace.

In a similar framework of systemic and integrated view, Fullerton (2015) gives eight principles of *Regenerative Economy (RE)*: 1. *In Right Relationship* – Humanity is an integral part of an interconnected web of life, hence damage to any part of that web ripples back to harm every other part as well. 2. *Views Wealth Holistically* – True wealth is not merely money in the bank, but rather as the well-being of the whole, achieved through the harmonization of multiple kinds of wealth or capital, including social, cultural, living, and experiential. 3. *Innovative, Adaptive, Responsive* – In a world in which change is both ever present and accelerating, the qualities of innovation and adaptability are critical. 4. *Empowered Participation* – In an interdependent system, vitality comes from contributing in some way to the health of the whole, which means that all parts must be "in relationship" with the larger whole in ways that not only empower them to negotiate for their own needs, but also enable them to add their unique contribution towards the health and well-being of the larger wholes in which they are embedded. 5. *Honors Community and Place* – Each human community consists of a mosaic of peoples, traditions, beliefs, and institutions uniquely shaped by long-term pressures of geography, human history, culture, local environment, and changing human needs. Honoring this fact, a Regenerative Economy nurtures healthy and resilient communities and regions, each one uniquely informed by the essence of its individual history and place. 6. *Edge Effect Abundance* – Creativity and abundance flourish synergistically at the "edges" of systems, where the bonds holding the dominant pattern in place are weakest. At those edges the opportunities for innovation and cross-fertilization are the greatest. Working collaboratively across edges – with ongoing learning and development sourced from the diversity that exists there – is transformative for both the communities where the exchanges are happening, and for the individuals involved. 7. *Robust Circulatory Flow* – Just as human well-being depends on the healthy circulation of oxygen,

nutrients, etc., so too does economic health depend on robust circulatory flows of money, information, resources, and goods and services to support exchange, flush toxins, and nourish every cell at every level of our human networks. The circulation of money and information and the efficient (re)use of materials are critical to individuals, businesses, and economies reaching their regenerative potential. 8. Finally, *RE seeks to Balance*: efficiency and resilience; collaboration and competition; diversity and coherence; and small, medium, and large organizations.

A key driver of this economic paradigm shift is the rapidly growing social entrepreneurship sector, which is fired by creative individuals who are resourceful, mission-driven, opportunity-oriented, and innovative. They intentionally pursue the public good to create value in society while making a reasonable profit. They seek meaning and a sense of contribution in their work-lives and act as change agents of social and economic progress. Some seek to address local social needs, some to build more global alternative structures addressing social needs that government or business cannot, and others seek to create newer, more effective socio-economic models that replace old ones (Volkman et al, 2012). Both Bornstein's book (2007) *'How to change the World: Social Entrepreneurs and the Power of New Ideas'* and Elkington and Hartigan's (2008) publication *'The Power of Unreasonable People'* highlight the significant global impacts of social entrepreneurs and their contributions to the UN Millennium Development Goals and other pressing world problems. Every year the Skoll World Forum ([www.skollworldforum.org](http://www.skollworldforum.org)) honours the most successful social entrepreneurs in all parts of the world and all sectors such as health, education, agriculture, and even tourism. Encouraging examples, such as the Ashoka Foundation ([www.ashoka.org](http://www.ashoka.org)), one of the first international agencies supporting social entrepreneurs and matching them with funding sources, currently has 184 projects underway that relate to tourism. It is in this context, that we have explored the concept of transtourism as a new paradigm of transformative travel that is claimed to assist this shift towards a more regenerative, socially responsible and localized economies. The paper begins with the definition of transtourism; followed by the description of the project and its methodological approach and finally a discussion of key findings.

## 2. Transtourism

Transtourism as a form of 'new transformative tourism' is an emerging paradigm advanced recently by scholars and practitioners, albeit using slightly different terms and perspectives. Regardless of the terminology employed, all research points to a similar direction of transformative travellers who prove to use travel to reflect upon their lives and get the courage to make crucial changes upon their return back home, not only in terms of their lifestyle but also the type of work they do and create/innovate. Thus, Ateljevic (2009; 2011) frames it as the *transmodern tourism of the future* and theorises that the emerging class of so-called '*cultural creatives*' (conscious citizens/consumers and entrepreneurs/investors) lead societal transformation of the 'new renaissance' in human history, while transformative travel and tourism represent one of the indicators of the paradigm shift. Reisinger has edited two books on *transformative tourism* from both tourist (2013) and host perspectives (2015). In both editions, multi-authors explore the issues of how travel and tourism can change human behaviour and have a positive impact on the world. They have identified a number of settings conducive to transformation, such as – *nature* as it forces one to reflect and be humble of forces beyond his/her control, *adventure* as when one is faced with a fear of death, one grows personally and spiritually, *farming* through the experience of a simple and pure life, *culture* as it leads to appreciation of the vastness of human talent, *wellness* through which one gets in touch in oneself, and *education* through which intercultural understating and self-discovery is facilitated (Reisinger, 2013). These are then 'translated' into different forms of 'special interest tourisms',

such as ecotourism, cultural tourism, backpacking, volunteer tourism, sports, farm tourism, religious, spiritual, etc. Moreover, many market research agencies point to the post-recession, conscious consumers whereby once-fringe movements such as organic foods, ecotourism and recycling are becoming mainstream, part of a growing consciousness about the impact our personal consumption choices are having on our bodies, other people, and the planet we share (e.g. Euro RSCG Worldwide, 2010). Similarly, Lean (2009) has written on *transformative travel* as a form of sustainable tourism whose primary goal should be to create, nurture and inspire individuals/travellers as ‘sustainability ambassadors’ who can bring about social change and deliver ideals like sustainable development, more broadly than just to the destinations they visit.

In the similar vein yet more directly related to the concept of *regenerational economy*, is Pollock’s work (2015) on social entrepreneurship in tourism. An experienced practitioner and destination management expert who has put forward the new ‘*conscious travel*’ model based on six paradigmatic observations: 1. “Business as Usual” is neither possible nor desirable and transformation is inevitable; 2. Humanity must shift its focus from addressing symptoms to root causes; 3. Tourism is not an industrial assembly line but a living, dynamic system and so a systems-thinking capacity will be essential; 4. Tourism can shift from being part of an outdated, unsustainable *Extractive Economy* to help build a life-affirming *Regenerative Economy*; 5. This shift will involve a redefinition of success from a focus on volume growth and profitability for a few to the flourishing of all stakeholders; 6. The Regenerative Economy is “place-based” and will be built from the ground up – community by community. In her fairly pragmatic approach she puts forward the conscious travel model as a ‘*fresh perspective* on tourism’s role and mode of operation that is suited to the current period of transition and transformation’ (2015, p. 6). It is within those tenets that we bring forward the notion of transformative tourism as a new business model, which can potentially facilitate restorative processes of local and regional socio-economic regeneration.

### **3. Research project of Transtourism**

In autumn of 2014, the Croatian Science Foundation had awarded funding to a research team of the Institute for Tourism in Zagreb, for the longitudinal research project entitled: ‘*Trans-tourism: an integrated approach for the study of the transformative role of tourism in the 21st century*’. Designed to run for the period of 4 years through a multi method approach, the project investigates the notion of tourism as a transformative catalyst for assisting the shift in global consciousness towards a more caring and sustainable human existence on our beautiful planet. This proposition is analysed from three aspects, by capturing: a) the transformative power of past and present travel experience of the cultural creatives, b) the motivations and practises of pioneering change-makers who create transformational travel products, and c) tourism stakeholders’ receptiveness to integrate a transformational view of tourism into the organisational design of their businesses and products. It goes beyond the scope of this paper to provide details of all methods; hence the focus will stay on the research conducted through on-site, in-depth interviews with transtourism providers who represent examples of pioneering change-makers and social entrepreneurs in tourism.

### **4. Methodology**

On the basis of the web-based mapping that produced a list of potential transtourism providers in four case countries (Croatia, Hungary, Germany and the UK), the first step was to identify the most accessible operators who also fit into the operational definition most closely. On the basis of the above discussed literature the operational definition for transformative tourism providers

was following: ‘a type of tourism where tourists participate in experiences that offer a high level of immersion with the host culture through ecological/nature based and cultural/creative programs, backpacking, volunteer and educational/study abroad’. While the project had initially proposed 12 in-depth interviews - four in Hungary and Croatia and two in Germany and the UK- the desk research of web mapping and the first email contact to consent for an interview has slightly shifted the initial plan. Namely, Hungary has proven to be a very difficult research area due to the language barrier (i.e. the lack of English command) as well as a limited supply of transtourism providers. On the other hand, the UK and Germany have proven to have more research availability and accessibility of international transtourism providers. As a result, we have conducted four interviews in Germany, three in the UK, three in Croatia and only two in Hungary. The choice for particular operators was also related to their geographic locations, especially for Germany and the UK. Given the size of these countries and fairly limited time of days for fieldwork we had to concentrate our search to certain regions, so as not to lose too much time on travelling long distances. Hence, in the UK we focused on the southwest region of England (Devon area) which coincidentally appears to be one of the most advanced regions in terms of working in the fields of sustainability, transformative education, well-being, social innovation, art and creativity. In Germany, that has proven to be more to the eastern parts of the country (around the Berlin area). On the other hand, Croatia has shown to have more transtourism operators in the mountainous areas of the inland, which can be partially explained with the fact that traditional mass tourism of sun and sea has been the key form of tourism development in Croatia since its boom in the late 1960s. Finally, Hungary has proven to be the most difficult to identify and access in terms of transtourism operators, which is why only two interviews were conducted.

## **5. Results and discussion**

The following four key themes informed the in-depth interviews that subsequently created the structure of our analysis:

- 1) Vision, mission and motivation of initial founders and managers involved in the project/operation.
- 2) Types of guests
- 3) Business practice and strategies of economic viability
- 4) View of transformational tourism

### **5.1. Vision, mission and motivations of initial founders and managers involved in the project/operation**

Most of the founders and entrepreneurs who initiated their projects/organisations/businesses seem to be visionaries ahead of their time and mainstream norms. Following their hearts and dreams, they aim to manifest projects that fit their inner needs of living in greater harmony with inner and outer nature. Hence, one immanent commonality of all operations is their close immersion with nature and general concern with the global unsustainability paradigm. They all seem to have been motivated by either the need to follow personal aspirations for meaningful lives and/or some critical events in their lives that trigger a significant change of their lifestyle (family and friends deaths, burnouts from working within the existing system, needing to pursue one’s life mission, seeking to be a change maker, etc.).

While in some cases the initial founders are no longer there, people who subsequently join seem to be following the originally set of values and visions. Many also seem to be experienced professionals who used to live stressful urban careers and consequently need to retrieve into the nature where they attempt to establish some sort of economically viable venture that will also



satisfy their needs for nature, more balanced and less stressful lives, meaningful engagement with others, etc. Hence, they all seem to be showing many of the characteristics and concerns of ‘cultural creatives’: the concern for the future of our planet; great concern and care for animals; grow their own food and/or source it locally; are concerned with issues of social injustice; work on their own personal transformation journeys, are involved in some form of transformative education and trainings, etc (for a full overview on cultural creatives see Ray and Anderson, 2000).

## 5.2. Types of guests

Most of the guests reflect the values of their operations and are obviously attracted by the nature of their offers and programmes. Yet, a few typologies and key demographics of their market can be identified as the following:

- 1) Middle class, 40-70 age professionals who increasingly seek personal growth opportunities through a variety of retreats and courses in the field of environmental sustainability, wellbeing and health, art and creativity and spirituality. It is noted that a majority in this group are women.
- 2) Corporate market for senior management meetings, conferences and team-building set in invigorating natural environments.
- 3) Teachers and students (at all levels of education from primary to university education) who come as part of established linkages between their institutions or in their own arrangements for further training (e.g. art teachers).
- 4) Travellers who seek get-away-spaces where their need for transformative and de-stressing experiences can be professionally facilitated in a specific form and setting, yet approached with a holistic view of the body, mind and spirit.
- 5) Young people who either come for volunteering opportunities where they can learn new skills and live a more natural lifestyle, or seek programmes for personal growth and adult education opportunities (on the top of their university degrees which they often perceive to be overtly theoretical).
- 6) Local people from surrounding communities who are keen to collaborate on a variety of environmental sustainability and cooperative projects.
- 7) Families who seek meaningful and constructive holidays with their children.
- 8) Young to middle-aged people who train their bodies and spirit in the form of extreme sports.
- 9) General public interested in venue hire for their special events with a unique, nature-based twists (weddings, gatherings, events, etc).

## 5.3. Business practice

Transtourism operations operate in different legislative forms: company, charity, cooperative and NGOs. Most of them remain at the small (couple or family) scale business to a middle level of the cooperatives operation (with max of 100 full-time employees). In the case of small scale enterprises full-time employees are none or a few, with mostly part-time seasonal workers and often heavily relying on the free labour of volunteers.

One important finding of this research has been related to the nature of their tourism business that could not be easily fitted into the specific forms of special interest tourism we identified in our operational definition (spiritual tourism, ecotourism, wellness, farm tourism, etc.). Namely, while some do fit into a specific special interest form (i.e. adventure and extreme sports tourism) some seem to be holistically integrating most of the qualities and features that special interest tourism concept artificially separates on the basis of the activities or settings (ie. ecotourism or educational tourism). Hence, we have identified a new form of *transtourism operations - so-called transformative education and leadership centers and retreats*, which provide a holistic

approach of adult education and personal growth opportunities, enjoyment of nature, wellness of body, mind and spirit that ultimately facilitate transformative inner and outer journey processes. Most of them share a few common business strategies that assist them in their triple bottom line sustainability (economically, ecologically and socio-culturally) as following:

- 1) Natural setting of extreme beauty (except one that is more based on cultural stories of urban walks);
- 2) Producing own food and/or sourcing it locally as much as possible;
- 3) Designing its facilities and buildings in natural materials, applying environmental sustainability principles as much as possible;
- 4) Applying the collaborative approach within the organisation in terms of work relations that facilitates positive teamwork where individuals can express their visions and dreams for the place;
- 5) Designing specific courses and programmes whose attraction is often based on renowned experts, teachers and speakers;
- 6) Designing intentionally specifically transformative experiences based around their attractive natural setting and activities (e.g. extreme sports of mountain climbing or horseriding; intensive silence and meditation retreats, etc.);
- 7) Product and market diversification by: A) broadening the scope of their education programmes; B) organising 'meaningful holiday retreats' around different markets; C) renting out their physical spaces for offices, working spaces, events, etc; D) setting up various forms of volunteer programmes for local communities as well as international visitors;
- 8) Organising own (environmental and culture) festivals and events with renowned speakers;
- 9) Forming various strategic partnerships at the local, regional and international levels with both like-minded communities, businesses and operations as well as neighbouring institutions (e.g. schools and universities), various governmental organisations (local municipality, national departments, etc.) and associations (e.g. the youth hostel association)
- 10) Running various friends and membership schemes;
- 11) Fundraising activities for specific projects;
- 12) Renting out or jointly working on their farm land with the local community;

#### **5.4. View of transformational tourism**

The most striking result of all interviews have been related to two key findings on views of (transformational) tourism:

- 1) While all of them provide guest experiences some didn't perceive themselves to be part of tourism phenomenon at all. And when they did, then they make the 'obvious' clear distinction between the notion of travellers and tourists. In doing so, all respondents reaffirm the historical polarisation between tourism and travel, that has been reinforced by both the general public as well as many scholars in tourism academia. Namely, viewing tourists as short-term stayers who travel in the form of superficial visits and activities as opposed to travellers who seriously and deeply engage with places they visit, seeking meaningful time away when they can work on their personal growth and potential transformative opportunities.
- 2) None of the interviewees were aware of the phenomenon of *transformative* tourism and cultural creatives, yet when informed of key findings in our research project most of them have related to the concepts. Hence, they were pleased to learn that they are part of the emerging phenomenon of transtourism which seems to be contributing to the paradigm shift towards a more sustainable and just society.

These views are neatly captured by the following statement of one of the interviewees:

*'I find that transformational tourism, is phenomenal, I have never heard it put that way, but I feel like that is just what has happened here. From the 20 years I have been here, I see the world in a different way. I am not living in a city, I don't have the constraints or stresses that people do living in a city, so my view of the world has completely transformed. That way what I want to do has probably changed from what I thought I wanted to do when I came here 20 years ago. I feel like I want to set up more of these because it gives people who live in the city the opportunity to reflect, an opportunity to become more aware. As a human race we are becoming more aware. We're selling transformation through time away from all the stress in the world.'*

## 6. Conclusion

In current times, when many rural economies (such as Eastern Croatia) suffer from processes of economic degeneration and depopulation, we respond here specifically to the conference call for contributing to the thematic field of "Partnership and Inter-sectorial Cooperation". Our research proposes transformative tourism as taking the form of a new business model which has the power to connect different sectors together 'in forms of clusters, associations, cooperatives or partnerships, in order to jointly create our products' brand and step into global market' (Mašek-Tonković, 2017). Key research findings from in-depth interviews with already successful transtourism operations across Europe, have clearly shown how global market trends urgently invite us to innovate in regenerative economics, as the only way into our sustainable (economic, ecological and social) future. The example of Croatia where close to 60% of food for domestic/local as well as tourism consumption is imported, clearly shows how Croatia is far from being self-sustainable with or without tourism (Ozimec, 2016). Thus, by connecting conscious transtourism, social entrepreneurship, organic agriculture, localized productions of most inputs into local (tourism) consumption (food, furniture, equipment, ceramics, souvenirs, etc.), art, education and cultural programs - we can transcend the mainstream notion of tourism as a 'low-skilled, mindless and seasonal holiday industry' into a vision where it becomes a catalyst that can facilitate processes of local, regional and national socio-economic regeneration, while protecting natural and cultural heritage. In other words, by creating much added value conscious transtourism has transformative potential to become 'glue' for many healthy sectors and socio-cultural projects and collaborations that creates a holistic economic model of regenerative economy.

**Acknowledgement:** This work has been fully supported by the Croatian Science Foundation, under the project no. 6164.

## REFERENCES

- Ateljevic, I. (2008): *Transmodernity – Remaking Our (Tourism) World?*, in Tribe, J., ed.: *Philosophical Issues of Tourism*, Elsevier Social Science Series, pp. 278-300.
- Ateljevic, I. (2011): *Transmodern Critical Tourism Studies: A Call for Hope and Transformation*. *Revista Turismo em Analise special issue: Critical Issues in Tourism*, 22(3), 497-515.
- Ateljevic, I., Sheldon, P. and Tomljenovic, R. (2016): *The New Paradigm of the 21st Century: Silent Revolution of Cultural Creatives and Transformative Travel of and for the Future*, in UNWTO Affiliate Members Global Report: *The Transformative Power of Tourism: a paradigm shift towards a more responsible traveller*, Volume 14, UNWTO, Madrid, pp.12-35.
- Bornstein, D. (2007), *How to Change the World: Social Entrepreneurs and the Power of New Ideas*, Oxford University Press, Oxford.

- Elkington, J. and Hartigan, P. (2008): *The Power of Unreasonable People*, Harvard Business Press, Boston.
- Euro RSCG Worldwide (2010): *The New Consumer in the Era of Mindful Spending*, *Prosumer Reports*, Volume 8, New York: Euro RSCG Worldwide.
- Fullerton, J. (2015): *Regenerative Capitalism: How Universal Principles and Patterns Will Shape Our New Economy*. Capital Institute, Greenwich, New York.
- Eisler, R. (2007): *The Real Wealth of Nations: Creating a Caring Economics*. Berrett-Koehler, San Francisco.
- Eisler, R. (2013): *Building a Caring Economy and Society: Beyond Capitalism, Socialism, and Other Old Isms*, *Cadmus Vol 2 (6)*, pp.49-65.
- Lean, G.L. (2009): *Transformational travel – inspiring sustainability*. In Bushell, R. and Sheldon, P., eds., *Wellness and tourism: Mind, body, spirit, place*, Cognizant, New York.
- Mašek-Tonković, A. (2017): *Foreword for 6<sup>th</sup> International Scientific Symposium „Economy of eastern Croatia – vision and growth”*, Osijek, 25-27, May.
- Ozimec, R. (2016): *Agrobioraznolikost: Ključni Element Eko i Održivog Turizma*, keynote presentation at ‘Kongres Eko i Održivog Turizma: Neodoljiva Hrvatska’, 15-16, December, Zagreb.
- Pollock, A. (2015): *Social Entrepreneurship in Tourism: The Conscious Travel Approach*. Tourism Innovation Partnership for Social Entrepreneurship (TIPSE), UK.
- Ray, H.P. and Anderson, S.R. (2000): *The Cultural Creatives: How 50 Million People Are Changing the World*. New York: Harmony Books.
- Reisinger, Y. (ed.) (2013): *Transformational Tourism: Tourist Perspective*, CABI, Wallingford.
- Reisinger, Y. (ed.) (2015): *Transformational Tourism: Host Perspective*, CABI, Wallingford.
- Shiva, V. Lockhart, C. & Schroff, R. (2015): *Terra Viva: Our Soil, Our Commons, Our Future: A New Vision for Planetary Citizenship*. Florence: Navdanya International.
- Tasch, W. (2010): *Inquiries into the Nature of Slow Money: Investing as if Food, Farms, and Fertility Mattered*, Chelsea Green Publishing, Chelsea.
- Volkman, C., Tokarski, K. and Ernst, K.(eds) (2012): *Social Entrepreneurship and Social Business*, Springer Gabler, Wiesbaden.

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**RESEARCH INTO CHANGES TO SIGNIFICANCE OF CROATIA  
IN CANADIAN IMPORT AND EXPORT WITHIN SPECIFIC INDUSTRIES:  
COMPARISON BETWEEN YEAR 2016 AND YEARS 2011-2015**

**ISTRAŽIVANJE O PROMJENAMA U ZNAČAJNOSTI HRVATSKE  
U KANADSKOM UVOZU I IZVOZU UNUTAR SPECIFIČNIH INDUSTRIJA:  
USPOREDBA IZMEĐU GODINE 2016. I GODINA 2011.-2015.**

**ABSTRACT**

*This research and the associated paper represent the direct sequel of last year's paper that marked the beginning of long-term research on significance of Croatia in Canadian import and export within various industries by the same authors. While the focus of last year's paper was on 5 years from 2011 to 2015, in this year's paper those 5 years were being compared with the previous year 2016 that can be perceived as a kind of turning point in the relations of countries concerned, primarily through relations of EU (28 member countries, including Croatia) and Canada (10 provinces and 3 territories).*

*With regard to research purpose of this paper, it can be explicitly defined as: to conduct unbiased, purposeful and multi-year research into changes to significance that Croatia had in Canadian import and export within specific industries. For that purpose, authors have decided to utilise exclusively websites created by Government of Canada that provide direct access to sufficient quantity of indorsed, relevant and official statistic data. Those were the main reasons why aforementioned websites were chosen as the central source of data in order to accomplish the research purpose of this paper.*

*In relation to used research methods and approaches, in this paper authors have intentionally used only the most appropriate data from website by Government of Canada's Office of the Chief Economist under Trade and Economic Statistics section as well as under Trade Investment and Economic Statistics subsection. Those datasets were utilized as the central source of numerical data for this wide-ranging research mostly because of their constancy, dependability and accessibility. Additionally, supplementary data by other carefully selected associations and organizations were used to further explicate import-export interrelations between Croatia and Canada.*

*Conclusions that authors have drawn from the study of numerical data that included years 2011-2016 and from the detailed analyses and syntheses of the most relevant numerical data that link Croatia and Canada as well as their industries, actually represent the major research results of this paper. For these obvious reasons, major research results that were so clearly formulated can be used in a variety of professional purposes and in wide range of scientific researches.*

*Finally, main implications of this paper were multiple logical deductions that can be made based on analyses and syntheses of numerical data as well as on proper comprehension of discussions within this paper. Those logical deductions should be perceived as stepping stones towards better import-export interrelations between Croatia and Canada that have the potential to improve, but only if previous experiences (including mistakes and omissions) will be properly used in future import-export endeavours that must take in consideration both previously mentioned countries.*

**Key words:** *significance, Croatia, Canada, import, export, industries, year 2016, years 2011-2015.*

## SAŽETAK

*Ovo istraživanje i s njime povezani rad predstavljaju izravan nastavak prošlogodišnjeg rada koji je označio početak dugoročnog istraživanja o značajnosti Hrvatske u kanadskom uvozu i izvozu unutar različitih industrija od strane istih autora. Dok je fokus prošlogodišnjeg rada bio na 5 godina od 2011. do 2015., u ovogodišnjem radu je tih 5 godina uspoređeno s prethodnom 2016. godinom koja se može percipirati kao svojevrsna prekretnica u odnosima predmetnih država, prvenstveno kroz odnose EU (28 država članica, uključujući Hrvatsku) i Kanade (10 provincija i 3 teritorija).*

*Što se tiče svrhe istraživanja ovog rada, ista se može eksplicitno definirati kao: provesti nepristrano, svrhovito i više-godišnje istraživanje o svekolikim promjenama u značajnosti koju je Hrvatska imala u kanadskom uvozu i izvozu unutar specifičnih industrija. S tom svrhom, autori su odlučili koristiti ekskluzivno internetske stranice kreirane od kanadske vlade koje pružaju direktan pristup dovoljnoj količini provjerenih, relevantnih i službenih statističkih podataka. To su bili glavni razlozi zašto su prethodno spomenute internetske stranice odabrane kao centralni izvor podataka kako bi se ostvarila svrha istraživanja ovog rada.*

*Vežano za korištene metode i pristupe, u ovom radu autori su s namjerom koristili isključivo najprikladnije podatke s internetskih stranica kanadske vlade i njihovog glavnog ekonomista u sekciji vezanoj za trgovinske i ekonomske statistike, kao i u podsekciji vezanoj za trgovinsko-investicijske i ekonomske statistike. Ti skupovi podataka su korišteni kao centralni izvori numeričkih podataka za ovo dalekosežno istraživanje ponajviše zbog njihove konstantnosti, pouzdanosti i dostupnosti. Nadalje, dopunski podaci od drugih pažljivo biranih udruženja i organizacija su bili korišteni kako bi se dodatno razjasnili uvozno-izvozni međuodnosi između Hrvatske i Kanade.*

*Zaključci koje su autori izvukli iz izučavanja numeričkih podataka koje je uključivalo godine 2011-2016 i iz detaljne analize i sinteze najrelevantnijih numeričkih podataka koji povezuju Hrvatsku i Kanadu kao i njihove industrije zapravo predstavljaju glavne rezultate istraživanja ovog rada. Iz ovih očitih razloga, glavni rezultati istraživanja koji su tako jasno formulirani mogu se koristiti u različite stručne svrhe i u širokom rasponu znanstvenih istraživanja.*

*Konačno, glavne implikacije ovog rada bili su mnogobrojni logični zaključci koji se mogu napraviti na osnovu analiza i sinteza numeričkih podataka kao i na pravilnom razumijevaju diskusija unutar ovog rada. Ti logični i numerički utemeljeni zaključci trebali bi se percipirati kao stepenice prema boljim uvozno-izvoznim međuodnosima između Hrvatske i Kanade koji imaju potencijal popraviti se, ali samo ako prethodna iskustava (uključujući pogreške i propuste) budu ispravno iskorištena u budućim uvozno-izvoznim poduhvatima koji moraju uzeti u obzir obje prethodno spomenute države.*

**Ključne riječi:** *značajnost, Hrvatska, Kanada, uvoz, izvoz, industrije, godina 2016., godine 2011.-2015.*



## **1. Introduction**

In the last year's paper entitled Research into significance of Croatia in Canadian imports and exports within various industries by authors Uroda and Veckie, which was published within the proceedings of 5<sup>th</sup> International scientific Symposium Economy of Eastern Croatia - Vision and Development, there were numerous significant research findings regarding past, present and future import and export relations between Croatia and Canada. Those relations were primarily researched through the prism of Canadian industries represented by North American Industry Classification System (abbr. NAICS) codes (Statistics Canada, 2016) and related numerical values concerning imports and exports. To be brief, research has proven that there were definitely both Canadian industries which prevalingly imported to Canada from Croatia as well as Canadian industries which prevalingly exported from Canada to Croatia, in 5-year period that was previously considered i.e. from 2011 to 2015.

Those research findings, have encouraged authors Uroda and Veckie to expand and extend this research by adding the expertise and experience of author Prohaska, by taking into account previously unspecified comparisons and relations between Croatia and Canada and by researching what has happened regarding import and export within specific (not various) industries when year 2016 was compared with years from 2011 to 2015. Accordingly, extra incentive was to research what has happened and in which measure, in a year's time i.e. from the spring of 2016 to the spring of 2017, especially because of the occurrence of the potential turning point in the relations of EU (European Union) and Canada.

Hence, the structure of this year's paper was prepared methodically and carefully so that it represents the direct sequel of last year's paper. While relations between countries are definitely ever changing, they can change both quantitatively and qualitatively. Sometimes change is for the better and fortunately it represents the evolution, but sometimes change is for the worse and unfortunately it represents the devolution. In spite of this, it is (among other's) the researcher's role to observe and research into those changes and associated impacts in disciplines of their interest. Only then, they can contribute to certain improvements in those disciplines, which are sometimes crucial to achieve much bigger goals.

## **2. Points of comparison and relations between Croatia as a EU member country and Canada**

As authors have already mentioned in last year's paper, the most appropriate way to properly compare Croatia and its 20+1 counties with Canada and its 10 provinces and 3 territories was by using various instances of per capita data. This year, authors have also opted for comparable data, but for completely different data sets. Even though the most correct approach was to compare countries i.e. Croatia with Canada, there have also been some particularly interesting points of comparison when EU and Canada were compared as territorially larger and economically more powerful entities. As a consequence, in certain instances, authors were able to compare both Croatia and EU in relation to Canada by various criteria.

Aforementioned potential turning point in the relations of EU and Canada that has eventually happened from the spring of 2016 to the spring of 2017 i.e. from 5<sup>th</sup> Symposium Economy of Eastern Croatia to 6<sup>th</sup> Symposium Economy of Eastern Croatia were developments regarding mutual trade agreement between European Union and Canada i.e. Comprehensive Economic and Trade Agreement (abbrev. CETA). So far, this trade agreement was signed on 30.10.2016 (European Commission, 2016b), it was approved by European Parliament on 15.02.2017 (European Parliament, 2017) and it was ratified by Saeima i.e. by Latvian Parliament on 23.02.2017 (Saeima, 2017).

This means that up to the day when authors have finished collection of data and sources for this paper i.e. up to 26.03.2017, CETA was still not ratified by Parliaments of other EU member countries, thus it was still very far from being in force. In addition, numerous theoreticians and practitioners have emphasised numerous advantages and disadvantages of CETA that were already influencing public and parliaments politicians who are key decision makers when it comes to ratification of documents of such importance.



Namely, the first publicly available text of CETA was published on 26.09.2014 and it has 1634 pages, while the second publicly available text of CETA was published on 29.02.2016 and it has 1598 pages. However, some early conservative forecasts have already tactfully suggested parts of CETA which, potentially, will be the most ambiguous and precarious ones (Corporate Europe Observatory, 2016). Those distinct parts and the associated chapters in the second publicly available text of CETA were shown in Table 1 below (European Commission, 2016a).

**Table 1** *Potentially the most ambiguous and precarious parts and chapters of CETA*

|  |
|--|
| <ul style="list-style-type: none"> <li>• Part 1: Courts to settle investor-state disputes <ul style="list-style-type: none"> <li>○ Chapter 8: Investment</li> </ul> </li> </ul>  |
| <ul style="list-style-type: none"> <li>• Part 2: Investor rights safeguard the right to regulate to protect various public interests <ul style="list-style-type: none"> <li>○ Chapter 8: Investment</li> </ul> </li> </ul>                 |
| <ul style="list-style-type: none"> <li>• Part 3: Protection of public services <ul style="list-style-type: none"> <li>○ Chapter 8: Investment</li> <li>○ Chapter 9: Cross-Border Trade in Services</li> </ul> </li> </ul>                  |
| <ul style="list-style-type: none"> <li>• Part 4: Standards to protect people and environment <ul style="list-style-type: none"> <li>○ Chapter 12: Domestic Regulation</li> <li>○ Chapter 21: Regulatory Cooperation</li> </ul> </li> </ul> |
| <ul style="list-style-type: none"> <li>• Part 5: Impacts on environment <ul style="list-style-type: none"> <li>○ Chapter 22: Trade and Sustainable Development</li> <li>○ Chapter 23: Trade and Labour</li> </ul> </li> </ul>              |
| <ul style="list-style-type: none"> <li>• Part 6: Rights of workers <ul style="list-style-type: none"> <li>○ Chapter 23: Trade and Labour</li> </ul> </li> </ul>  |

*Source: Created by authors*

Since CETA is going to influence imports and exports of Croatia and other EU member countries plus Canada, in-depth and extensive research into its vital parts (in the long run), like the ones in Table 1 above, shall be included in researches that were going to be based on CETA as their primary object of research. In any case, time is of the essence as regards CETA, because only with the passage of time it will be possible to determine each and every one of profound and far-reaching effects of this specific trade agreement.

Motivated by recent developments and with the aim to inform public about CETA, European Commission has launched the new version of Comprehensive Economic and Trade Agreement (CETA) website on 16.12.2016 and it was subsequently updated on 24.01.2017, 07.02.2017 and 16.02.2017 respectively. Prominent features of this website were quality infographics with relevant data for all 28 EU member countries.

The first data set was related to the European Commission's view of what they consider important regarding trade i.e. import and export between individual EU member countries as well as EU as a whole and Canada. For that purpose, authors have compiled Table 2 below that contains the most relevant synthesised data regarding exports and imports of Croatia and 28 EU member countries in relation to Canada for the year 2015.

**Table 2** *Overview of exports to and imports from Canada by Croatia and all 28 EU member countries*

| <b>Exports and Imports</b>                        | <b>HR</b>   | <b>EU 28 (AVE.)</b> | <b>EU 28 (MAX.)</b> | <b>EU 28 (MIN.)</b> |
|---|-------------|---------------------|---------------------|---------------------|
| <b>Rank of Canada as trade partner outside EU</b> | N/A<br>HR   | *10<br>EU 28        | *20<br>ES           | *3<br>RO            |
| <b>Value of exports to Canada</b>                 | 87m €<br>HR | 1,8bn €<br>EU 28    | **12,7bn €<br>DE    | 32m €<br>LV         |
| <b>Value of imports from Canada</b>               | 38m €<br>HR | 1,3bn €<br>EU 28    | **14,0bn €<br>GB    | 12m €<br>CY         |

*Source: Created by authors*

In Table 2 above there were 2 sets of data, marked with \* and \*\*, that require additional elaborations. Firstly, set of data marked with \* denote rank that Canada has as country's trade partner outside EU based on the values from 25 EU member countries, except Croatia, Hungary and Slovenia. Since this value was calculated based on data for 89% of EU member countries, it can be considered as highly reliable. Hence, it cannot be neglected that data for 3 aforementioned countries could possibly affect these calculated average, maximum and minimum ranks. Secondly, data marked with \*\* denotes maximum value of imports from Canada, based on the values from 27 EU member countries, except Germany. Since this value was calculated based on data for 96% of EU member countries, it can be considered as extremely reliable. Accordingly, that value equals 14,0bn € and it belongs to United Kingdom. It can be empirically concluded that Germany was actually the only remaining candidate for highest maximum value of imports from Canada, since it was the only EU member country that had higher Value of exports to Canada than United Kingdom with 12,7bn € as opposed to 9,0bn €.

Additionally, the second data set was related to the European Commission's view of what they consider important regarding number and share of companies that export to Canada and the number of jobs that it supports. For that purpose, authors have compiled Table 3 below that contains the most relevant synthesised data regarding the overall number (abbrev. n) and share (abbrev. %) of companies and the number (abbrev. n) of jobs that it supported in Croatia and 28 EU member countries for the year 2015.

**Table 3** Overview of n and % of companies that export to Canada and the n of jobs that it supports

| <b>Companies and jobs</b>                     | <b>HR</b>   | <b>EU 28 (AVE.)</b> | <b>EU 28 (MAX.)</b> | <b>EU 28 (MIN.)</b> |
|---|-------------|---------------------|---------------------|---------------------|
| Number of companies that export to Canada     | 136<br>HR   | ***2.621<br>EU 28   | 13.147<br>IT        | 40<br>CY&MT         |
| Share of SME companies that export to Canada  | 79%<br>HR   | 78%<br>EU 28        | 91%<br>EE           | 38%<br>CZ           |
| Number of jobs that export to Canada supports | ***50<br>HR | 30.893<br>EU 28     | 240.000<br>GB       | ***150<br>CY        |

Source: Created by authors

In Table 3 above there were 2 sets of data, marked with \*\*\* and \*\*\*\*, that require additional elaborations. Thirdly (as additional elaboration after 2 elaborations below Table 2), data marked with \*\*\* denotes the average number of companies that export to Canada based on the values from 27 EU member countries, except Slovenia. Since this value was calculated based on data for 96% of EU member countries, it can be considered as extremely reliable. Besides, even if related data for Slovenia was available, it can be empirically concluded, with extremely high probability, that it would contribute to the decrease of average number of companies i.e. 2.621 companies in 28 EU member countries that on average export to Canada. Fourthly, data marked with \*\*\*\* denotes number of jobs that export to Canada supports based on the values from 27 EU member countries, except Croatia. Since this value was calculated based on data for 96% of EU member countries, it can be considered as extremely reliable. It was necessary to compare and to reflect on 150 of Cypriot versus 50 of Croatian jobs that export to Canada supports. Thus, 150 of Cypriot jobs was the value set by the European Commission, while 50 of Croatian jobs was the value calculated by the authors. That value was calculated as the subtraction of total number of jobs that export to Canada supports (that was set by the European Commission) and summarized number of jobs that export to Canada supports for 27 EU member countries, except Croatia (that was calculated by the authors). To be absolutely precise, number-wise this calculation is: 865.000 - 864.950 = 50. However, authors have decided not to use 50 as the minimum number of jobs that export to Canada supports, because it only conditionally correct within the context of these values given by the European Commission. In contrast, by division of values from 2 related data sets from Table 3, authors were able to create J/C Ratio.

$$J/C \text{ Ratio} = \frac{\text{Number of jobs that export to Canada supports}}{\text{Number of companies that export to Canada}}$$

By using authors' J/C Ratio, it was possible to empirically estimate average of 1.603, maximum of 2.483 and minimum of 510, related Croatian jobs that were all, surely, much closer to their actual number.

Ultimately, the third data set was related to European Commission’s view of what were the individual products that all companies from a specific country export to Canada. Hence, in Table 4 below, authors have opted for tabular display of what were the products that Croatian companies have exported to Canada in the year 2015.

*Table 4 Specific products that Croatian companies export to Canada*

| <b>Products that companies export to Canada</b> |
|---|
| <b>HR</b>                                       |
| Alcoholic beverages                             |
| Chemicals                                       |
| Chocolate                                       |
| Fig spread                                      |
| Pharmaceuticals                                 |
| Seats   |

*Source: Created by authors*

Even though the list of individual products that Croatian companies export to Canada was relatively short, it represents the excellent starting point and reference for all current exporters and potential exporters. Hopefully, European Commission will continue, ideally year by year, with publishing this information. By making it publicly available, European Commission develops potential to strongly motivate producers of specific products and to positively affect their overall proneness to export to Canada. Conclusively, authors’ researches on this topic and related topics would also greatly benefit from those data, because they add the third dimension to their researches. That third dimension could be represented by products that have greater potential for import to Canada from Croatia and other 27 EU member countries as the addition to the first dimension, that was already represented by industries that import to Canada from Croatia and the second dimension, represented by industries that export from Canada to Croatia.

### **3. Comparisons between industries that import to Canada from Croatia (2016 with 2011-2015)**

For this part of paper, authors have researched into various changes to economic significance of Croatia in Canadian import within specific industries. Those specific industries were actually and intentionally all top Canadian industries that imported to Canada from Croatia, from 2011 to 2015, what makes this paper the direct sequel of last year’s paper (Government of Canada, 2017). Moreover, such good choice of industries makes both authors’ papers completely comparable and consistent.

Since the majority of subsequent import-related tables include only related NAICS codes to identify the individual industries, authors have decided to compile Table 5 below that includes both NAICS codes and their descriptions.

*Table 5 NAICS Codes for industries that have imported to Canada from Croatia 2011-2016*

| <b>NAICS Code</b> | <b>Description of NAICS Code</b>                      |
|-------------------|---|
| 31142             | Fruit and Vegetable Canning, Pickling and Drying      |
| 31522             | Men's and Boys' Cut and Sew Clothing Manufacturing    |
| 31523             | Women's and Girls' Cut and Sew Clothing Manufacturing |
| 31621             | Footwear Manufacturing                                |
| 32519             | Other Basic Organic Chemical Manufacturing            |
| 32541             | Pharmaceutical and Medicine Manufacturing             |
| 32731             | Cement Manufacturing                                  |
| 33131             | Alumina and Aluminum Production and Processing        |
| 33351             | Metalworking Machinery Manufacturing                  |
| 33531             | Electrical Equipment Manufacturing                    |
| 33721             | Office Furniture (including Fixtures) Manufacturing   |

*Source: Created by authors*

As it is shown in Table 5 above, it consists of 11 industries in total that were actually the combination of industries from the subsequent related tables i.e. Table 6, Table 7 and Table 8.

Thus, Table 6 was created to show which industries have made it to the latest list of top 10 industries that have imported to Canada from Croatia i.e. to the list that is dating from the year 2016.

**Table 6** Import Ranks for top 10 industries that have imported to Canada from Croatia in 2016

| Import Rank 2016 | NAICS code |
|------------------|------------|
| 1                | 32541      |
| 2                | 33131      |
| 3                | 33531      |
| 4                | 32519      |
| 5                | 32731      |
| 6                | 31142      |
| 7                | 33721      |
| 8                | 31621      |
| 9                | 31523      |
| 10               | 33351      |

Source: Created by authors

Although data from Table 6 was used to partially compile Table 5, the same data was also used to partially compile both Table 7 and Table 8 below. Those tables are especially important because they represent the first (of the two) of the most significant parts of this paper, since they include the most relevant information regarding industries that have imported to Canada from Croatia for the given range of years.

So, Table 7 below encompasses comparison between various Import Ranks for 2016 with 2011-2015 for top Canadian industries that imported to Canada from Croatia 2011-2015. In order to fully elaborate this table, it was necessary to clarify the majority of its column headings as follows:

**I. R. 2016** = Import Rank for 2016

**AVE. I. R. 2011-2015** = average Import Rank for 2011-2015

**MAX. I. R. 2011-2015** = maximum Import Rank for 2011-2015

**MIN. I. R. 2011-2015** = minimum Import Rank for 2011-2015.

**Table 7** Comparison between Import Ranks of various industries for 2016 with 2011-2015

| NAICS code | I. R. 2016 | AVE. I. R. 2011 - 2015 |   | MAX. I. R. 2011 - 2015 |   | MIN. I. R. 2011 - 2015 |   |
|------------|------------|------------------------|---|------------------------|---|------------------------|---|
|            |            |                        |   |                        |   |                        |   |
| 31142      | 6          | 5                      | ↗ | 3                      | ↗ | 9                      | ↘ |
| 31522      | 12         | 8                      | ↗ | 4                      | ↗ | 11                     | ↗ |
| 31621      | 8          | 6                      | ↗ | 5                      | ↗ | 8                      | ● |
| 32541      | 1          | 4                      | ↘ | 1                      | ● | 11                     | ↘ |
| 32731      | 5          | 7                      | ↘ | 5                      | ● | 9                      | ↘ |
| 33131      | 2          | 3                      | ↘ | 1                      | ↗ | 4                      | ↘ |
| 33531      | 3          | 7                      | ↘ | 2                      | ↗ | 11                     | ↘ |

Source: Created by authors

With ascending ranks, smaller number represents higher rank and larger number represents lower rank. Logically, industry can have higher rank (↗) when certain rank in 2011-2015 is higher than in 2016, or industry can have lower rank (↘) when certain rank in 2011-2015 is lower than in 2016 or industry can have same rank (●) when certain rank in 2011-2015 is same like in 2016.

Straightforwardly, Table 8 below shows comparison between Import values in CAD of various industries for 2016 with 2011-2015.

**Table 8** Comparison between Import values in CAD of various industries for 2016 with 2011-2015

| NAICS code | I. 2016 CAD | AVE. I. 2011 - 2015 CAD |   | MAX. I. 2011 - 2015 CAD |   | MIN. I. 2011 - 2015 CAD |   |
|------------|-------------|-------------------------|---|-------------------------|---|-------------------------|---|
|            |             |                         |   |                         |   |                         |   |
| 31142      | 2,57m       | 2,28m                   | ↘ | 2,66m                   | ↗ | 1,87m                   | ↘ |
| 31522      | 1,48m       | 1,52m                   | ↗ | 2,00m                   | ↗ | 1,10m                   | ↘ |
| 31621      | 1,98m       | 2,05m                   | ↗ | 2,61m                   | ↗ | 1,56m                   | ↘ |
| 32541      | 12,19m      | 6,93m                   | ↘ | 11,38m                  | ↘ | 0,89m                   | ↘ |
| 32731      | 2,63m       | 1,79m                   | ↘ | 3,04m                   | ↗ | 1,29m                   | ↘ |
| 33131      | 4,96m       | 4,18m                   | ↘ | 5,58m                   | ↗ | 3,19m                   | ↘ |
| 33531      | 3,86m       | 3,73m                   | ↘ | 7,58m                   | ↗ | 0,91m                   | ↘ |

Source: Created by authors

Interpretation of numerical Import values is quite self-explanatory, yet (↗) symbolises where and when they were larger in 2011-2015 than in 2016, while (↘) symbolises where and they were smaller in 2011-2015 than in 2016.

#### 4. Comparisons between industries that export from Canada to Croatia (2016 with 2011-2015)

In contrast, for this part of paper, authors have researched into various changes to economic significance of Croatia in Canadian export within specific industries. Correspondingly to the previous part, those specific industries were actually and intentionally all top Canadian industries that exported from Canada to Croatia, from 2011 to 2015, what also consequently makes this paper the direct sequel of last year's paper (Government of Canada, 2017). At last, such careful choice of industries makes both authors' papers completely comparable and consistent as well.

As the majority of subsequent export-related tables include only related NAICS codes to identify the individual industries, authors have decided to compile Table 9 below that includes both NAICS codes and their descriptions.

**Table 9** NAICS Codes for industries that have exported from Canada to Croatia 2011-2016

| NAICS Code | Description of NAICS Code  |
|------------|--|
| 11113      | Dry Pea and Bean Farming   |
| 11231      | Chicken Egg Production   |
| 31111      | Animal Food Manufacturing  |
| 32519      | Other Basic Organic Chemical Manufacturing                                     |
| 32541      | Pharmaceutical and Medicine Manufacturing                                      |
| 32731      | Cement Manufacturing   |
| 33329      | Other Industrial Machinery Manufacturing                                       |
| 33361      | Engine, Turbine and Power Transmission Equipment Manufacturing                 |
| 33391      | Pump and Compressor Manufacturing  |
| 33422      | Radio and Television Broadcasting and Wireless Communications Equipment Manuf. |
| 33429      | Other Communications Equipment Manufacturing                                   |
| 33451      | Navigational, Measuring, Medical and Control Instruments Manufacturing         |
| 33531      | Electrical Equipment Manufacturing   |
| 33641      | Aerospace Product and Parts Manufacturing                                      |
| 41511      | New and Used Automobile and Light-Duty Truck Wholesaler-Distributors           |

Source: Created by authors

Like it is shown in Table 9 above, it consists of 15 industries in total that were actually the combination of industries from the succeeding related tables i.e. Table 10, Table 11 and Table 12.

Hence, Table 10 was created to show which industries have made it to the latest list of top 10 industries that have exported from Canada to Croatia i.e. to the list that also is dating from the year 2016.

**Table 10** Export Ranks for top 10 industries that have exported from Canada to Croatia in 2016

| Export Rank 2016 | NAICS code |
|------------------|------------|
| 1                | 11113      |
| 2                | 33641      |
| 3                | 33451      |
| 4                | 32731      |
| 5                | 33422      |
| 6                | 41511      |
| 7                | 33361      |
| 8                | 33391      |
| 9                | 32541      |
| 10               | 31111      |

Source: Created by authors

Even though data from Table 10 was used to partially compile Table 9, the same data was also used to partially compile both Table 11 and Table 12 below. Those tables are especially important because they represent the second (of the two) of the most significant parts of this paper, since they include the most relevant information regarding industries that have exported to Canada from Croatia for the given range of years.

Accordingly, Table 11 below includes comparison between various Export Ranks for 2016 with 2011-2015 for top Canadian industries that exported from Canada to Croatia 2011-2015. In order to further elaborate this table, it was essential to explain the majority of its column headings as follows:

**E. R. 2016** = Export Rank for 2016

**AVE. E. R. 2011-2015** = average Export Rank for 2011-2015

**MAX. E. R. 2011-2015** = maximum Export Rank for 2011-2015

**MIN. E. R. 2011-2015** = minimum Export Rank for 2011-2015.

**Table 11** Comparison between Export Ranks of various industries for 2016 with 2011-2015

| NAICS code | E. R. 2016 | AVE. E. R. 2011 - 2015 |   | MAX. E. R. 2011 - 2015 |   | MIN. E. R. 2011 - 2015 |   |
|------------|------------|------------------------|---|------------------------|---|------------------------|---|
|            |            |                        |   |                        |   |                        |   |
| 11113      | 1          | 2                      | ↘ | 1                      | ● | 3                      | ↘ |
| 11231      | 26         | 10                     | ↗ | 6                      | ↗ | 15                     | ↗ |
| 32519      | 15         | 12                     | ↗ | 1                      | ↗ | 26                     | ↘ |
| 32541      | 9          | 7                      | ↗ | 6                      | ↗ | 7                      | ↗ |
| 33329      | 13         | 13                     | ● | 5                      | ↗ | 23                     | ↘ |
| 33422      | 5          | 10                     | ↘ | 5                      | ● | 17                     | ↘ |
| 33429      | 16         | 11                     | ↗ | 10                     | ↗ | 16                     | ● |
| 33451      | 3          | 4                      | ↘ | 2                      | ↗ | 8                      | ↘ |
| 33531      | 24         | 9                      | ↗ | 2                      | ↗ | 21                     | ↗ |
| 33641      | 2          | 4                      | ↘ | 3                      | ↘ | 5                      | ↘ |

Source: Created by authors

It can be seen from Table 11 that there were 2 instances whose rank is 26 that was also emphasised by its different colour. Reason for that is in the official statistics by Government of Canada that contained exclusively top 25 industries and related NAICS codes for each respective year. Hence, for all industries that were not in top 25 industries in specific year(s), authors have decided to write 26 as their rank in order to indicate those rare industries and years.

Once again, with ascending ranks, smaller number represents higher rank and larger number represents lower rank. Sensibly, industry can have higher rank (↗) when certain rank in 2011-2015 is higher than in 2016, or industry can have lower rank (↘) when certain rank in 2011-2015 is lower than in 2016 or industry can have same rank (●) when certain rank in 2011-2015 is same like in 2016.

Forthrightly, Table 12 below shows comparison between Export values in CAD of various industries for 2016 with 2011-2015

**Table 12** Comparison between Export values in CAD of various industries for 2016 with 2011-2015

| NAICS code | E.          | AVE. E.            |   | MAX. E.            |   | MIN. E.            |   |
|------------|-------------|--------------------|---|--------------------|---|--------------------|---|
|            | 2016<br>CAD | 2011 - 2015<br>CAD |   | 2011 - 2015<br>CAD |   | 2011 - 2015<br>CAD |   |
| 11113      | 5,19m       | 3,10m              | ↘ | 4,08m              | ↘ | 2,44m              | ↘ |
| 11231      | 0,15m       | 0,60m              | ↗ | 0,70m              | ↗ | 0,31m              | ↗ |
| 32519      | 0,31m       | 4,97m              | ↗ | 17,17m             | ↗ | 0,04m              | ↘ |
| 32541      | 0,63m       | 0,84m              | ↗ | 1,20m              | ↗ | 0,68m              | ↗ |
| 33329      | 0,32m       | 0,56m              | ↗ | 1,29m              | ↗ | 0,18m              | ↘ |
| 33422      | 0,76m       | 0,60m              | ↘ | 0,83m              | ↗ | 0,31m              | ↘ |
| 33429      | 0,27m       | 0,52m              | ↗ | 0,64m              | ↗ | 0,38m              | ↗ |
| 33451      | 1,54m       | 1,65m              | ↗ | 2,64m              | ↗ | 0,69m              | ↘ |
| 33531      | 0,19m       | 1,03m              | ↗ | 2,06m              | ↗ | 0,21m              | ↗ |
| 33641      | 2,58m       | 1,64m              | ↘ | 2,06m              | ↘ | 1,27m              | ↘ |

Source: Created by authors

Once more, Interpretation of numerical Export values is quite self-explanatory, yet (↗) symbolises where and when they were larger in 2011-2015 than in 2016, while (↘) symbolises where and when they were smaller in 2011-2015 than in 2016.

## 5. Conclusion

Since conclusion actually represents the most significant synthesis of the most important and novel research findings, due to the complexity of research in this paper, authors have decided to draw the list of most logical and numerical conclusions from each main part of the paper.

Conclusions drawn from comparison and relations between Croatia as an EU member country and Canada:

- CETA is potential turning point in the relations of EU (including Croatia) and Canada
- CETA was still not ratified by all Parliaments of EU member countries, thus it is not yet in force
- Conservative forecasts have already tactfully suggested potentially knotty parts of CETA
- With the aim to inform public, European Commission has launched the new version of CETA website
- CETA website contains quality infographics with relevant data for all 28 EU member countries
- Authors were able to synthesise various relevant data from infographics at CETA website in 4 tables
- Authors were able to create J/C Ratio based on relevant data from infographics at CETA website
- European Commission has started to list products that each EU member country exports to Canada.



Conclusions drawn from comparisons between industries that import to Canada from Croatia:

- Authors have listed NAICS Codes for industries that have imported to Canada from Croatia 2011-2016
- Authors have listed Import Ranks for top 10 industries that have imported to Canada from Croatia in 2016
- Authors have compared Import Ranks of various industries for 2016 with 2011-2015
- Based on that comparison there were 3 possible movements of Import Ranks i.e. higher, lower and same
- Authors have compared Import values in CAD of various industries for 2016 with 2011-2015
- Based on that comparison there were 2 possible movements of Import values i.e. larger and smaller.

Conclusions drawn from comparisons between industries that export from Canada to Croatia:

- Authors have listed NAICS Codes for industries that have exported from Canada to Croatia 2011-2016
- Authors have listed Export Ranks for top 10 industries that have exported from Canada to Croatia in 2016
- Authors have compared Export Ranks of various industries for 2016 with 2011-2015
- Based on that comparison there were 3 possible movements of Export Ranks i.e. higher, lower and same
- Authors have compared Export values in CAD of various industries for 2016 with 2011-2015
- Based on that comparison there were 2 possible movements of Export values i.e. larger and smaller.

To conclude, since this paper was prepared methodically and carefully it represents the direct sequel of last year's paper. However, novelties that were incorporated in this paper will enable authors to proceed with this and related research in the coming years. What is more, numerous remarkable examples of import to Canada from Croatia and export from Canada to Croatia have shown and proved, once again, that there is abundant room for manoeuvres and improvements. Likewise, this and similar research in conjunction to available Croatian, EU and Canadian trade data should be considered in making business and trade decisions, that primary include EU including Croatia and Canada, in order to ensure that those decisions are going to be good, firm, informed, rational and sensible.

## REFERENCES

Corporate Europe Observatory (2016): *The great CETA swindle*,  
[corporateeurope.org/sites/default/files/attachments/great-ceta-swindle.pdf](http://corporateeurope.org/sites/default/files/attachments/great-ceta-swindle.pdf),  
(accessed 22 March 2017)

European Commission (2016a): *Comprehensive Economic and Trade Agreement (CETA)*,  
[trade.ec.europa.eu/doclib/docs/2014/september/tradoc\\_152806.pdf](http://trade.ec.europa.eu/doclib/docs/2014/september/tradoc_152806.pdf),  
(accessed 18 March 2017)

European Commission (2016b): *EU and Canada sign CETA*,  
[europa.eu/rapid/press-release\\_AC-16-3890\\_en.htm](http://europa.eu/rapid/press-release_AC-16-3890_en.htm),  
(accessed 3 March 2017)

European Parliament (2017): *CETA: MEPs back EU-Canada trade agreement*,  
[www.europarl.europa.eu/news/en/news-room/20170209IPR61728/ceta-meps-back-eu-canada-trade-agreement](http://www.europarl.europa.eu/news/en/news-room/20170209IPR61728/ceta-meps-back-eu-canada-trade-agreement),  
(accessed 8 March 2017)

Government of Canada (2017): *Office of the Chief Economist*,  
<http://www.international.gc.ca/economist-economiste/index.aspx?lang=eng>,  
(accessed 26 March 2017)

Saeima (2017): *Saeima ratifies EU-Canada free trade agreement*,  
<http://www.saeima.lv/en/news/saeima-news/25635-saeima-ratifies-eu-canada-free-trade-agreement>,  
(accessed 11 March 2017)

Statistics Canada (2016): *North American Industry Classification System (NAICS) 2012*,  
<http://www.statcan.gc.ca/eng/subjects/standard/naics/2012/introduction>,  
(accessed 28 February 2017)





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- zaštita prirode  
i okoliša**

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**LOCAL ORGANIC FARMING AS A MEANS OF SUSTAINABLE  
TOURISM DEVELOPMENT**

**LOKALNI PROIZVOĐAČI EKOLOŠKIH POLJOPRIVREDNIH  
PROIZVODA U FUNKCIJI ODRŽIVOG RAZVOJA TURIZMA**

**ABSTRACT**

*Market trends point to the increased consumer awareness about local and organic food production. Therefore, there is a growing number of organic farmers who sell their eco-agricultural products on their own homesteads, markets and local fairs. Also, the sales potential of organic products in tourism has been recognized. As local organic products are becoming part of the tourism supply, their producers generate additional income from tourism. Given that indications for organic agricultural production on the territory of Croatia exist, there is a need to investigate the local organic farmers' attitudes and opinions on the inclusion of their eco-agricultural products in the tourism supply. Therefore, the aim of this paper is to conduct a study that will determine the Karlovac County organic farmers' attitudes and opinions on the importance of organic farming and the inclusion of their eco-agricultural products in the tourism supply. The subject of this research are Karlovac County organic farmers and their role and importance in achieving sustainable tourism. The study tested the following hypotheses:*

*H1 - local organic farmers in Karlovac County believe that eco-certification positively affects purchase decisions,*

*H2 - there is an interest of Karlovac County organic farmers for the inclusion of their eco-agricultural products in the tourism supply,*

*H3 - local organic farmers in Karlovac County self-promote their eco-agricultural products on the market.*

*The survey of attitudes and opinions of local organic farmers in Karlovac County, who have exhibited their products at the rural development fair called "RuralKa", held in Karlovac in the*

period from 24<sup>th</sup> - 25<sup>th</sup> September 2016, served as an exploratory research in order to define and provide guidelines for future research.

**Key words:** local farmers, organic farming eco-agricultural products, tourism supply, sustainability, marketing, Karlovac County.

## SAŽETAK

Trendovi na tržištu ukazuju na sve veću osviještenost potrošača o ekološki proizvedenoj hrani od strane domaćih proizvođača. Stoga je sve veći broj proizvođača eko proizvoda koji prodaju svoje proizvode na vlastitim seoskim domaćinstvima, tržnicama, lokalnim sajmovima. Također je prepoznat potencijal prodaje eko proizvoda u turizmu. Kroz turizam lokalni proizvođači eko proizvoda ostvaruju mogućnost uključivanja u turističku ponudu te ostvarivanja dodatnih prihoda od turizma. S obzirom da na prostoru Republike Hrvatske postoje pretpostavke za ekološku poljoprivrednu proizvodnju, uviđa se potreba istraživanja stavova i mišljenja lokalnih proizvođača eko proizvoda o uključivanju u turističku ponudu. Stoga je cilj ovog rada provesti istraživanje kojim će se utvrditi stavovi i mišljenja proizvođača poljoprivrednih eko proizvoda Karlovačke županije o važnosti ekološkog uzgoja i uključivanju istih proizvoda u turističku ponudu. Predmet istraživanja su proizvođači ekoloških poljoprivrednih proizvoda na području Karlovačke županije te njihova uloga i značaj u postizanju održivosti turističkog razvoja. Istraživanjem su testirane sljedeće hipoteze:

H1 – lokalni proizvođači poljoprivrednih eko proizvoda Karlovačke županije smatraju da eko certifikat pozitivno utječe na odluku o kupnji,

H2 – postoji interes lokalnih proizvođača poljoprivrednih eko proizvoda Karlovačke županije za uključivanjem u turističku ponudu,

H3 – lokalni proizvođači poljoprivrednih eko proizvoda Karlovačke županije samostalno promoviraju svoje proizvode na tržištu.

Anketnim ispitivanjem stavova i mišljenja lokalnih proizvođača poljoprivrednih eko proizvoda Karlovačke županije, koji su izlagali svoje proizvode na sajmu ruralnog razvoja „RuralKa“ održanog u Karlovcu u periodu od 24. rujna do 25. rujna 2016. godine, provedeno je izviđajno istraživanje u svrhu definiranja, ali i usmjeravanja budućih istraživanja.

**Ključne riječi:** lokalni proizvođači, poljoprivredni eko proizvodi, turistička ponuda, održivost, marketing, Karlovačka županija.

## 1. Introduction

The latest market trends point to an increasing awareness of consumers towards organically produced food by local organic farmers. Due to the accelerated lifestyle, stress and bad eating habits of consumers, there is a rise of allergies and diseases caused by an extensive use of pesticides and antibiotics in the food production. More and more consumers are turning to healthy food, especially organically grown and eco-certified. Despite the low purchasing power of the population of the Republic of Croatia there is a desire for and awareness of eating healthy food. Therefore, it is considered that organic products could be successfully sold in the market. Family farms of Karlovac County sell their organic products on their own farms or on local fairs. There is also recognized a potential for selling the organic products of local organic farmers to tourists. Products of local organic farmers can be included in the tourism supply and generate additional income from tourism. There are preconditions for organic agricultural production in the Republic of Croatia. The need for a research into the attitudes and opinions of local organic farmers of Karlovac County on the inclusion in the tourism supply is recognized. Therefore, the aim of this

paper is to conduct a study that will determine Karlovac County organic farmers' attitudes and opinions on the importance of organic farming and the inclusion of their eco-agricultural products in tourism supply. The subject of this research are Karlovac County organic farmers and their role and importance in achieving sustainable tourism.

The study tested the following hypotheses:

H1 - local organic farmers in Karlovac County believe that eco-certification positively affects purchase decisions,

H2 - there is an interest of Karlovac County organic farmers for the inclusion of their eco-agricultural products in the tourism supply,

H3 - local organic farmers in Karlovac County self-promote their eco-agricultural products on the market.

Primary and secondary data are used in order to achieve the goals of research. Secondary data were collected from published scientific papers that deal with similar issues. The data were analyzed by different scientific methods like compilation, description, analysis, synthesis.

Primary data were collected by interviewing the local organic farmers in Karlovac County with the questionnaire. The survey of attitudes and opinions of local organic farmers in Karlovac County, who exhibited their products at the rural development fair called "RuralKa", held in Karlovac in the period from 24<sup>th</sup> - 25<sup>th</sup> September 2016, served as an exploratory research in order to define and provide guidelines for a future research.

The questionnaire consisted of 13 closed questions and 3 open-ended questions. Local organic farmers' attitudes and opinions on the inclusion of their eco-agricultural products in the tourism supply in Karlovac County were explored through the survey questionnaire. The attitudes about promoting eco-agricultural products by local organic farmers were also explored. The questionnaire was answered by 18 respondents of the total 20 participants surveyed at the fair RuralKa. To be specific, 18 questionnaires were properly filled while 2 questionnaires were not, and they were considered invalid. 10 respondents did not produce eco-certified products while 8 of them did (40% of respondents). Further analysis was conducted on 40% of respondents, those who produce eco-certified agricultural products. The results of the research gave answers on potential activities of the local organic farmers on the inclusion in tourism of Karlovac County and confirmed the set research hypotheses. Those results will be the base for further research activities involving local organic farmers in the tourism supply of Karlovac County.

## **2. Environmental trends in food production in Croatia**

Numerous local authors contributed to the research related to organic products in Croatia (Anić, Jelenc, Šebetić, 2015, Brčić-Stipčević, Petljak, 2011, Franjić, Paliaga, Flego, 2009, Krupka, Kelečić 2011, Marcetić, Jerković, 2016, Martić Kuran, Mihić, 2014, Zupan, Pejnović, 2016). Franjić, Paliaga and Flego conducted a study to determine the presence of green economic operators on the Croatian territory (Franjić, Paliaga, Flego, 2009, 247). The sample consisted of 54% of the manufacturing companies and 46% of the service sector (Franjić, Paliaga, Flego, 2009, 238). The results suggest that the Croatian economic operators present some positive developments in terms of recognition and appreciation of environmental trends in the domestic and global markets (Franjić, Paliaga, Flego, 2009, 247). Brčić-Stipčević and Petljak conducted a survey of buying organic food in Croatia and came to the conclusion that a large number of respondents were not familiar with the definition of organic food, although the number of organic farms is growing rapidly (Brčić- Stipčević, Petljak, 2011, 189). Customers mostly buy organic products due to health and environmental concerns, animal welfare, and to support local farmers (Brčić-Stipčević, Petljak, 2011, 189). Organic consumers are people with higher levels of education and higher monthly income, who believe that organic products are tastier, healthier and that they are under a more frequent and strict quality control. When it comes to disadvantages of buying organic products, consumers cite high prices, lack of information about retail outlets and

some believe that organic products are of the same quality as conventional products (Brčić-Stipčević, Petljak, 2011, 201). Research results show that further efforts are needed to raise the awareness of organic food consumption benefits (Brčić-Stipčević, Petljak, 2011, 203).

Anić, Jelenc and Šebetić were investigating demographic characteristics and behavior of organic buyers in Karlovac County (Anić, Jelenc, Šebetić, 2015, 367). The survey results show that consumers who opt for organic food are mainly middle-aged customers who are employed, higher income earners; they buy organic food more often, prefer buying Croatian products and are willing to pay a higher price for these products. Marcetić and Jerković investigated consumers' attitudes about indigenous food products in the area of Brod-Posavina County, how much these products are appreciated and known, and they came to the conclusion that consumers were poorly acquainted with local products of Brod-Posavina County, and that they did not even taste some of the products (Marcetić, Jerković, 2016, 271). Zupan and Pejnović examined the impact of protected natural areas on entrepreneurship in Lika-Senj County, and came to the conclusion that business interaction of public institutions and regional businesses was relatively poor (Zupan, Pejnović, 2016, 603).

Results of the research conducted in Croatia by Krupka and Kelečić have shown that the LOHAS segment (Lifestyle of Health and Sustainability) prefers green brands, for which it is willing to pay higher prices, although they consider these brands are priced too high. The LOHAS segment feels obligated to buy green brands due to their personal values and beliefs that their health benefits from green brands (Krupka, Z., Kelečić, D., 2011, 247).

Martić-Kuran and Mihic carried out the study of the respondents' demographic characteristics and the connection of these characteristics to purchase intention (Martić-Kuran, L., Mihić, M., 179). The research results indicate that marital status, age and household income significantly affect intention to purchase organic food, unlike other demographic variables, that have no significant effect on purchase intention (Martić - Koran, L, Mihic, M., 179). Married respondents, aged 46-55, and those with household income exceeding 16,000 HRK show greater intention to purchase organic food compared to other respondents (Martić - Koran, L, Mihic, M., 179).

### 3. Research results

The results obtained through the conducted research of local organic farmers' attitudes and opinions in Karlovac County related to the ability on the inclusion of their eco-agricultural products in the area of Karlovac County and the inclusion of family farms and their business in the tourism supply. It also included the research which was focused on the ways of promoting the eco-agricultural products by local organic farmers in Karlovac County. Local producers of eco-agricultural products in Karlovac County considered that eco-certification positively affected purchase decisions.

The survey included the examination of local organic farmers in Karlovac County that were selling their products at the fair of rural tourism called RuralKa. The data were consolidated by examining the socio-demographic characteristics of the respondents relating to their sex and age structure, marital status, employment status, education and personal net average income.

*Table 1 Socio - demographic characteristics of local organic farmers in Karlovac County*

| Socio - demographic characteristics |         | Percentage |
|-------------------------------------|---------|------------|
| SEX                                 | FEMALE  | 37.50%     |
|                                     | MALE    | 62.50%     |
| AGE                                 | 18 - 25 | 0.00%      |
|                                     | 26 - 35 | 25.00%     |



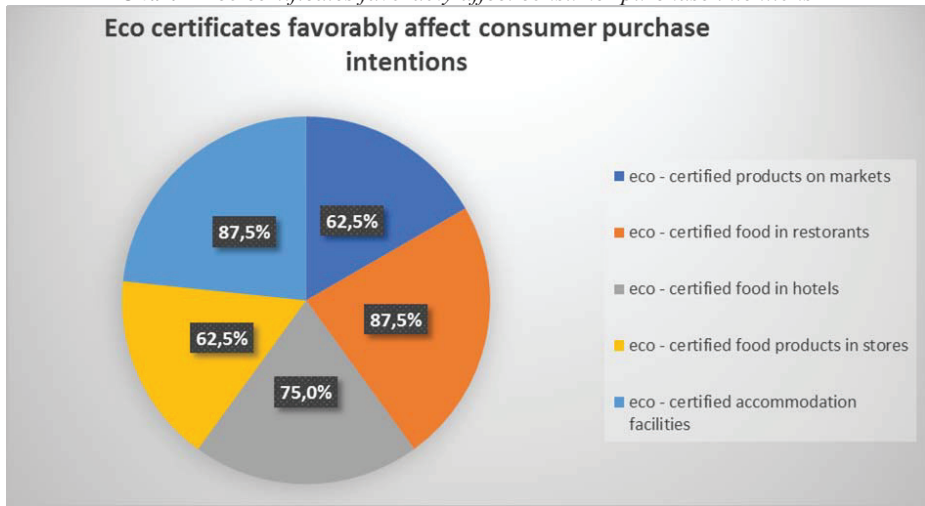
| Socio - demographic characteristics        |                                 | Percentage |
|--|---------------------------------|------------|
|  | 36 - 45                         | 50.00%     |
|  | 46 - 55                         | 25.00%     |
|  | 56 - 65                         | 0.00%      |
|  | 66 and more                     | 0.00%      |
| MARITAL STATUS                             | single                          | 0.00%      |
|  | unmarried community             | 0.00%      |
|  | married                         | 100.00%    |
|  | divorced                        | 0.00%      |
|  | widower                         | 0.00%      |
| EMPLOYMENT STATUS                          | employed in the public sector   | 25.00%     |
|  | employed in the private sector  | 37.50%     |
|  | employed as an entrepreneur     | 25.00%     |
|  | student                         | 0.00%      |
|  | unemployed                      | 12.50%     |
|  | pensioner                       | 0.00%      |
| EDUCATION                                  | elementary school               | 12.50%     |
|  | secondary school                | 87.50%     |
|  | college                         | 0.00%      |
|  | university degree               | 0.00%      |
|  | master degree / doctoral degree | 0.00%      |
| PERSONAL NET AVERAGE INCOME OF RESPONDENTS | less than 1.000 kn              | 0.00%      |
|  | 1,001 – 5,000 kn                | 50.00%     |
|  | 5,001 – 10,000 kn               | 37.50%     |
|  | 10,001 – 15,000 kn              | 0.00%      |
|  | 15,001 and more                 | 0.00%      |
|  | I have no income                | 12.50%     |

*Source: Author's on the basis of research results*

Local organic farmers in Karlovac County, included in this research, are middle-aged. The study included 62.5% respondents of male and 37.5% female gender. They are married and have completed secondary school. Employment status indicates that eco-agricultural activity of local organic farmers is not their primary activity, 37.5% of respondents working in the private sector, 25% in the public sector and 25% are entrepreneurs. Net average income of the respondents, in 50% of cases, are ranging from 1,001 to 5,000 HRK, and in the 37.5% of cases from 5,001 to 10,000 HRK.

According to the statement which implies that Karlovac County is a tourist destination which has used all of its market potential, 50% of respondents are dissatisfied, 37.5% of respondents are satisfied and 12.5% of respondents have no opinion on this issue. Furthermore, 37.5% of respondents are dissatisfied with the activities of local and state public authorities in the function of tourism, and the same percentage of respondents 37.5% have no opinion, while 12.5% of respondents are extremely satisfied. With the activities of entrepreneurs in the tourism there are 62.5% of satisfied respondents, while 37.5% of respondents have no opinion. It can be concluded that local organic farmers of Karlovac County are dissatisfied with the usability of resources of Karlovac County, they are dissatisfied with the work of local public authorities in the function of sustainable tourism development.

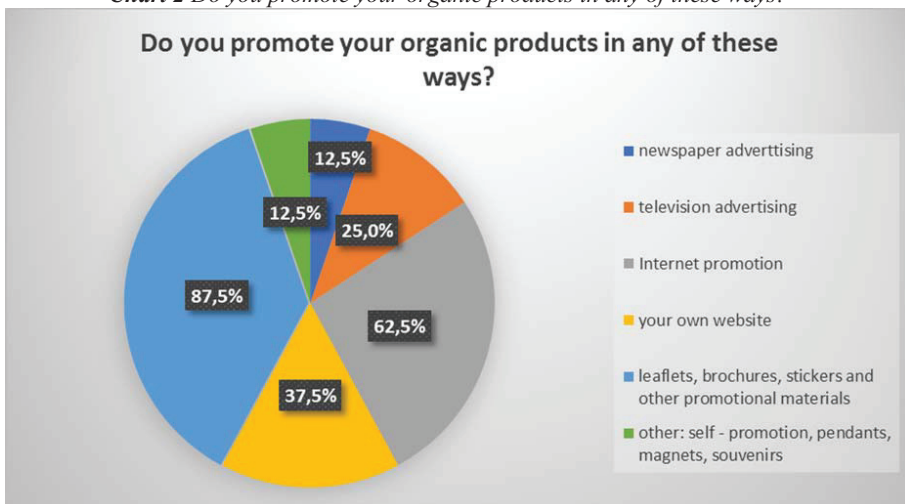
**Chart 1** Eco certificates favorably affect consumer purchase intentions



Source: Authors' on the basis of research results

When asked about the customer's willingness to pay more for eco-certified products and accommodation facilities, the questions related to eco-certified products on markets, eco-certified food in restaurants, eco-certified food in hotels, eco-certified products in stores and eco-certified accommodation facilities. That customers are willing to pay a higher price for eco-certified products on markets believe 62.5% of the respondents, 87.5% of them believe they are willing to pay more for eco-certified food in restaurants, 75% of the respondents claim so for eco-certified food in hotels, 62.5% of them believe customers would pay more for eco-certified products in stores, and 87.5% of the respondents believe that customers are willing to pay a higher price for eco-certified accommodation facilities.

**Chart 2** Do you promote your organic products in any of these ways?



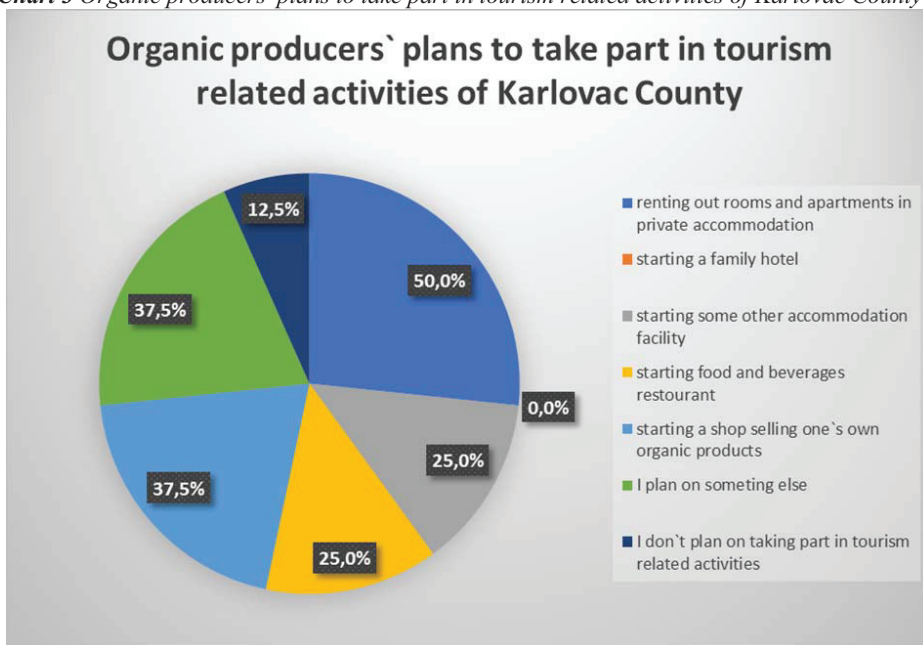
Source: Authors' on the basis of research results

Organic producers usually promote their products through leaflets, brochures, stickers and other promotional materials; in 87.5% of the cases. The Internet promotion is present in 62.5% of the

cases, 37.5% of them use their own Internet sites, while a small number of them use television and newspaper advertising and other self – promotion materials. In 87.5% of the cases, organic producers devise their own strategies for promoting their products. Since the producers cannot provide the money for the promotion of their products, the need arises to think about their including in the promotion of tourist destinations or their forming an association which would be creating marketing plans for all organic producers, plan their promotional activities and other marketing activities, and thus reduce the cost of marketing activities for individual organic producers.

When asked if they plan to get involved in tourism-related business in the near future, 50% of organic producers said they planned on renting out rooms and apartments in private accommodation. 37.5% of them plan on starting a shop with their own organic products, and the same percentage, 37.5%, plan on the production of spreads and opening excursion sites with tasting parlors.

*Chart 3 Organic producers' plans to take part in tourism related activities of Karlovac County*



*Source: Authors' on the basis of research results*

It can be concluded that in Karlovac County organic products of eco-agricultural products are not included in the tourism supply. However, there is a desire of local producers of organic products for inclusion of their products into the tourism supply of Karlovac County. Local producers of organic products believe that eco-certificates have positive impact on the purchasing decisions for both organic products and eco-accommodation facilities. The conducted research has shown that local producers of eco-agricultural products independently promote their products. Since the initial hypotheses of conducted research were: H1 - local organic farmers in Karlovac County believe that eco-certification has a positive effect on the purchasing decision, H2 - local organic farmers of eco-agricultural products in Karlovac County are interested in the inclusion of their products into the tourism supply and H3 -local organic producers of eco-agricultural products in Karlovac County self-promote their products on the market, it can be concluded that all aforementioned hypotheses have been confirmed.

#### 4. Conclusion

The research of the attitudes of organic producers in Karlovac County confirmed the proposed hypotheses according to which local organic producers of eco-agricultural products in Karlovac County believe that eco-certification has a positive effect on the purchasing decision. Also, there is an interest of those local organic producers for inclusion of their products and services into the tourism supply. They are interested in renting their own rooms and apartments as well as in producing and selling organic products to tourists. Local producers of eco-agricultural products self-promote their products. The lack of promotion of eco-agricultural products is one of the barriers that could be resolved by joint forms of advertising. Thus, would be reduced the cost of promotion. Local producers of eco-agricultural products in Karlovac County consider their options to associate so that they can jointly promote their products.

Due to the increasing consumer preferences towards healthy diet, locally produced food or food from organic farming, target groups for local producers of eco-agricultural products are families that prefer healthy diet. The research of customers' needs indicates that these are consumers who have a higher level of education and a higher purchasing power. They are also eco-conscious and aware of quality of the food that is offered on the market. Local organic producers in Karlovac County do not produce adequate quantity of organic products so they are not able to sell them in specialized shops. Therefore, most of them sell their products on their own family farms or on markets and fairs. If local producers of eco-agricultural products could supply their products on tourism market, distribution of their eco-agricultural products could expand beyond the area of Karlovac County.

The conducted research represents a base for future research in the field of this issue. The possibility of association of Croatian local producers of organic products is being considered. This association could increase their marketing activities as well as recognition of their organic products. Future research should be directed to the impact of marketing activities on the increase of sales of organic products and to the competitive advantages of organic producers at a national level.

#### REFERENCES

- Anić, I. D., Jelenc, L., Šebetić, N.: Istraživanje demografskih obilježja i ponašanja kupaca ekoloških prehrambenih proizvoda u Karlovačkoj županiji, *Ekonomska misao i praksa DBK*, 2015., No. 2, pp. (367 – 388)
- Brčić – Stipčević, V., Petljak, K.: Research on organic food purchase in Croatia, *Tržište*, Vol. XXIII (2011.), No. 2., pp. 189 - 207
- Franjić, Z., Paliaga, M., Flego, M. (2009), *Green Marketing in Croatia – Research of Experience and Effects on the Establishment of Environmentally and Socially Responsible Business*, Proceedings of the 34<sup>th</sup> Annual Macromarketing Conference - Rethinking Marketing in a Global Economy, The Macromarketing Society, Inc. and the University of Agder, Kristiansand, Norway, pp. 247-259.
- Krupka, Z., Kelečić, D.: Istraživanje stavova LOHAS segmenta prema zelenim markama, *Tržište*, Vol. XXIII (2011.), No. 2, pp. 247 - 262.
- Marcetić, H., Jerković, I.: Ispitivanje potrošača o autohtonim prehrambenim proizvodima na području Brodsko – posavske županije, 5th International conference „Vallis Aurea“, 2016., pp. 271 -277.
- Martić Kuran, L., Mihić, M.: Primjena terapije planiranog ponašanja u kupovini ekološke hrane, *Tržište*, Vol. XXVI (2014), No. 2, pp. 179 – 197.
- Zupan, Ž., Pejnović, J.: Utjecaj zaštićenih područja prirode na poduzetništvo u Ličko – senjskoj županiji, 5th International Conference „Vallis Aurea“ 2016., pp. 603 – 609.

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## WHAT KIND OF EXPECTATIONS SHOULD THE HOUSEHOLDS HAVE IN RELATION TO SEPARATE WASTE COLLECTION

### KAKVA BI TREBALA BITI OČEKIVANJA KUĆANSTVA KOD ODVOJENO PRIKUPLJENOG OTPADA

#### *ABSTRACT*

*The waste management in the Republic of Croatia is defined by the Sustainable Waste Management Act (Official Gazette No. 94/13) and a number of regulations, rules and instructions arising from the same. Also, in early January 2017, the Waste Management Plan (Official Gazette No. 3/17) was passed as the basic guideline in conducting waste management in the Republic of Croatia.*

*Sustainable Waste Management Act lays down, inter alia, the order of priority of waste management like waste prevention, preparing for reuse, recycling, other methods of recovery e.g. energy recovery and waste disposal. The assumption is that the best results in the separate collection of waste paper and plastic are obtained exclusively in separate collection at source or at the very doorstep of users. Ultimately, the goal of separate collection of useful waste is primarily reducing the amount of waste that ends up in landfill, and thus naturally reduced harmful impact of waste on the environment.*

*In this regard, without prejudice in any way to the purpose and the environmental benefits of separate waste collection, this paper will attempt to answer the question could the users who separate waste on the doorstep expect economic benefit and thereby reduce the bill for the collection, removal and disposal of waste.*

**Key words:** *waste, separate waste collection, paper, plastic.*

#### *SAŽETAK*

*Postupanje s otpadom u Republici Hrvatskoj uređeno je Zakonom o održivom gospodarenju otpadom (Narodne novine br. 94/13) i nizom propisa, uredbi, pravilnika i naputaka koji proizlaze iz istog. Također, početkom siječnja 2017. donesen je Plan gospodarenja otpadom (Narodne novine br. 3/17) kao temeljna smjernica u poslovima gospodarenja otpadom u Republici Hrvatskoj.*

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*Zakonom o održivom gospodarenju otpadom, između ostalog, propisan je red prvenstva gospodarenja otpadom, sprječavanje nastanka otpada, priprema za ponovnu uporabu, recikliranje, drugi postupci uporabe npr. energetska uporaba i zbrinjavanje otpada. Pretpostavka je da se najbolji rezultati u odvojenom prikupljanju otpadnog papira i plastike dobiju isključivo u odvojenom prikupljanju na mjestu nastanka, odnosno na samom kućnom pragu korisnika. U konačnici, cilj odvojenog prikupljanja korisnog otpada je primarno smanjenje količina otpada koja završava na odlagalištu i time smanjen štetan utjecaj odlaganja otpada na okoliš.*

*S tim u svezi, ni na koji način ne dovodeći u pitanje svrhu i ekološku dobit odvojenog prikupljanja otpada, ovim radom pokušati će se odgovoriti na pitanje može li se odvojenim prikupljanjem otpada na kućnom pragu korisnika očekivati ekonomska korist korisnika koji otpad odvaja na kućnom pragu i time smanjenje računa za prikupljanje, odvoz i zbrinjavanje otpada.*

**Ključne riječi:** *otpad, odvojeno prikupljanje otpada, papir, plastika.*

## **1. Introduction – Waste Management Baselines**

In the past couple of decades, the waste management has been recognised as one of the key segments of human activity the purpose of which is the establishment of the long-term effective operation of all shareholders with an aim of prevention and reduction of harmful effects of waste to the human health and environment. The Republic of Croatia, as an EU member county, is a part of these European, but also global, considerations, efforts and actions aiming at the efficient waste management.

The main framework that regulates the waste management in the European Union is provided by the Waste Framework Directive<sup>3</sup>. The main legal framework for waste management in the Republic of Croatia is provided by the Sustainable Waste Management Act (hereinafter: SWMA); besides the foregoing Act, this segment is additionally regulated by a set of subordinate legislations arising from or based on the SWMA, as well as regulations, plans, instructions and other legislations<sup>4</sup>.

The main waste management baseline is provided by the priority order of the waste management that comprises: 1) waste prevention, 2) preparing for reuse, 3) recycling, 4) other methods of recovery and 5) waste disposal (SWMA, Article 7). It represents a hierarchy of waste handling<sup>5</sup> which defines the sequence of “acceptability”, “desirability” and “necessity” of actions in the waste management in terms of their effect on the environment; the waste prevention has been recognised as the most desirable form of the waste management and the waste disposal has been recognised as the least desirable form of the waste management (Image 1).

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<sup>3</sup> Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives | (Text with EEA relevance) (available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1490196159707&uri=CELEX:02008L0098-20150731>, accessed on 22 March 2017)

<sup>4</sup> Detailed information at [www.azo.hr/Propisi](http://www.azo.hr/Propisi), accessed on 19 March 2017

<sup>5</sup> This hierarchical approach in waste management has been known as 'Lansink's Ladder' or Ladder of Lansink; named after a member of Dutch Parliament Gerhardus Wilhelmus Adrianus Josephus ('Ad') Lansink, who proposed the approach to the Dutch Parliament in 1979, and incorporated into Dutch legislation in 1994. This waste hierarchy formed the basis of the waste hierarchy in the European Waste Framework Directive (Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives | (Text with EEA relevance)) (detailed information at: <https://waste-management-world.com/a/dutch-successes> and <http://www.isonomia.co.uk/?p=2556>).

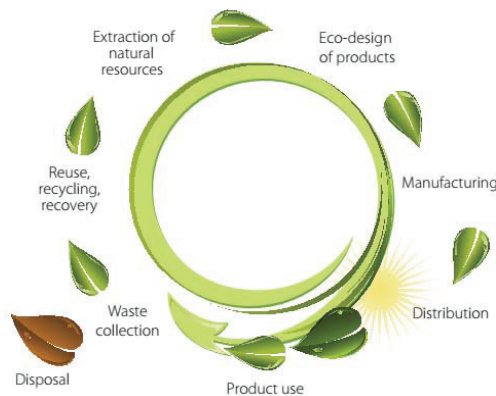
**Image 1** The priority order of the waste management



Source: the image taken from the brochure *Being Wise with Waste: the EU's approach to waste management*, p. 7, available at <http://ec.europa.eu/environment/waste/pdf/WASTE%20BROCHURE.pdf>, accessed on 22 March 2017

Besides the waste management hierarchy, as the baseline of the Waste Framework Directive, this Directive also introduces a circular management approach i.e. an approach that takes into consideration the life-cycle of products and materials and that puts the emphasis on the reduction of impact of the waste generation and on the waste management and increase of the economic value of the waste (Image 2).

**Image 2** Concept of life-cycle thinking into waste policies



Source: the image taken from the brochure *Being Wise with Waste: the EU's approach to waste management*, p. 8, available at <http://ec.europa.eu/environment/waste/pdf/WASTE%20BROCHURE.pdf>, accessed on 22 March 2017

The general environment protection principles are adhered to in the waste management and the following principles serve as a basis: 1) the polluter-pays principle (the waste producer, the previous waste holder or the current waste holder shall bear the costs of waste management measures and shall be financially responsible for the implementation of remediation measures to be taken due to damage caused or likely to be caused by waste), 2) the principle of proximity (waste shall be treated in the appropriate facility or installation nearest to its source, taking into account cost-effectiveness and



environmental soundness), 3) the principle of self-sufficiency (waste shall be managed in a self-sufficient manner and shall enable independent attainment of national level targets, taking into account the geographical circumstances or the need for specialised installations for special categories of waste) and 4) the principle of traceability (tracing waste back to its source by reference to the product, packaging, and the producer of that product, including possession of the waste and its treatment) (SWMA, Article 6).

The efficient waste management aims primarily at facilitating and improving the waste serving, which necessarily implies the existence of the separate collection and storing of the waste the valuable properties of which may be used. Therefore the units of local administration shall provide the following in their relevant area: 1) public service of collecting the mixed municipal waste and biodegradable municipal waste, 2) separate collection of waste paper, metal, glass, plastic, textile and bulky municipal waste, 3) prevention of the discarding of waste in a manner contrary to this Act and the elimination of any such discarded waste, 4) the implementation of the Waste Management Plan, 5) the adoption and implementation of the Waste Management Plan of the local administration unit, 6) implementation of educational and information activities in its area, and 7) the possibility of organising waste collection drives (SWMA, Article 28).

The specific types of waste from households (primarily paper, metal, glass, plastic and textile as well as bulky municipal waste) are collected separately at the doorstep, by means of containers installed on public surfaces, recycling spots, recycling yards and by means of the established national schemes for special categories of waste.

Starting from the underlying assumption of the obligation of separate waste collection, that the best results of the separate waste collection, in the sense of the purest waste whose valuable properties can be used as raw material, are obtained by selection of the separate waste at source, a logical issue appears related to the financial effect of this type of waste collection for the beneficiaries of the waste collection services, primarily municipal waste collection<sup>6</sup>.

This paper will exclusively deal with the collection of waste paper and plastic at source – in households, and the financial effect i.e. impact of such separate collection of the waste paper and plastic to the waste disposal cost for the beneficiaries of the municipal waste collection service in the Republic of Croatia.

## **2. The Municipal Waste in the Republic of Croatia – the Current Situation and Future Goals**

The total of the generated municipal waste in the Republic of Croatia in 2015 amounted to 1,653,918 tonnes, i.e. 386 kg per capita, i.e. the daily quantity of waste amounted to 1.06 kg per capita; in comparison to the preceding 2014, there was a 1% increase in the quantity (Municipal Waste Report 2015; 5, 13). However, a mild increase to about 2,000,000 tonnes per year of the municipal waste is expected by 2030 (The methodology for determining the composition and quantity of the municipal or mixed municipal waste; 10). Taking into consideration the origin of waste, the largest portion of the waste is generated in households (31%), which includes different types of waste

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<sup>6</sup> Pursuant to the Sustainable Waste Collection Act (Official Gazette, no. 94/13), the municipal waste is defined as waste generated by households or any other waste comparable in nature and composition to household waste, excluding production waste and waste from agriculture and forestry.

generated by citizens, from the municipal waste to other types of waste (Republic of Croatia Waste Management Plan 2017 – 2022; 3).

In 2015, the share of mixed municipal waste (EWC No. 20 03 01) in the collected waste amounted to 76% i.e. 1,262,844 t; the share of other types of municipal waste in the total municipal waste amounted to 24% which is equal to the values in the past two years; the quantity of other types of municipal waste amounted to 391.074 t, out of which 298,026 t of municipal waste was sent directly to the waste recovery. Therefore, the rate of the municipal waste recovery in 2015 was 18% (The municipal waste report 2015; 5). In 2015, a total of 1,318,741 t of municipal waste was disposed (The municipal waste report 2015; 8).

**Table 1** *The assumed composition of the mixed municipal waste in the Republic of Croatia in 2015 with the share of the components*

| COMPONENT   | SHARE (%) |
|---|-----------|
| Metal   | 2.07%     |
| Wood  | 0.98%     |
| Textile/garments  | 3.71%     |
| Paper and cardboard   | 23.19%    |
| Glass   | 3.65%     |
| Plastic   | 22.87%    |
| Rubber  | 0.22%     |
| Leather/bones   | 0.45%     |
| Kitchen waste   | 30.93%    |
| Garden waste  | 5.68%     |
| Other waste (disposable nappies, soil, dust, sand, undefined) | 6.25%     |
|   | 100.00%   |

*Source: The table has been taken from the publication Methodology for Determining the Composition and Quantities of the Municipal and Mixed Municipal Waste, p. 15, available at: <http://www.azo.hr/MetodologijaZaOdredivanjeSastavaKomunalnog>, accessed on 22 March 2017*

By 1 January 2015, the Republic of Croatia was obliged to take measures via its competent authorities to ensure separate collection of the following types of waste: paper, metal, plastic and glass, electric and electronic waste, waste batteries and accumulators, end-of-life vehicles, end-of-life tyres, waste oils, textile and footwear waste and clinical waste (SWMA, Article 54). By 1 January 2020 the Republic of Croatia is obliged to take measures via its competent authorities to ensure the preparation for reuse and recycling of the following waste materials: paper, metal, plastic and glass from households and other sources, if possible, when such waste streams are similar to household waste, which shall account for a minimum of 50 % of the waste mass (SWMA, Article 55).

Therefore, among other things, the Republic of Croatia Waste Management Plan 2017-2020 (hereinafter: the Plan) foresees the change of the municipal waste management system and connection of such system with the systems of separate collection of the special waste categories, especially packaging that make an important part in the volume of the mixed municipal waste, in the way that the separate collection of specific types of waste becomes the interest of the public service provider, which should be financed from the fee charged for the management of special waste categories.

Therefore, the system of the separate municipal waste collection is put in the focus of the municipal waste management system by means of ensuring the infrastructure required for the separation of the municipal waste: at source, by means of recycling yards, on public surfaces and implementation of

the regulations for the special categories of waste (packaging waste, end-of-life tyres, waste electrical and electronic equipment etc.)

The Goal 1.2. – separate collection of 60% of the mass of the generated municipal waste (primarily paper, glass, plastic, metal, bio-waste etc.) is set as one of the goals in the waste management segment that needs to be accomplished by 2022 in comparison to 2015. As it is specified in the Plan, in order to reach this goal it will be necessary to continue with the activities on the improvement of the already existing system of the separate collection of waste paper, glass, plastic, metal, bio-waste and bulky waste etc., primarily by developing the infrastructure and procurement of the relevant equipment, education and information of all the system stakeholders as well as by revision of the system of collection of the charge for the public mixed municipal and biodegradable waste collection in the way that the collection and waste treatment services are charged in accordance with the quantity of the submitted waste.

### **3. Calculation of Income and Expenses In Case of the Separate Collection of Useful Waste (Paper and Plastic)**

The useful waste as such has its market value. Therefore, the issue arises if the beneficiaries of the public municipal mixed waste collection service could expect any benefits such as the reduced bills for the collection and transport of the mixed municipal waste if they separate the useful waste (paper and plastic) at their doorstep. This calculation presents the cost of collection, transport and processing of the useful waste and later the expected income that could be generated from the sale of the useful waste.

The costs of containers, collection (transport and work force), the costs of sorting and disposal of the residual (unusable) waste have been taken into consideration. However, there are many variables that affect the foregoing costs: the volume and capacity of vehicles (determines the number of drives), distance from the parking place for the vehicles to the collection area and later the distance to the warehouse (determines the transportation cost), the altitude terrain configuration and population density (determines the fuel consumption and the transportation cost), the share of impurities in the collected useful waste (determines the cost of disposal), the share of moisture in the processed useful waste (paper) (the higher the moisture, the lower the selling price). Furthermore, the selling price of certain fractions of the sorted useful waste depends on the quality of sorting that is defined by the buyer of the useful waste.

It is emphasised that this calculation does not take into account either the indirect costs (e.g. cost of administration and expert services) or the cost of baling and transport of the processed useful waste to the end buyer of the useful waste.

Table 2: Calculation of monthly expenses, income and the expected profit from the collection and sorting of useful waste (paper and plastic) for the municipalities of 1.000 – 5.000 residents and depending on the share of separated useful waste in relation to mixed municipal waste and share of impurities in that useful waste

According to the last 2011 census, the Republic of Croatia has a population of 4,287,889. Taking into consideration the proportion of the overall quantity of the mixed municipal waste in 2015 that amounts to 1,262,844 t and the population, the average annual produced quantity of the mixed municipal waste per capita in 2015 amounts to 294.72 kg ( $1,262,844 \text{ t} * 1,000 \text{ kg} / 4,284,889$  residents). The quantity of 294.72 kg of mixed municipal waste per capita is a starting point of this calculation. Furthermore, according to the foregoing census, the Republic of Croatia has 429<sup>7</sup> municipalities, and the size of the majority of the municipalities, 339, ranges between 1,000 and 5,000 residents. Therefore, the calculation provided in Table 2. was made for this municipality size range (number of residents).

Among other things, the table presents the calculation of the monthly cost of containers (size of the municipality (population)/average number of people in a household (2.,8<sup>8</sup>)\* price of the container of 240l (HRK 266.00<sup>9</sup> exclusive of VAT)/120 (depreciation of the container over 10 years)), total monthly quantity of the useful waste (paper and plastic) in kg ((size of the municipality (number of residents)\*294.72 kg of the mixed municipal waste per capita\*23.19% (share of the paper component in the mixed municipal waste as shown in Table 1.)) + (size of the municipality (population)\*294.72 kg of the mixed municipal waste per capita\*22.87% (share of the plastic component in the mixed municipal waste as shown in Table 1.))/12 (months)), cost of disposal of the residual waste (impurities) in HRK (the assumed monthly quantity of the unusable waste according to the share of impurities (in kg)/1,000 kg\*cost of disposal (350.00<sup>10</sup> HRK/t)), cost of a single drive in HRK (travelled km in a single drive\*the price per km (7.12 HRK/km<sup>11</sup>)), total cost of transport and work force in HRK (no. of drives\*(cost of a single drive in HRK + cost of work force (cost of the driver's gross salary (HRK 6.318,55<sup>12</sup>) + cost of gross salary of two assistant workers (2\*HRK 4,416.97<sup>13</sup>))/no. of work days in a month (21)), cost of sorting the collected waste in HRK (monthly quantity of paper, cardboard and plastic in kg, in accordance with the assumed share (%) of separation\*cost of sorting (HRK 262.50<sup>14</sup>)), expected income from sale of the useful waste in HRK

<sup>7</sup> Number and structure of municipalities according to the 2011 census; available at [http://www.dzs.hr/Hrv/censuses/census2011/results/h02\\_04/H02\\_04.html](http://www.dzs.hr/Hrv/censuses/census2011/results/h02_04/H02_04.html) accessed on 28 March 2017.

<sup>8</sup> Average number of people in a household according to the 2011 census, available at [http://www.dzs.hr/Hrv/censuses/census2011/results/h02\\_01\\_01/H02\\_01\\_01.html](http://www.dzs.hr/Hrv/censuses/census2011/results/h02_01_01/H02_01_01.html) accessed on 28 March 2017

<sup>9</sup> Price of the container of 240 l is calculated as a price in amount of HRK 332.50 (available at <http://domus-sesvete.hr/proizvod/kanta-za-otpad-240l/> accessed on 28 March 2017), the tax rate in Croatia is 25%, which gives the price excluding VAT in the amount of HRK 266,00

<sup>10</sup> Cost of disposal in the amount of HRK 350.00 per t is shown on the Price list of waste disposal services of KOMUNALAC VUKOVAR d.o.o. for EWC No. 19 12 12 available at <http://www.komunalac-vu.hr/upload/documents/Cijena%20odlaganja%20otpada.pdf> accessed on 28 March 2017

<sup>11</sup> The price of HRK 7.12 per km is the result of authors own calculation taking into consideration the most important variables such as fuel consumption, fuel price, total exceeded kilometers per year, the cost of purchasing tires, cost of regular and extraordinary maintenance, the cost of registering a vehicle, depreciation value of the vehicle

<sup>12</sup> Cost of the driver's gross salary in the amount of HRK 6.318,55 is the result of calculation of average net salary in the amount of HRK 4.313,00 for truck driver available at <http://www.mojaplaca.hr/placa/transport-promet-i-logistika/vozac-kamiona> accessed on 28 March 2017 and later calculation to gross salary (for the man that has Personal allowance factor 1,7 and lives in a city that has surtax of 13% available at [http://www.rrif.hr/wct\\_index.php?run=kalk111&wct=230](http://www.rrif.hr/wct_index.php?run=kalk111&wct=230) accessed on 28 March 2017

<sup>13</sup> Cost of the assistant worker's gross salary in the amount of HRK 4.416,97 is the result of calculation of average net salary in the amount of HRK 3.015,00 for assistant worker available at <http://www.mojaplaca.hr/placa/pomocna-zanimanja/nekvalificirani-radnik> accessed on 28 March 2017 and later calculation to gross salary (for the man that has Personal allowance factor 1,7 and lives in a city that has surtax of 13% available at [http://www.rrif.hr/wct\\_index.php?run=kalk111&wct=230](http://www.rrif.hr/wct_index.php?run=kalk111&wct=230) accessed on 28 March 2017

<sup>14</sup> Cost of sorting in the amount of HRK 262.50 is based on average price of sorting in amount of Eur 35,00\*exchange rate of Eur 1,00=HRK 7,50 as shown in Galović, M; Tarandek Galović, T. (2012): *Gospodarenje otpadom u Osječko-*

$((\text{expected monthly quantity of the useful waste in kg} * (23.19\% / (23.19\% + 22.87\%))) * \text{average price of paper (0.45 HRK/kg}^{15})) + ((\text{expected monthly quantity of the useful waste in kg} * (22.87\% / (23.19\% + 22.87\%))) * \text{average price of plastic (0.85HRK/kg}^{16})))$ .

The Table 2. shows high costs of collection and processing (sorting) of the useful waste (paper and plastic) at source (in household) in comparison to the income generated by sale of the useful waste. It is evident that only in case collection, sorting and sales of useful waste with 0% impurities, it is possible to expect the profit for the useful waste collector, and indirectly for the household. In all other situations, the simulations of the cost calculation are presented where the cost of collection and later processing of the useful waste with the presence of impurities (unusable waste) only generates loss that cannot be compensated by the sale of useful waste.

It is evident that the share of impurities has a large impact on the potential income from sale of the useful waste (paper and plastic). The impurities are mostly a consequence of insufficient education of the population. The population is not familiar with the types and method of separation of the useful from other types of waste, e.g. by separating the inadequate waste into a container for the useful waste or by separating the useful waste (plastic) that was not emptied or washed from the content into a container, the entire container of the useful waste can be polluted and thus making the separated useful waste unusable.

Therefore, it can be concluded that the households may not expect the “benefit” of the separation of waste in the form of the reduced bills for collection, transport and disposal of mixed municipal waste, unless they are actively involved in the waste management system at their doorstep. It is expected that the adoption of the Municipal Waste Regulation<sup>17</sup> should encourage the citizens to separate the useful waste in the way that the collection and transport of mixed municipal waste will be charged in accordance with the quantity of the submitted mixed municipal waste. However, the financial effect for the beneficiary still has to be calculated in the future.

#### **4. An Individual as the Responsible Person – Recommendations for the Future Research**

Any assumption, approach, principle, priority order and other waste management baselines will not be sufficient for the accomplishment of the specified waste management goals without the full commitment of every individual. Every one of us should know, be able and be willing to be involved in the environment protection and to make the additional effort in reaching the specified waste management goals. All and any effort made in this sense as well as any additional work are a pledge for our future. Even though the environment protection together with the waste generation and disposal have been some of the most topical issues discussed on all social and governmental levels, it is undisputed that the knowledge of individuals about the basic assumptions and goals of the waste management and its impact to the environment and health of people is still not sufficient in the sense

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*baranjskoj županiji*, pp. 12 available at <http://www.otpad.eu/files/letci-gospodarenje-otpadom-ZA.pdf> accessed on 28 March 2017

<sup>15</sup> Average price of paper in the amount of HRK 0.45 per kg is calculated as an average price for mixed paper in the amount of HRK 0,30 per kg and newspapers, flyers, magazines in the amount of HRK 0,60 per kg available at <http://www.reomagrupa.hr/> accessed on 28 March 2017

<sup>16</sup> Average price of paper in the amount of HRK 0.45 per kg is calculated as an average price for mixed foil in the amount of HRK 0,50 per kg and transparent foil in the amount of HRK 1,20 per kg available at <http://www.reomagrupa.hr/> accessed on 28 March 2017

<sup>17</sup> Municipal Waste Regulation is at the time of writing this paper at a public hearing and is available on <https://esavjetovanja.gov.hr/Econ/MainScreen?EntityId=4992> accessed on 28 March 2017

of the level development of the environmental awareness of the individuals. Therefore, it is necessary to raise the awareness of people about aspects of the environmental effects of waste management, affect their behaviour and induce their sense of responsibility for their environment.

The approach that should be most productive in the long run is the education – it should encompass all age groups (from kindergarten children to pensioners), take place all the time (by means of a continuous campaign on the national level) and everywhere (in media, schools, companies, public spaces). Therefore, it is not surprising that one of the goals set by the Plan is the continuous implementation of the educational and informative activities by designing a program of the educational and informative activities in relation to the waste management, implementing the activities planned by such program and implementation of the national campaign on the sustainable waste management.

The goals should be that the responsible behaviour of individuals in their participation in waste management becomes something natural, something that they live and fully understand the consequences of irresponsible behaviour or failure to act for the environment and health of people, something that is developed and adjusted to the changes in the technological progress. The waste management goals that have been set can only be fully accomplished by the ecologically aware behaviour of individuals.

As an encouragement to such behaviour, this paper has shown that every individual should first start from him/herself in order to reduce the waste at source, so that eventually lower waste management cost could be expected.

## REFERENCES

European Commission (2010). Being wise with waste: the EU's approach to waste management, available at <http://ec.europa.eu/environment/waste/pdf/WASTE%20BROCHURE.pdf>, accessed on 22 March 2017

European Commission (2012). Screening of Waste Management Performance of EU Member States available at: [http://ec.europa.eu/environment/waste/studies/pdf/Screening\\_report.pdf](http://ec.europa.eu/environment/waste/studies/pdf/Screening_report.pdf), accessed on 22 March 2017

European Commission - DG ENV (2015). Assessment of Separate Collection Schemes in the 28 Capitals of the EU. Final Report. Available at: [http://ec.europa.eu/environment/waste/studies/pdf/Separate%20collection\\_Final%20Report.pdf](http://ec.europa.eu/environment/waste/studies/pdf/Separate%20collection_Final%20Report.pdf), accessed on 22 March 2017

Feller, G. (2010). Dutch Successes: What are the secret ingredients that make the Dutch system so good when it comes to waste management and recycling?, available at: <https://waste-management-world.com/a/dutch-successes>, accessed on 22 March 2017

Croatian Agency for the Environment and Nature (2015). The methodology of determining the composition and quantity of the municipal i.e. mixed municipal waste, available at: <http://www.azo.hr/MetodologijaZaOdredivanjeSastavaKomunalnog>, accessed on 22 March 2017.

Croatian Agency for the Environment and Nature (2016a). Municipal waste report 2014, available at: [www.azo.hr/lgs.axd?t=16&id=5819](http://www.azo.hr/lgs.axd?t=16&id=5819), accessed on 22 March 2017.

Croatian Agency for the Environment and Nature (2016b). Municipal waste report 2015, available at: <http://www.azo.hr/Izvjesca14>, accessed on 22 March 2017.

Ministry of Housing, Spatial Planning and the Environment (2001). General Policy in Waste, Waste in the Netherlands, available at: <http://www.wbcsdcement.org/pdf/tf2/01GenPolonWaste.pdf>, accessed on 22 March 2017.

Republic of Croatia Waste Management Plan 2017-2022, Official Gazette No. 03/2017

Waste Management Ordinance, Official Gazette No. 23/2014, 51/2014 - corrigendum, 121/2014, 132/14 – corrigendum

Watson, S. (2013). Making the waste hierarchy: just Ad Lanskin. Intervju, dostupno na <http://www.isonomia.co.uk/?p=2556>, pristupljeno 22.03.2017.

Zakon o održivom gospodarenju otpadom (Sustainable Waste Management Act), Official Gazette No. 94/2013



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**FODDER AS A BIOFUEL: COST EFFECTIVENESS OF POWERING  
HORSES IN PLOWING OPERATION****KRMA KAO BIOGORIVO: TROŠKOVNA UČINKOVITOST POGONA  
KONJA U OPERACIJI ORANJA*****ABSTRACT***

*The aim of the research was to compare the cost effectiveness of a fodder with a petroleum diesel fuel in powering the most fundamental soil tillage operation: plowing. Fodder was considered as a biofuel for biological combustion in live work animals, i.e. draft horses, which convert the chemical energy of organic compounds of fodder into useful mechanical work for soil tillage. Consumption either of fodder or diesel fuel per unit of plowed land was multiplied with the purchase price of each "fuel" to project costs and compare cost effectiveness. The projections were calculated for two types of soil considering their easiness for tillage: medium light soil and heavy soil. In both projections (for the medium light soils and heavy soils), the fodder as a biofuel*

*has shown a greater cost effectiveness due to consistently lower cost per unit of plowed land area. The fodder costs for plowing medium light soils were estimated between 34.78 HRK/ha and 90.61 HRK/ha, while the diesel fuel costs were estimated between 126.42 HRK/ha and 155.33 HRK/ha. Fodder costs for plowing heavy soils were estimated between 90.00 HRK/ha and 158.20 HRK/ha, while the diesel fuel costs were estimated between 287.63 HRK/ha and 363.09 HRK/ha. Projected variations of fodder costs per unit of plowed land area were due to expected variation of purchase price of fodders (meadow hay and oats), and variations in fodder consumption due to various horse breeds employed and nutrition management. Variations in diesel fuel costs per unit of plowed land area were due to different reported values of fuel consumption in the published researches. For the overall appraisal of economics of horse-powered work in agriculture, and for a more reliable comparison of the cost effectiveness between horse traction and diesel-engine powered traction, there should be considered horses' fixed costs too, like a fodder in idle days, depreciation, housing, shoeing, and veterinarian.*

*Since the research results are based on literature published data for diesel fuel, and for fodder are based mainly on data collected by interviews, there appears a need to continue this research in field trials. This would provide exact measurements of work capacity and fodder consumption of working horses.*

**Key words:** biofuel, soil tillage, cost effectiveness, sustainability.

## SAŽETAK

Cilj istraživanja bio je usporediti troškovnu učinkovitost krme i dizelskog goriva u pogonu osnovne operacije obrade tla: oranju. Krma se u smislu ovog rada smatra kao biogorivo za biološko sagorijevanje u živim životinjama, t.j. vučnim konjima, koji pretvaraju kemijsku energiju organskih spojeva iz krme u korisni mehanički rad za obradu tla. Potrošnja krme i dizelskog goriva po jedinici preoranoga tla pomnožena je s kupovnom cijenom svakoga „goriva“ kako bi se projicirali troškovi i usporedila troškovna učinkovitost. Projekcije su izračunate za dva tipa tla obzirom na lakoću obrade: srednje lako tlo i teško tlo. Kod obje projekcije (za srednje laka tla i teška tla), krma kao biogorivo pokazala je veću troškovnu učinkovitost zbog uvijek niže cijene koštanja po jedinici površine pooranog tla. Troškovi krme kod oranja srednje lakih tala procijenjeni su u rasponu od 34,78 HRK/ha do 90,61 HRK/ha, dok su troškovi dizelskog goriva procijenjeni od 126,42 HRK/ha do 155,33 HRK/ha. Troškovi krme kod oranja teških tala procijenjeni su u rasponu od 90,00 HRK/ha do 158,20 HRK/ha, dok su troškovi dizelskog goriva procijenjeni od 287,63 HRK/ha do 363,09 HRK/ha. Projicirane varijacije troškova krme po jedinici površine pooranog tla posljedica su očekivanih varijacija kupovne cijene krmiva (livadno sijeno i zob), i varijacija u konzumiranoj količini uslijed različite tjelesne mase konja korištenih konja i različite hranidbene prakse. Varijacije troškova dizelskog goriva po jedinici površine pooranog tla posljedica su razlika u objavljenim rezultatima istraživanja potrošnje dizelskog goriva po jedinici površine. Za sveobuhvatnu ocjenu ekonomičnosti konjskog pogona u poljoprivredi, te pouzdaniju usporedbu troškovne učinkovitosti konjske i traktorske vuče, bilo bi potrebno razmotriti i fiksne troškove, poput troška krme u neradnim danima, amortizacije životinja, smještaja životinja, potkivanja i veterinara.

S obzirom da su rezultati istraživanja zasnovani na podacima iz literature za potrošnju dizelskog goriva, te na podacima iz intervjua za potrošnju i radni učinak konja, pojavljuje se potreba za nastavkom ovoga istraživanja kroz poljske pokuse. Istima bi se došlo do egzaktnih mjerenja radnih učinaka i potrošnje krmiva kod radnih konja.

**Ključne riječi:** biogorivo, obrada tla, troškovna učinkovitost, održivost.

## 1. Introduction

Biofuels are achieving a great attention during the last few decades because of increased concern of scientists, policy makers and public for the sustainability issues. Almost all of the research attention is currently dedicated to technologically sophisticated solutions that are mainly used to generate biofuels for fueling internal combustion engines. Despite the efforts of science, governments and industry, share of biofuels in total consumption is still minor. Among the obstacles for a broader consumption of biofuels, there is their relatively higher cost of production when compared to conventional petroleum fuels. In order to increase the share of biofuels in total fuels consumption, the policy makers have introduced subsidies to biofuels production (Ivanović et al., 2016), thus enhancing their apparent cost effectiveness. In the shadow of high-tech biofuels, the fodder seems to be overlooked as an ancient “biofuel” that was used to power or “fuel” working animals, which were converting the chemical energy of organic compounds of fodder into the useful mechanical work. Generally, all the fuels are coming at a certain cost and they possess the capability for being converted into a useful work. Aim of this research is to compare the cost effectiveness of fodder with petroleum diesel fuel in powering a plowing operation.

## 2. Material and methods

According to Luthra (2011), cost effectiveness is relationship between monetary inputs and the desired outcome. Monetary inputs in this research are represented by the projected costs either of petroleum diesel fuel or fodder consumed for powering the plowing operation per unit of land area. Therefore, the unit of plowed land area stands for a desired outcome. In the sense of this research, the cost effectiveness either of fodder or petroleum diesel fuel is considered reciprocally to the Luthra’s (2011.) definition because the values obtained in that way do better reflect the effects of costs in producing the desired outcome.

Expressions used to calculate the cost effectiveness are given below:

1. for fodder:  $C_E [\text{ha}/\text{HRK}] = \text{Outcome} [\text{ha}/\text{day}] / \text{Costs of fodder} [\text{HRK}/\text{day}]$
2. for petroleum diesel fuel:  $C_E [\text{ha}/\text{HRK}] = \{\text{Retail price of fuel} [\text{HRK}/\text{l}] \times \text{Fuel consumption per unit of outcome} [\text{l}/\text{ha}]\}^{-1}$

The data about feasible outcome from horses’ employment (daily plowed land area in ha), daily fodder consumption and costs of fodder were obtained from literature, e-mail correspondence and personal communication. The data about tractors’ work rate (ha/h) and fuel consumption (l/ha) were obtained from the previously published researches.

Purchase prices of fodder for horses were obtained by personal communication with Mr. Nidal Korabi, the manager of the National lipizzan stud farms in Đakovo and Lipik, and Ms. Viktorija Bulić, the president of the Equestrian club “Hercules” of Vuka with operating a horse-riding school in the village Bilje.

## 3. Results

### 3.1. Purchase price of fodder and fuel

Purchase price of fodder in last five years varied with the location of delivery (Table 1.) and source of information, i.e. buyer and his capability to negotiate the purchase price. High prices were obtained in years after drought because of shortage of fodder, while the low prices were in years of abundance.

**Table 1** Purchase prices of fodder for horses in HRK/kg (last five years)

| Reference            | Delivery <i>fco</i> | Meadow hay |      | Oat grain |      | Maize grain |      |
|----------------------|---------------------|------------|------|-----------|------|-------------|------|
|                      |                     | Low        | High | Low       | High | Low         | High |
| Mr. Nidal Korabi*    | Đakovo              | 0.50       | 1.20 | 1.20      | 1.68 |             |      |
| Mr. Nidal Korabi*    | Lipik               | 0.74       | 0.90 | 1.25      | 1.40 |             |      |
| Ms. Viktorija Bulić* | Bilje               | 0.50       | 1.20 | 1.00      | 2.00 |             |      |
| TISUP (2017.)**      | Croatia             |            |      |           |      | 0.75        | 1.26 |
|                      | Expected range      | 0.50       | 1.20 | 1.00      | 2.00 | 0.75        | 1.26 |

\* data obtained by personal communication via phone call in February 2017.  
\*\* in the last three years. Croatian Market Information System in Agriculture

Source: Author's

The expected range of purchase prices for each fodder will be considered between minimum and maximum presented in the table above (Table 1.).

Purchase prices of agricultural diesel (popularly called “blue diesel”) in February 2017 are found to be between 4.88 and 4.96 HRK/l (HAK, 2017), depending on the seller. There are no available reports on historical prices, but they were likely between 3.00 and 5.00 HRK/l, according to Mr. Franjo Nemet, farmer from the Tenja village (personal communication). There is no forecast for the future prices of agricultural diesel, and therefore the price is deemed to be constant, about 4.9 HRK/l.

### 3.2. Consumption and costs of fodder

In a working day with plowing, there is required above average consumption of fodder to satisfy the energy needs of working animals (Fouts, 2008.). Feeding practice in such a working day varies according to the source of information (Table 2.).

**Table 2** Consumption of fodder in a working day with plowing

| Reference     | Body weight [kg/horse] | Per a horse  |              |                | Per a pair of horses |              |                |
|---------------|------------------------|--------------|--------------|----------------|----------------------|--------------|----------------|
|               |                        | Hay [kg/day] | Oat [kg/day] | Maize [kg/day] | Hay [kg/day]         | Oat [kg/day] | Maize [kg/day] |
| Jarić (2014.) | 500                    | 10*          | 5            | -              | 20*                  | 10           | -              |
| Grgić (2017.) | 800                    | 16           | 9            | -              | 36                   | 18           | -              |
| Dugaja (**)   | 700                    | 15           | 2            | 3.2            | 30                   | 4            | 6.4            |

\* pure meadow hay or lucerne hay plus cereal straw (oat, wheat or barley straw)  
\*\* Personal conversation via phone call on 1<sup>st</sup> February 2017.

Source: Author's

Relatively lower feed intake in the case presented by Jarić (2014) can be explained by a lower body weight of traditional working horses in east Croatia, which were probably similar to Lipizzan breed (about 500 kg), Croatian Posavian breed (about 600 kg), or something in between them. Relatively greater feed intakes in the examples of Grgić (2017) and Dugaja were due to a very big body weights (700 to 800 kg/animal) of horses of Croatian Coldblood breed used in their examples.

Costs of diet for a pair of working horses in a working day with plowing (Table 3.) can be projected upon the expected consumption (Table 2.) and expected range of prices for each fodder (Table 1.).

**Table 3** Projected costs of diet for a pair of horses in a working day with plowing, for the expected range of consumption and purchase prices

| Diet example  | Body weight<br>[kg/horse] | Hay*<br>[HRK/day] | Oat*<br>[HRK/day] | Maize<br>[HRK/day] | Total<br>[HRK/day] |
|---------------|---------------------------|-------------------|-------------------|--------------------|--------------------|
| Jarić (2014.) | 500                       | 10.00-24.00       | 10.00-20.00       | -                  | 20.00-44.00        |
| Grgić (2017.) | 800                       | 18.00-43.20       | 18.00-36.00       | -                  | 36.00-79.20        |
| Dugaja (**)   | 700                       | 15.00-36.00       | 4.00-8.00         | 4.80-8.10          | 23.80-52.10        |

\* Values are the products of unit price (Table 1) and daily consumption (Table 2), with respect to the expected range  
 \*\* Personal conversation via phone call on the 1<sup>st</sup> February 2017

Source: Author's

### 3.3. Work outcome of horses

The plowing operation in east Croatia about 50 years ago was usually performed by a pair of horses (Jarić, 2014) which were capable of plowing a land area of one Croatian acre (what equals to 0.575 ha), or a little more, per a working day. One horseman was required to lead the horses and direct the plow. According to Mr. Ivan Dugaja of village Čadavica (personal communication, February 2017), his horses are still capable to plow at least 0.575 ha/day in the autumn. The soils of Čadavica village are considered light with relatively low plowing resistance. On heavier soils daily working rate is usually lower because of higher plowing resistance. Thus, according to Grgić (2017) in the surrounding of Kutjevo, on the heavy soil, where the plowing resistance is greater, the work rate of pair of horses in plowing is from 0.4 to 0.5 ha/day. The time required to plow an area of 0.575 ha is relatively long because the traditional horse-pulled plow in Croatia has only one plough bottom with working width of 25 cm (Vojvodić et al., 1992). Therefore the distance required to be passed by a pulled plow is 22.8 km/0.57 ha. With assumed speed of plowing 4 km/h, the required time of effective plowing would be 5.7 hours per 0.575 ha. Practically, the total time required for plowing 0.575 ha is greater than effective plowing time since the plow, upon completing one furrow, has to be turned into another. Therefore the daily outcome (per 8 working hours) is expected to be about 0.575 ha on soils which allow the speed 4 km/ha (medium soils). On heavy soils the daily outcome is lesser because of slower speed of plowing.

### 3.4. Cost of fodder in powering the plowing operation

According to the projected daily feed costs (Table 3) and expected work rate there were derived projections for costs of fodder per unit of plowed land area (Table 4).

**Table 4** Projected costs of fodder per unit of plowed land area

| Soil heaviness | Projected daily costs of fodder*<br>[HRK/day] | Expected work rate<br>[ha/day] | Costs of fodder<br>[HRK/ha] |
|----------------|---|--------------------------------|-----------------------------|
| Heavy          | 36.00-79.20                                   | 0.400 to 0.500                 | 90.00 to 158.40             |
| Medium light   | 20.00-52.10                                   | 0.575                          | 34.78 to 90.61              |

\* Data taken from the Table 3.

Source: Author's

### 3.5. Petroleum diesel fuel consumption and cost of fuel

Many researches have shown that fuel consumption strongly depends on the soil heaviness. Considering the diesel engine powered tractor, findings presented in the Table 5 can be indicative for the Croatian conditions.

**Table 5** Projected consumption of petroleum diesel fuel in plowing and its cost per unit of plowed land area

| Reference                   | Location      | Soil heaviness | Plowing depth [cm] | Diesel fuel consumption [l/ha] | Projected costs of fuel* [HRK/ha] |
|-----------------------------|---------------|----------------|--------------------|--------------------------------|-----------------------------------|
| Filipović et al. (2005)     | Nova Gradiška | Heavy          | 25                 | 43.8 to 65.9                   | 214.62 to 322.91                  |
|                             |               |                | 30                 | 58.7 to 74.1                   | 287.63 to 363.09                  |
| Momirović et al. (2011)     | Beograd       | Medium         | 30                 | 35.7                           | 174.93                            |
| Košutić et al. (2006)       | Našice        | Medium light   | 30                 | 27.2 to 28.3                   | 133.28 to 138.67                  |
| Horvat and Filipović (2006) | Baranja       | Medium light   | 30                 | 25.8 to 31.7                   | 126.42 to 155.33                  |

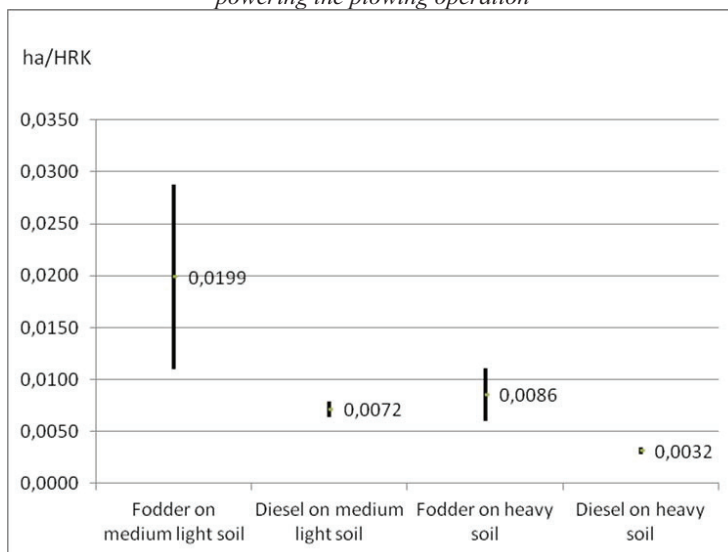
\* Values are the products of consumption and unit price of 4.90 HRK/l

Source: Author's

### 3.6. Cost effectiveness of fodder and petroleum diesel fuel

The projections derived in this research indicate that the same monetary input (1 HRK) will produce varying outcomes in plowing the land (i.e. varying plowed land area). The highest cost effectiveness was projected for the fodder being used to power the plowing operation, on medium light soil (Figure 1), while the lowest cost efficiency was projected for petroleum diesel fuel used to power the plowing operation on heavy soil. The Figure shows projected ranges of cost effectiveness and medium values of the projected ranges.

**Figure 1** Projected ranges for the cost effectiveness of either fodder or petroleum diesel fuel in powering the plowing operation



Labeled values denote mediums of the projected ranges. Values are reciprocal to the costs of either fodder (Table 4) or diesel fuel (Table 5) per unit of plowed land area.

Source: Author's

Greater variation intervals for the projected cost effectiveness of fodder were due to the expected variation of fodder purchase prices and animal nutrition management, while the short variation

intervals of diesel cost effectiveness are the consequence of the expected fixed price of agricultural diesel.

#### 4. Discussion

The observed difference between costs of fodder and cost of petroleum diesel fuel per unit of plowed land area indicates that use of horses and fodder for powering the soil tillage can give a certain advantage in the cost efficiency, especially if a farmer is capable to achieve the low purchase prices of fodder. Achievement of the low purchase prices of fodder depends on the farmers' financial capability to purchase the goods when they are cheap – usually at the time of harvest.

The research has included fodder costs for the days when horses are expected to do the plowing work at their full capacity only. Previous research of Jarić (2014) has indicated that there can be many days in a year when horses are idle, but still need to consume fodder, although in a lesser value (grains can be omitted). Costs of fodder consumed in a days when idle may be considered as a fixed costs, similarly to the fixed costs of a tractor (costs of maintenance, registration, depreciation, housing, etc.). For the overall appraisal of economics of horse-powered work in agriculture there should be considered horses' fixed costs too, like a fodder in idle days, depreciation, housing, shoeing, and veterinarian). This indicates that a broader investigation has to be undertaken to provide for a more reliable comparison of the cost effectiveness between horse traction and diesel-engine powered traction.

For the long-term economic appraisal there should be considered a beneficial effects of healing the soil compaction induced by a heavy machinery and consequent improvement of the soil's water holding capacity for the drought periods and overall fertility (Gantner et al., 2014).

#### 5. Conclusions

Fodder as a biofuel has shown a greater cost effectiveness due to consistently lower costs per unit of plowed land area. The fodder costs for plowing medium light soils were estimated between 34.78 HRK/ha and 90.61 HRK/ha, while the diesel fuel costs were estimated between 126.42 HRK/ha and 155.33 HRK/ha. Fodder costs for plowing heavy soils were estimated between 90.00 HRK/ha and 158.20 HRK/ha, while the diesel fuel costs were estimated between 287.63 HRK/ha and 363.09 HRK/ha. Projected variations of fodder costs per unit of plowed land area were due to expected variation of purchase price of fodders (meadow hay and oats), and variations in fodder consumption due to various horse breeds employed and nutrition management. Variations in diesel fuel costs per unit of plowed land area were due to different reported values of fuel consumption in the published researches. Since the research results are based on literature published data for diesel fuel, and for fodder are based mainly on data collected by interviews, there appears a need to continue this research in field trials. This would provide exact measurements of work capacity and fodder consumption of working horses.

#### REFERENCES

Filipović, D.; Košutić, S.; Gospodarić, Z. (2005): *Utrošak energije u konvencionalnoj obradi praškasto-glinastog tla u zapadnoj Slavoniji*. (title in English: Consumption of energy in conventional tillage of silt-clay soil in west Slavonija). *Agronomski glasnik* 5/2005. pp.383-392.

Fouts, J. D. (2008.): *Draft Horse Handbook*. Washington State University Extension. <http://koltsnkitties.org/horse/State/Draft1135.pdf> visited on 7th February 2017.



Gantner, R.; Baban, M.; Glavaš, H.; Ivanović, M.; Schlechter, P.; Šumanovac, L.; Zimmer, D. (2014.): **Indices of sustainability of horse traction in agriculture**. In: Proceedings of the 3rd International Scientific Symposium Economy of Eastern Croatia - Vision and Growth. Osijek, Hrvatska, 22-24.05.2014. University J. J. Strossmayer in Osijek, Faculty of Economy. pp.616-626.

Grgić, I. (2017.): **RE: Energetska efikasnost konja u oranju**. E-mail message from Ivan Grgić [grgic@krauthaker.hr] to Ranko Gantner [rgantner@pfos.hr] on Thursday, January 26, 2017 9:24 AM

HAK (2017): **Cijene goriva**. (title in English: Fuel Prices). Hrvatski auto klub (Croatian automotive club) official web-site. <http://www.hak.hr/info/cijene-goriva/> (accessed 3rd February 2017)

Horvat, Z.; Filipović, D. (2006): **Usporedba oranja standardnim i navarenim lemešima na pjeskovito-glinastom tlu u Baranji** (engl. Comparison of ploughing with standard and welded ploughshares on sandy clay soil in Baranja). *Agronomski glasnik* 5/2006. pp.371-380.

Ivanović, M.; Glavaš, H.; Gantner, R. (2016.): **Biofuels in Croatia**. *Journal of Microbiology & Microbial Technology* 1(2016). pp.1-5.

Jarić, D. (2014.): **Procjena potrebne površine zemljišta za proizvodnju krme za radnog konja** (in Croatian). (title in English: Estimation of required land area for fodder production for draft horse.) Bachelor's thesis. University J. J. Strossmayer in Osijek, Faculty of Agriculture in Osijek.

Košutić, S.; Filipović, D.; Gospodarić, Z.; Husnjak, S.; Zimmer, R.; Kovačev, I. (2006.): **Usporedba različitih sustava obrade tla u proizvodnji soje i ozime pšenice u Slavoniji**. (engl. Comparison of different soil tillage systems in soybean and winter wheat production in Slavonia). *Agronomski glasnik* 5/2006. pp.381-392.

Luthra, V. (2011.): **Business Dictionary**. WebFinance Inc. Fairfax. Na Internet adresi: <http://www.businessdictionary.com/definition/cost-effectiveness.html> (accessed 3rd february 2017)

Momirović, N.; Dolijanović, Ž.; Oljača, M. V.; Videnović, Ž. (2011.): **Višegodišnji uticaj različitih sistema obrade zemljišta na energetska efikasnost i prinos kukuruza**. (title in English: Long term effects of different tillage systems influencing yield and energy efficiency in maize (*Zea mays* L.). *Poljoprivredna tehnika* XXXVI (1). pp.97-104.

TISUP (2017): **Grains and oilseeds**. Market Information System in Agriculture. <http://www.tisup.mps.hr/Default.aspx>. (accessed 3rd February 2017)

Vojvodić, M.; Brkić, D.; Lukač, P. (1992.): **Mehanizacija poljoprivredne proizvodnje I**. (title in English: Machinery for Agricultural Production.). Proagrar Zemun. Beograd.

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## **STRATEGIC ENVIRONMENTAL ASSESSMENT AS A KEY INSTRUMENT FOR INVESTING IN RENEWABLE ENERGY PROGRAMS**

### **STRATEŠKA PROCJENA OKOLIŠA KAO KLJUČNI INSTRUMENT ZA ULAGANJE U PROGRAME OBNOVLJIVIH IZVORA ENERGIJE**

#### **ABSTRACT**

*In this paper strategic environmental assessment (SEA) will be shown as an undividable tool of valuating renewable energy sector. As we know the aim of the SEA is to improve quality and consistency of any program, especially using it as an environmental policy instrument, by transferring the feedbacks from experts and stakeholders to program makers. SEA is a useful instrument to emphasize potential positive environmental impacts of a program or policy and hamper measures that might be harmful for the environment, so SEA can improve the renewable energy program's and policy's environmental outcomes. According to the results of analysis our goal is to create private policy model for renewable energy programs based on the SEA. Summarizing the theoretical and methodological framework of SEA in renewable energy programs in the international level, the paper analysis necessary target points for its implementation in the Republic of Armenia and Eastern Croatia, and simultaneously provides arguments for transformation of the current structure of assessment in the renewable energy policies and programs, also in development polices in line with the principles of sustainable development and green economy. The research method used in the article is based on analysis of the data gathered during the literature review.*

**Key words:** *strategic assessment, environmental policy, renewable energy, sustainability.*

#### **SAŽETAK**

*U ovom radu prikazat ćemo stratešku procjenu okoliša (SPO) kao jedinstven alat za vrednovanje sektora obnovljivih izvora energije. Kao što je poznato, cilj SPO je poboljšati kvalitetu i dosljednost bilo kojeg programa, posebice kada se koristi kao instrument politike okoliša, prenošenjem*

*povratnih informacija stručnjaka i dionika tvorcima programa. SPO je koristan instrument za isticanje potencijalnih pozitivnih učinaka programa ili politike na okoliš, kao i za sprječavanje mjera koje bi mogle biti štetne za okoliš, te stoga može poboljšati ekološke ishode programa i politika obnovljivih izvora energije. Na temelju rezultata analize, naš cilj je stvoriti privatni model politike za programe obnovljivih izvora energije, koji se temelji na SPO. Sažimajući teoretski i metodološki okvir SPO u programima obnovljivih izvora energije na međunarodnoj razini, rad analizira za neophodne ciljne točke za njenu provedbu u Republici Armeniji i istočnoj Hrvatskoj, te istovremeno pruža argumente za transformaciju postojeće strukture procjenjivanja politika i programa obnovljivih izvora energije, kao i u razvojnim politikama, u skladu s principima održivog razvoja i zelene ekonomije. Metoda istraživanja korištena u članku temelji se na analizi podataka prikupljenih tijekom pregleda literature.*

***Ključne riječi:*** strateška procjena, politika okoliša, obnovljivi izvori energije, održivost.

## **1. Introduction**

Striving for faster development we don't even notice that the economical development and environmental degradation are going parallel to each other, hand in hand. Unlimited demand of consuming is contradistinguished with the meaning of limited natural resources. Pursuant to aforementioned, the demand of goods production is limited by non-renewable limited resources. However, as to minimize this gap between consuming and non-renewable resources, also for having economical and ecological sustainability starting from 20th century there were rising interest in processing renewable energy technologies and instruments for assessing the focused sphere. In order to support their faster investment in economic development by variety of measures, and also in order to monitor that development taking into account their influence on environment, many developing strategic documents were and now is formed for controlling the entire system in worldwide. Thereupon, Strategic Environmental Assessment is also one of the problem solving instruments in credible operational programs. Both Croatia and Armenia, are interested in cooperation with world institutions especially with EU. However, being a transition countries, the strategic documents by their role and the importance for the economy are basically different from the European ones, but they are trying to align its strategic documents with those of the EU. Therefore the purpose of this study is to analyze the role and importance of Strategic Environmental Assessment (SEA) and consider their role in renewable energy sector's strategic documents. Also to find necessary target points for its implementation in the Republic of Armenia and in the Republic of Croatia (Eastern Croatia). Desk research and the reviewed literature are used to assess the effectiveness of implementation Strategic Environmental Assessment structure in the renewable energy policies and programs.

## **2. The Concept and Content of SEA**

Approaches to environmental problems have evolved greatly since the first pollution control laws were passed about 130 years ago (Ball and Bell, 1991). However, it is only in the last decade that the intrinsic interdependence of the economy and the environment, the global scale of environmental problems, and the necessity to consider environmental issues on an institutional as well as a technical level have been fully acknowledged. And one of the trends in the approach to

environmental issues was the increasing integration of environmental policies and regulations, and the growing coherence of institutional structures for dealing with the environment. The 1987 meeting of the Brundtland Commission and the 1992 Earth Summit in Rio de Janeiro were both major forums for discussing how environmental issues could be dealt with at a global level in an economic, equitable and holistic way (Riki, Elizabeth, Stewart, Donna, David, 1992). In 1989 SEA was introduced as a concept, and a term, in the context of a European research project as “the environmental assessments appropriate to policies, plans and programs [...] of a more strategic nature than those applicable to individual projects [...] likely to differ from them in several important respects” (Wood and Djeddour, 1989). Pursuant to aforementioned the term SEA was mentioned for the first time during the ESPO Convention and it laid a foundation for the introduction of SEA in 1991. However, later in Kiev (2003), the Espoo Convention was supplemented by a Protocol on Strategic Environmental Assessment. According to Protocol SEA is for certain plans, programs and even for polices, which can have significant environmental, also health implications.

Firstly it should be mentioned, at international level, there is no single, unambiguous definition of SEA. For example, SEA is defined as a strategic framework instrument that helps to create a development context towards sustainability (Maria, 2012), from another view SEA is a proactive approach to integrate environmental concerns and standards of due care into policy and plan-making (Barry, 2005). Put simply, it is best understood as a generic process that encompasses a family of tools and instruments with different names, forms and areas of application. However, the main proposition of SEA is to provide high quality environmental protection and to escape from costly mistakes. Furthermore, it promotes saving human and financial resources, to the extent that unrealizable and with unstable basis projects are excepted from the early stages. As it requires institutions to consider the consequences of a range of actions early on in the planning process, to choose the most appropriate action on environmental as well as socio-economic grounds, and to minimize any remaining environmental impacts (Riki, Elizabeth, Stewart, Donna, David, 1992). By requiring planning decisions to be made in a more rational and open way, SEA is likely to promote both equity and public participation.

The regulation of SEA procedure is carrying by Directive 2001/42/EC, which is known as the SEA Directive. However, each country should have its own regulation mechanisms according to countries characteristic features: economy development level, environmental protection policy evolution level, social and administrative progress level, policy making strategies and so on. Both the Republic of Armenia and the Republic of Croatia adopted SEA regulations aligned with the provisions of SEA Directive on environmental assessment of plans and programs and the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention).

According to the Art. 56. of the Environmental Protection Act the strategic environmental assessment has to be carried out for plans and programs adopted at the national and local (regional) level in the field of energy also, which is included renewable energy sector too. Parallel with it the renewable energy sector is regulated with the other EU Directive 2009/28/EC. The main purpose of which is to provide certainty for investors and to encourage continuous development of technologies which generate energy from all types of renewable sources. Deferring a decision about whether a target is mandatory until a future event takes place is thus not appropriate (EU Official Journal, 2009). For the aforementioned aim the SEA instrument is the best choice for investing in preparation of renewable energy policies. However, to obtain an energy model that supports energy from renewable sources there is a need to encourage also strategic cooperation between Member States, involving, as appropriate, regions and local authorities (EU Official Journal, 2009). Today’s concept of sustainable development, which are the main aim for creating new assessment tools and

to find eco-friendly ways of developing, enables the most developed countries to gain new competitive advantages, and developing countries are striving to achieve already processed models with their own interpretations following to the general guidelines.

## **2.1. Renewable Energy as a Strategic Resource**

Energy is a critical resource which is involved, directly or indirectly in the whole cycle of growth and have a significant role in survival of all living beings, also it plays a vital role in the socio-economic development and human welfare of a country. Energy has come to be known as a “strategic commodity” and any uncertainty about its supply can threaten the functioning of the economy and environment, for preventing this the World now striving to adopt technologies and policies for investing renewable energy sources in daily usage. Renewable energy resources exist over wide geographical areas, in contrast to other traditional sources, which are concentrated in a limited number of countries. Renewable energy sources using capital-intensive high-tech energy conversion (United Nations Development programme, 2000) include the sun, wind, the ocean through currents and waves, flowing water, geothermal heat, and a wide range of biological materials as diverse as waste saw-mill residue and sewage gas (Worley, 2014). The other characteristic is that even if their technologies are diverse, but all have the fundamental ability to provide virtually inexhaustible, emissions-free energy. Renewable energy sources involved in electricity generation participate with zero or near-to-zero emissions of greenhouse gases and other air pollutants (United Nations Development programme, 2000). Therefore acting now to embrace (invest) enlightened policies, we can create energy assessment systems that lead to a more equitable, environmentally sound, and economically viable world. Changing energy systems is a complex and long-term process— one which will require major and coordinated efforts by governments, businesses, and members of civil society. One of the challenges in integrating renewable energy systems is to attract strategic investment and the need to optimize strategic investment, creates the national priority to adopt a proactive approach to infrastructure development to ensure the sustainable and continued success of renewable energy development both in the Republic of Armenia and in the Republic of Croatia. These countries and countries in the same condition should find ways to avoid retracing the wasteful and destructive stages that have characterised industrialisation in the past. It will promote energy efficiency and renewables, and will encourage advanced technologies that offer alternatives for clean and safe energy supply and use.

As we have already mentioned there are several types of renewable energy sources. According to which, each country uses their own resources of technology to increase the potential of generating energy. We can see from the statistics, that Hydro power is the most important renewable electricity source and accounts for 46% of renewable electricity generation in the EU. Between 2011 and 2012 electricity from solar energy had an impressive growth of more than 50%, with its share in renewable electricity generation reaching 9%. Electricity from wind registered a growth of about 14% and electricity from biomass and waste of about 12% (European Commission, 2014). According to promote countries integration in using renewable energy EU Directive 2009/28/EC establishes the basis for achieving the EU’s 20% renewable energy target by 2020. Besides of it every country has its national target which is distinguishing by different starting points, renewable energy potential, and economic performance. Croatian national target level is coincide with EU target point - 20 % in gross final consumption of energy, however in 2015 its share of energy from renewables was 29 % (Eurostat, 2017). Which means that Croatia is among 11 countries have already reached the level required to meet their national 2020 targets. The Republic of Armenia has its own roadmap of developing renewable energy resource strategy. It defines short (2013), midterm

(2015), and long-term (beyond 2020) targets for the development of Renewable Energy sector as well as outlines specific steps towards achieving those targets. It is also being a transition country possessing few raw materials, and has no direct access to fossil energy and has to rely on their import (97% of prime energy sources). According to the statistics in 2010, in the Republic of Armenia electricity production from Renewable Energy sources were 310 GWh, in 2015 it rose till 740 GWh (Armenia Renewable Resources and Energy Efficiency Fund, 2014) by percents it were 13,45% of the gross production of electricity. Based on the predictions if in 2020 energy production from renewables will rise till 1500 GWh, in gross production of electricity the share from renewables will be 27.26%, which mean that Armenia also will achieve to EUs target point. The most common Renewable Source in both countries (Republic of Armenia, Republic of Croatia) till now is Hydro Power, as its share in total production is the highest based on water resources. However, solar energy is also in competition, but its share in final gross consumption is not higher connected with strategic investments and new technologies which should be developed and invested in the solar energy system.

In accordance with the aforementioned local authorities should assess the RE potential and constraints within their jurisdiction, also should begin to tailor their RE strategy and associated policies and objectives to suit the renewable resource available, having regard to:

• Infrastructural Constraints • Environmental Constraints • Technological and Spatial Constraints • Renewable Energy Potential within the Jurisdiction • National Renewable Energy Policy Targets and Ability to Contribute • Economic and Job Creation Objectives.

### **3. The Necessary Preconditions for the Implementation of the SEA Concept in the Republic of Armenia and in the Republic of Croatia (Eastern Croatia)**

In 2001, the European Union adopted Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the 'SEA Directive'). The SEA Directive requires certain plans and programmes which are likely to have significant environmental effects to undergo a formal environmental assessment. Also it is the process by which environmental considerations are required to be fully integrated into the preparation and adoption of certain plans and programmes. In addition to addressing the limitations of EIA and promoting more sustainable development, the adoption of the SEA Directive was driven by several other factors including the provisions of the Treaty establishing the European Community, the requirements of various conventions to which the EU was a signatory, and the desire to harmonize existing SEA practice across the EU (Steven, Jeremy, Andrew, 2010). Importantly, for a plan or programme to be subject to the Directive is that it must be required by legislative, regulatory or administrative provisions; if these conditions are not met, the Directive does not apply (Commission of the European Communities, undated). The countries for organizing and carrying SEA procedures are managing regulations based on the main purposes and principles of SEA Directive. In Croatia it is regulated in following regulations (Justice and Environment, 2012):

1. Environmental protection Act (O.G. No. 110/07)
2. Regulation on strategic environmental assessment of plans and programmes (O.G. No. 64/08)
3. Ordinance on the committee for strategic assessment (O.G. No. 70/08)
4. Regulation on information and participation of the public and public concerned in environmental matters (O.G. No. 64/08)
4. Ordinance on the committee for strategic assessment (O.G. No. 70/08)

5. List of persons eligible to be appointed members and deputy members of committees in procedures of strategic assessment, environmental impact assessment of projects and establishment of integrated environmental requirements (O.G No. 126/09, 65/12)

However, these regulations should be flexible during the assessment periods for having final results. According to the information from the Ministry of Environment Protection and Nature, there are 12 ongoing procedures, 6 full SEA procedures and 6 evaluation of the need for strategic assessment. Additionally, only one procedure is at the very end of the whole process, meaning that only final decision is still missing (Justice and Environment, 2012). Apparently, although the SEA procedure is envisaged in Croatian legislation since (2007) not one procedure is not finished yet.

In Armenia the situation is slight different. The legislation relating to SEA can be found in Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (2011), also in a new law Environmental Impact Assessment and Expertise (2014). According to these regulations strategic assessment of environmental impact is a procedure of comprehensive assessment of possible impacts resulting from implementation of strategic documents, which includes SEA report and definition of its preparatory and consultation, as well as considerations of their results (Azganoush, 2015).

Besides of it the Republic of Armenia yet has no legal obligations to integrate SEA Directives in its national legislation. Approximation of SEA Protocol provisions with National Legislation will promote gradual approximation with European principles and integration of national legislation with SEA directives.

SEA assessment system and its nature of impact prediction based on the qualitative research methods. According to which there is a common question which is about on efficiency of the strategic plans. Strategic assessment is carried out on the basis of the results set out in the strategic impact study. Unfortunately, their efficiency has not been monitored in yet. Due to the undeveloped communication model and, furthermore, due to the undeveloped model of controlling the strategic planning based on two-way approach, top down and bottom up, it is obvious that effectiveness and appropriateness of those strategic documents are as worse as their level is higher.

Both, effectiveness and appropriateness of strategic documents can be assessed through the results achieved by the end of the planning period. In order to control the process of strategy implementation, all relevant controlling elements of the strategic planning should be incorporated into the process. In order to realistically set the main purpose and the principles of strategic plan, all subjects in the planning chain should participate in the process and achieve commitment in every step of it.

SEA as a key instrument for renewable energy policies and programmes in both countries will lead to consideration of reasonable alternatives and its effects on the environment of implementing the plan and programmes. This could save time, cost and effort in a local authority's delivery of the renewable energy strategies. Implementation of SEA will result in positive multiplicative economic effects that could become long-term drivers of diversification and growth of the entire economy of Eastern Croatia and the Republic of Armenia. Also this tool is created in order to identify those areas with highest economic potential and highest social need, with this instrument to find appropriate ways for development of renewable energy resources will be reasonable and the results will be beforehand. However frequent changes in laws on renewable energy strategies and its implementing regulations deflect all sorts of investments and create a problem for economy in general, as well as in energetic. Clear visions and guidelines, appropriate methodology, legal security, expert staff that will write laws for the common good of all and following the global trends can generate success. Unfortunately, neither Eastern Croatia (as well as the whole Croatia), nor the



Republic of Armenia does not have any strategic planning system and therefore its development takes place randomly. As to prevent this situation also connected with controlling renewable energy resources only changes are required and only changes can bring together quality and prosperous development.

#### **4. Conclusion**

As the studies shown renewable energy becomes commercial energy during the processes of policy: energy which is traded in the marketplace and exchanged at the going market price. The main purpose is to increase the share of renewable energy sources in final energy consumption and increase energy efficiency, especially in the transition countries and countries which have lack of energy resources and are in dependency from the other countries. In this case the concept of strategic assessment is imposed as a desirable development model to investing in assessment of renewable energy policies and programmes. It will also promote for using renewable resources as a tool for sustainable development and will promote fast-tracked development and growth of social and economic infrastructure in renewable energy sector.

As we have already known the strategic documents of the EU are a prediction of future development, which implementation is based on the controlled model and with the controlled dynamic. However the strategic documents on the level of the European Union do not have the same role as those documents in transition countries. Thereupon, the strategic documents in transition economies such as Croatia or its region Eastern Croatia and the Republic of Armenia have an entirely different role, these documents are understood as a political task. According to prevent such kind of situation the countries should develop their own guidelines based on the characteristics of the national economy and environmental conditions. Otherwise, environmental damage will accelerate, inequity will increase, and global economic growth will be jeopardized. The healing methods between strategic assessment and renewable energy policies for Croatia and Armenia is creating a methodological based assessment concept that will enable optimal use of renewables and turn the existing comparative advantages into competitive strength.

#### **REFERENCES**

Ball, S. and Bell, S. (1991): *Environmental Law*, Blackstone Press Ltd, London

Therivel, R., Wilson, E., Thompson, S., Heaney, D., Pritchard D. (1992): *Strategic Environmental Assessment*, London

Wood C., Djeddour M., 1989: *Environmental assessment of policies, plans and programmes*. Interim report to the Commission of European Communities. EIA Centre, University of Manchester (final report submitted 1990, Contract No B6617-571-572-89).

Partidario. R. M., 2012: *Strategic Environmental Assessment Better Practice Guide-methodological guidance for strategic thinking in SEA*, Lisbon

Sadler B., 2005: *Strategic Environment Assessment at the Policy Level – Recent Progress, Current Status and Future Prospects*, Praha

Official Journal of the European Union, 2009: **DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC**

Worley Parsons (Resources & Energy), 2014: **Renewable Energy, Global Capability & Experience**, pp. 4-5.

United Nations Development Programme (2000): **World energy assessment: Energy and the challenge of sustainability**

Justice and Environment, 2012: **Implementation of the SEA Directive in Croatia: Case Study**, p. 3

European Commission, 2014: **EU Energy Markets in 2014**, Belgium, p. 12

Eurostat, 2017: **Renewable energy in the EU: Share of renewables in energy consumption in the EU still on the rise to almost 17% in 2015**

Armenian Renewable Resources and Energy Efficiency Fund, 2014: **Potential by Technology**  
<http://r2e2.am/en/2011/06/potential-by-technology/>

Steven Smith, Jeremy Richardson, Andrew McNab, 2010: **Towards a more efficient and effective use of Strategic Environmental Assessment and Sustainability Appraisal in spatial planning Final report**, Department for Communities and Local Government, London

Commission of the European Communities (undated). **Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment**  
[http://ec.europa.eu/environment/archives/eia/pdf/030923\\_sea\\_guidance.pdf](http://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf)

Azganoush Drnoyan, 2015: **Strategic Environmental Assessment Process in the Republic of Armenia: its regulatory legal field and implementation in practice, Yerevan**  
[https://www.unece.org/fileadmin/DAM/env/eia/meetings/2015/March\\_Seminar\\_on\\_the\\_application\\_of\\_SEA\\_in\\_Armenia/2324\\_March/AZganush\\_Dronyan\\_Presentation\\_2\\_SEA\\_Process\\_in\\_AM\\_English\\_EaPGREEN.pdf](https://www.unece.org/fileadmin/DAM/env/eia/meetings/2015/March_Seminar_on_the_application_of_SEA_in_Armenia/2324_March/AZganush_Dronyan_Presentation_2_SEA_Process_in_AM_English_EaPGREEN.pdf)

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## **THE ADVANTAGES AND DISADVANTAGES OF RENEWABLE ENERGY IN THE TOURIST DESTINATION**

### **PREDNOSTI I NEDOSTACI OBNOVLJIVIH IZVORA ENERGIJE U TURISTIČKOJ DESTINACIJI**

#### **ABSTRACT**

*Renewable energy (RE) contributes to environmental conservation, CO<sub>2</sub> emissions reduction and energy security; these are all advantages. However, a question arises regarding the aspects of everyday life and the types of economic activities on which renewable energy could have an adverse as well as a positive impact. This papers aims to examine both the advantages and disadvantages of renewable energy within a tourist destination. An analysis is conducted to identify all positive, potential and/or anticipated negative effects of renewable energy within the existing social and economic structure of a tourist destination. On the side of advantages, there are direct (primary) positive effects that can be quantitatively assessed and expressed in value with relative certainty, such as increase in the production of goods and services as a result of building new RE facilities, and benefits from savings on transportation costs. It is harder, however, to quantify or express in value the indirect (secondary) benefits, which most often occur in the form of external economies (external positive effects). Many of these benefits cannot be measured or assessed in value, as for example the increase of local activities, growing competition, importance to national security, enjoying the environment and clean air as a result of reduced pollution, etc. Certain disadvantages such as the expensive production of equipment and materials, impact on the soil or inconsistency can also be hard to quantify. Hence, on both sides there are indirect effects that cannot be measured (intangibles). In this sense and in terms of methodology, the paper has a descriptive, conceptual and analytic cognitive function. Cost-benefit analysis is used to demonstrate RE benefits and costs in the tourist destination. The authors conclude that the introduction of renewable energy contributes to the conservation of*

*economic, ecological and social values and helps to enhance the destination's potential for economic development and sustainability.*

**Key words:** *renewable energy, economic development, sustainability, tourism, cost-benefit analysis.*

## SAŽETAK

*Obnovljivi izvori energije pridonose očuvanju okoliša, smanjenju emisija CO<sub>2</sub>, energetske sigurnosti, što sve podrazumijeva njihove prednosti. Međutim postavlja se pitanje na koje sve aspekte svakodnevnog života i na koje djelatnosti obnovljivi izvori energije mogu osim pozitivnog imati i negativan učinak. Stoga je cilj rada istražiti prednosti, ali i nedostatke obnovljivih izvora energije na pristoru turističke destinacije. Provedenom analizom određuju se svi pozitivni, mogući i/ili očekivani negativni učinci obnovljivih izvora energije u postojeću društveno-gospodarsku strukturu turističke destinacije. Na strani koristi, postoje izravni (primarni) pozitivni učinci za koje se mogu relativno pouzdano vršiti kvantitativne procjene i vrijednosno izražavanje. To su na primjer povećanje proizvodnje dobara i usluga zbog izgradnje novog postrojenja za OIE, koristi od ušteda na troškovima prijevoza i sl. Međutim, neizravne (sekundarne) koristi, koje se najčešće javljaju u vidu eksternih ekonomija (eksternih pozitivnih učinaka), teško je kvantificirati i vrijednosno izražavati. Mnoge se ne mogu mjeriti ili vrijednosno procijeniti, kao na primjer povećanje lokalne aktivnosti, povećanje konkurentnosti, značenje za nacionalnu sigurnost, užitak u okolišu i čistom zraku zbog manjeg zagađenja i dr. Također je i neke nedostatke poput skupe proizvodnje opreme i materijala, utjecaja na tlo ili nestalnosti teško vrijednosno kvantificirati. Dakle, na obje strane postoje nemjerljivi neizravni učinci (intangibles). Upravo u ovom smislu rad metodološki sadrži opisnu, pojmovnu i analitičku spoznajnu funkciju. Metodom cost benefit analize dokazuju se koristi i troškovi obnovljivih izvora u turističkoj destinaciji. Autori zaključuju da uvođenje obnovljivih izvora energije doprinosi očuvanju ekonomskih, ekoloških i socijalnih vrijednosti te se povećava potencijal za ekonomski razvoj i održivost turističke destinacije.*

**Ključne riječi:** *obnovljivi izvori energije, ekonomski razvoj, održivi razvoj, turizam, cost benefit analiza.*

## 1. Introduction

The development of renewable energy capability is a central theme of the European Commission's energy policy (Klessmann et al., 2011, 7638). The reason behind this is two-fold: first, to meet international agreements regarding the reduction in emissions of harmful greenhouse gases such as carbon dioxide and, second, to ensure the security of energy supply. The Commission expects renewable energy sources to be economically competitive with conventional energy sources in the medium to long term (<https://ec.europa.eu>). The role of renewable energy is constantly growing, not only with regard to the world production of energy but also with regard to the conservation of the environment as a primary tourism resource. According to the World Bank (World Bank, 2012, 7), the tourism industry and its growth "comes with its own set of risks and challenges". Therefore, the need for the idea of renewable energy sources in tourist destinations is now more urgent than ever before (Gössling, 2000, 412; Mourmouris and Potolias, 2013, 524).

This paper aims to assess and evaluate renewable energy sources from the perspective of their social, demographic, economic, ecological, health-related and other effects. The purpose of the

paper is to analyse and assess socio-economic effects that are not, as a rule, included in economic feasibility studies. Unlike investment feasibility studies that are the primary interest of investors, a cost-benefit analysis makes it possible to understand renewable energy sources from the aspect of their potential impact on the space of a tourist destination and on people in the immediate environment. The analysis identifies all the positive as well as potential or anticipated negative effects of renewable energy within the existing socio-economic structure of a tourist destination. Cost-benefit analysis was chosen as the method of economic analysis in the research, to compare and evaluate all the advantages and disadvantage of renewable energy sources. This analysis is not used in investment projects, which deliver only direct commercial effects that can be measured and expressed quantitatively, but is applied primarily in projects that generate considerable indirect and immeasurable effects. Hence, cost-benefit analysis was selected as the method to be used in this paper. Although many authors have used this method, very few have studied renewable energy sources within the context of the tourist destination. Accordingly, this paper represents a scientific contribution to the literature of tourism and economic sustainable development. Furthermore, because this paper analyses the advantages and disadvantages that renewable energy sources bring to the local community and the tourist destination, it is also intended for stakeholders and decision makers.

## **2. Methodology – cost-benefit analysis**

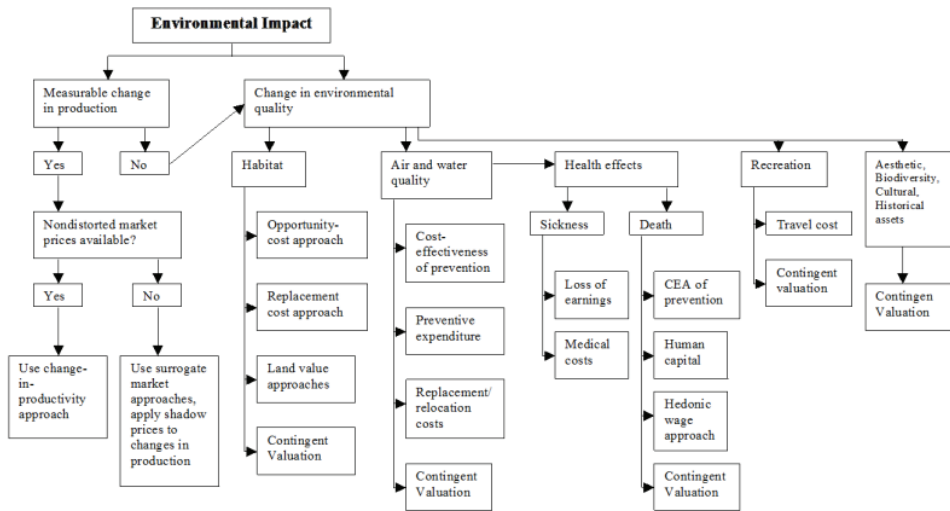
On the side of advantages, there are direct (primary) positive effects that can be quantitatively assessed and valued with relative certainty, such as increase in the production of goods and services as a result of building new RE facilities, and benefits from savings on transportation costs. It is harder, however, to quantify or value the indirect (secondary) benefits, which most often occur in the form of external economies (external positive effects). Many of these benefits cannot be measured or valued, as for example the increase of local activities, growing competition, importance to national security, enjoying the environment and clean air as a result of reduced pollution, etc. Hence, on the side of benefits, there are indirect effects (intangibles) that cannot be measured (Pašalić, 1999, 32). This makes it necessary to express immeasurable benefits as fully as possible with a qualitative (descriptive) assessment, in addition to quantitative and value elements. The qualitative traits that belong to a specific phenomenon are called discretionary features, which, in this case, can be linked to the concept of discretionary right and discretionary rate (Blažević, Krstinić Nižić, 2011, 648). Measuring is the act of connecting discrete, qualitative traits to quantitative traits; it provides a more accurate and complex description of a phenomenon. In the broadest of terms, measuring is the act of expressing the quantity of a thing in specific units, pre-defined accordingly to certain rules, for the purpose of comparing it to something else within the same phenomenon (Tomšić, 2014, 3). For anything to be measured, it must be expressed in quantified terms, and for anything to be compared with something else, the terms used to express the parts of the measured phenomenon must belong to a single classification. Accordingly, every measurement is a procedure that makes a given classification more precise and objective. In this respect, measuring has three cognitive functions (Afrić, 1988, 10):

- descriptive – measuring is a way of describing a phenomenon
- conceptual – measuring is a way of defining a phenomenon
- analytical – measuring is a way of understanding a phenomenon.

Non-monetary techniques for assessing costs and benefits have been developed alongside methods for the monetary assessment of costs and benefits (Ahlheim, 2002, 706). These techniques are used to establish values that cannot be expressed in monetary terms, but which a specific undertaking will have for the broader community. Non-monetary assessment of costs

and benefits is used to establish values that pertain to the environment, such as changes to the eco-system, employment, etc., and need to be taken into consideration.

*Figure 1 Economic Valuation Flow Chart*



*Source: Dixon, John A. (2012): Economic cost-benefit analysis (CBA) of project environmental impacts and mitigation measures: implementation guideline, IDB Technical Note; 428, pp. 8.*

Economic valuation is easier when an environmental externality results in a change in production for a good or service for which we can measure market prices. The more tangible and more direct the impacts are, the easier they are to value in economic terms. Examples of the “easier to value” environmental externalities include the following: Changes in production of crops, forestry, fisheries, ecosystem services; Air and water pollution and their impacts on health and production; Costs of alternative measures or mitigation actions (cost-side approaches); and Recreational use of natural habitats and environmental resources. Other types of environmental externalities are more difficult to value (Dixon, 2011). Unfortunately, many of the types of environmental impacts addressed by Directive B.9 fall into the “more difficult to value” group (Watkins, Graham and Iona Hawken, 2011). This does not mean that economic valuation is impossible—just that it is often more challenging. Economic valuation techniques exist that can be used to place values on these “more difficult to value” resources and there are many examples in the literature of such valuations (Atkinson and Mourato, 2014; Molinos-Senante et al., 2012; Ahlroth et al., 2011; Almansa, C., Martinez-Paz, J.M., 2011).

### 3. Advantages and benefits of renewable energy in the tourist destination

That renewable energy can provide advantages has been mentioned several times in this paper. The purpose of this section is to attempt to describe and, if possible, quantify, in one place, all the costs and benefits of renewable energy (UNEP, 2003; Ortega-Izquierdo and Rio, 2016)

*Table 1 Cost-benefit analysis: Benefits*

| EFFECT  | DESCRIPTION AND QUANTIFICATION   |
|---|--|
| Secure energy supply  | <p>Minimizing energy issues can be a key element of tourist satisfaction. The use of renewable energy sources reduces a given tourist destination's dependency on energy import (or dampens it, at least), thus making the supply of energy products more secure because they are <i>a priori</i> domestic. This is a very important feature for most European countries because their inherited energy import dependency is greater than 50% (<a href="http://ec.europa.eu/eurostat">http://ec.europa.eu/eurostat</a>). Energy costs are also stabilized.</p> <p><b>Quantification:</b> This effect is unmeasurable.</p>  |
| Employment  | <p>Fostering the use of renewable energy is important for improving legislative frameworks that will have an indirect effect on tourism. Because renewable energy stimulates employment, the EU has put in place a special program for the development of so-called green businesses (<a href="http://www.cedefop.europa.eu/">www.cedefop.europa.eu/</a>). The greater use of renewable energy is often seen as a source of supplementary domestic employment, which would grow with the increase of the domestic production of components or systems for the supply of energy from non-conventional sources, especially if energy exports were to account for a considerable share of production. Accordingly, efficiency should be equal to that of foreign models; prices, commensurable to imported competition; loan and tax support, similar to that enjoyed by foreign competitors, etc.</p> <p><b>Quantification:</b> Measurable effect. Measured by the number of jobs and income of employees.</p>   |
| Renewability and great potential                                    | <p>Renewable energy sources are sources whose average inflow is constantly replenished, notwithstanding certain deviations. These sources have great potential. For example, the amount of energy reaching the Croatian soil from the sun is 500 times greater than the annual consumption of all types of energy in Croatia (Kalea, 2009, 133). The potential of small-scale hydropower stations, however, is limited and simply cannot be found in a significant part of the world. Biomass, biogas and waste have greater potential than do small-scale hydropower stations but substantially less than the energy of sunlight. Geothermal energy shows limited potential, given the manner in which it is exploited at present. Its latent potential, however, is huge, providing an acceptable way of exploiting the heat from the depths of the Earth is found. In Mediterranean tourist destinations, the usability of solar energy is good (Refalo et al., 2017). Some renewable energy sources can also be exploited as tourist attractions, for example, solar energy in the monument Greetings to the Sun on the Zadar waterfront, or wave energy in the Sea Organ, also in Zadar.</p> <p><b>Quantification:</b> Not measurable in social sciences, but can be measured in natural sciences. Socio-economic efficiency is primarily analysed, while the field of natural and technical sciences is not looked into.</p> |
| No energy consumption needed to harness the original form of energy | <p>No energy is consumed either in harnessing the original form of energy (unlike coal mining, for example, that consumes considerable energy) or in transporting the original form (which is not possible, as a rule). A renewable energy source can be transformed into another, more advantageous form of energy simply by harnessing that source using the appropriate installation. Energy consumption, however, does occur with firewood, biomass and waste (and can be so significant to make exploitation uneconomical in terms of energy). For example, to get firewood, wood mass must be cut down and transported from the felling site to where it will be used or prepared for usage, and subsequently afforestation and tree cultivation will be needed. The situation is similar with biomass, biogas and waste, with the exception of cultivation expenditure, because cultivation occurs independently of any potential energy-related use. For example, straw is the result of the agricultural production of wheat; it can either be left to rot or it can be used in making energy. Hence, solar energy is a very acceptable choice in tourist destinations (Krstinić Nižić, Rudan, 2013, 95)</p> <p><b>Quantification:</b> Unmeasurable effect in social sciences, measurable effect in natural sciences. The substitution of electrical energy with solar energy can be measured.</p>                        |
| Environmental   | Environmental protection has become an issue vital to all of humanity and, with  |



| EFFECT                                    | DESCRIPTION AND QUANTIFICATION  |
|---|---|
| protection and concern for climate change | <p>regard to the development of economic activities, the impact of environmental protection is particularly reflected in a destination's ability to perform well in the market (Imran, Alam, Beaumont, 2014, 291). For a tourist destination, the quality of its environment is a precondition to growth and tourism development. Renewable energy sources can have direct advantages for the environment, especially in developing countries (through air quality, as a result of reduced emissions of CO<sub>2</sub> and other greenhouse gases). This is particularly important for tourist cities where the concentration of harmful gases is high. Many such cities are tourism hubs and transit destinations where tourists do not stay long because of ever-growing pollution. The use of fossil fuels and the emission of greenhouse gases adversely affect the global climate. Negative consequences such as flooding, drought, the growing number and intensity of storms, changes in climate zones and rising sea levels have a dramatic effect on tourism (Perić, Šverko Grdić, 2015, 290). The most vulnerable regions are islands and coasts, that is, primary tourist destinations. As a result of changes in climate zones and, in turn, changes in flora and fauna, many countries may lose the potentiality of their key tourist destinations.</p> <p><b>Quantification:</b> Reduction in emissions of CO<sub>2</sub> and other greenhouse gases; Financial savings from reduction of CO<sub>2</sub> emissions.</p>   |
| Prosperity and well-being of residents    | <p>The concept of the subjective measurement of well-being provides an additional or complementary value to the objective measurement expressed by the Gross Domestic Product. The classical measurement of well-being, while being objective, cannot express the level of happiness or satisfaction with quality of life that residents feel because of unpolluted air and a clean environment (Sandfier, Sutton-Grier, Ward, 2015). The effect the environment has on the health of residents can, however, drive residents to take an active stand in bringing about changes of a political nature.</p> <p>Electrical power providers, as the owners of electrical power-producing facilities, are obliged to pay compensation to the local self-government units in whose territories their facilities are located (Official Gazette 177/04, 76/07, 152/08, 22/13). The Government of the Republic of Croatia prescribes the amount of compensation and how it is distributed. At present, the charge, which the producers of electrical power from geothermal stations and small-scale hydropower stations are obliged to pay to local self-government units, amounts to HRK 0.795 per kWh of electrical power supplied (Official Gazette 72/15), while the compensation paid by the owners of wind power installations &gt;1 MW still amounts to HRK 0.1 per kWh (Official Gazette 33/07, 63/12, 121/12, 144/12, 33/13, 151/13, 20/14, 107/14, 100/15).</p> <p>This money can have a positive effect on the local community of a destination in whose territory, for example, a wind power installation is located, providing it is invested in development projects aimed to improve the living conditions of residents, particularly in those places where the impact of the wind power installation is the greatest. The construction and operation of the wind power installation will provide jobs to a certain number of people at the local level, and will provide opportunities for the growth of economic activities through the involvement of domestic firms.</p> <p><b>Quantification:</b> Prosperity – unmeasurable effect; compensation collected is a measurable effect regarding the well-being of residents in a tourist destination.</p> <p>The summary of the Environmental Impact Study for the Boraja wind power installation serves as an example. Experts have estimated that the investor is obliged to pay the local self-government a total of HRK 12,276,000.00 over a period of 12 years, in accordance with the criterion of HRK 0.01 per kWh of energy supplied and pursuant to the Croatian Energy Law and the Tariff system for the production of electrical power from renewable resources and co-generation (Official Gazette 33/07) (<a href="http://puo.mzopu.hr">http://puo.mzopu.hr</a>). The Environmental Impact Study for the Katuni wind power installation also shows that based on the annual production of about 42,000 kWh the local community would receive some HRK 420,000.00 of extra earnings, amounting to HRK 156.00 per capita of Šestanovac Municipality, that being 35% of the average budgetary revenue per capita of the same municipality in 2003 (<a href="http://puo.mzopu.hr">http://puo.mzopu.hr</a>). The average annual revenue of local communities from a 1 MV power plant (based on the production of electrical power) amounts to (Kulišić,</p> |

| EFFECT           | DESCRIPTION AND QUANTIFICATION  |
|------------------|---|
|                  | 2010): <ul style="list-style-type: none"> <li>- HRK 20,000 – 24,000 from a wind power installation</li> <li>- HRK 41,000 – 60,000 from a hydropower plant</li> <li>- HRK 82,000 – 87,600 from a geothermal power plant</li> </ul>   |
| A positive image | A RE system can give tourism a positive social image that can be used to attract future potential tourists. Hotels using solar energy for heating and cooling incur lower maintenance costs and provide a higher level of comfort. So, in terms of accounting, eco-investments at the destination level will principally be recognized at the hotel level as “image-related costs” (Peršić, 2005, 115) and as “interest-group relationship costs”. A model of a sustainable energy hotel has proven that its maintenance costs are lower relative to the maintenance costs of a conventional hotel.<br><b>Quantification:</b> unmeasurable effect |

*Source: Modified after the United Nations Environment Programme Division of Technology, Industry and Economics, Switched On: Renewable Energy Opportunities in the Tourism Industry, UNEP Publication, Paris, France, 2003, <http://www.uneptie.org/pc/tourism/documents/energy/front.pdf>, (10.03.2017)*

Depending on its geographic position, development index, political structure, development strategy and other factors, each tourist destination can assess for itself which advantages will also yield the greatest benefits for the local community.

#### 4. Disadvantages and costs of renewable energy in the tourist destination

Indirect (secondary) costs, which are considerable with regard to infrastructure and which emerge as external diseconomies (negative effects), are also not easy to quantify and value. Indirect costs include, for example, costs (damage) caused by noise, air pollution, the declining value of land, the shrinking number of recreational opportunities, the general disruption of the natural environment, and threats to the health and lives of people. Many of these costs are unmeasurable or cannot be expressed in value (intangibles) (Pašalić, 1999, 33). When analysing unmeasurable costs, it is recommended to have the fullest possible qualitative description (valuation) of these costs. On the cost side, opportunity costs also deserve consideration (McKay and Hafemeister, 2012).

While the previous sections of this paper follow a positive approach to renewable energy, the next section looks at the disadvantages and costs of introducing and using renewable energy in a tourist destination.

*Table 2 Cost-benefit analysis: Costs*

| EFFECT                                       | DESCRIPTION AND QUANTIFICATION  |
|--|---|
| Costly production of equipment and material  | If we consider not only the money but also the energy required to produce the equipment and materials needed to build a facility for utilising renewable energy sources, it becomes clear that certain sources will have to be exploited continuously over a number of years before they can become net producers. Cement, steel, glass, aluminium and a variety of other materials will need to be produced and that production requires energy. Because certain types of renewable energy sources require a lot of material (the foundations and carriers of photovoltaic (PV) cells and solar collectors, the PV cells and collectors, tall concrete or steel towers of wind turbines, access roads, etc.), the energy needed to produce those materials and equipment should not be overlooked. Although the amount of energy consumed in manufacturing PV cells is particularly high, there is a tendency that the prices of PV systems will fall and demand will grow.<br><b>Quantification:</b> Partially measurable effect. |
| Damage caused by the destruction of farmland | Damage caused by the destruction of farmland, an unrenewable natural resource, makes the local visual environmental load (facilities and wind turbines) important, all the more so if the site is located on a rise or mountain, requiring the building of  |

| EFFECT   | DESCRIPTION AND QUANTIFICATION   |
|--|--|
|  | <p>an access road that will permanently change the existing environment. Similarly, a large PV facility constructed on free ground can take up a huge area, forever burdening the panorama. The visual environmental load of the utilisation sites of all other types of renewable energy sources (small-scale hydropower plants, power plants or thermal power plants: geothermal or based on biomass, biogas or waste) does not differ in any significant way to that of conventional solutions.</p> <p><b>Quantification:</b> The effect is measurable if the cost of land is taken into consideration, but is partially unmeasurable because of difficult-to-measure damages and costs.</p>  |
| Impact on soil, underground and surface waters, and air quality  | <p>Negative effects are caused by work carried out during construction, and by vehicles moving over unpaved areas of land or construction sites. Increased vehicular traffic and the operation of machinery can additionally pollute the atmosphere with exhaust fumes. During construction, the soil and surface and underground waters might become contaminated due to the improper disposal of sanitary wastewater at the construction site, the use of faulty machinery, the burying of unused hazardous materials and their packaging, and the use of materials that dissolve in contact with soil and leach into underground water (Čulo, Skenderović, Šandrak Nukić, 2013, 78).</p> <p><b>Quantification:</b> Measuring is possible only during construction and during project preparation, because once the facility has been built and is operational, these effects cease to exist.</p>  |
| Effect on plant and animal life, and the effect of noise (wind turbines)   | <p>These effects are evident in the removal of the vegetation layer, changes in the fauna of a habitat, changes to the structure of the vegetation cover and plant species, and changes to the texture of the landscape.</p> <p><b>Quantification:</b> Despite being measurable, this effect can only be measured during construction, when machinery and vehicles are operated.</p>   |
| Effect on cultural and historical heritage   | <p>Elements of cultural and historical heritage could be threatened if they are located in the immediate or broader area of construction.</p> <p><b>Quantification:</b> Unmeasurable effect.</p>   |
| Effect on traffic  | <p>The delivery of construction material and equipment will result in the increased traffic of heavy and semi-heavy vehicles along access roads.</p> <p><b>Quantification:</b> The effect is partially measurable, but only during construction, in the form of difficulties in traffic and damage to roads caused by the circulation of vehicles with high axle loads.</p>  |
| Relationships with the residents of a destination  | <p>With regard to relationships with the residents of a destination, the following measures should be taken:</p> <ul style="list-style-type: none"> <li>- Ensure all necessary information is provided to all interested parties in an appropriate and easy-to-understand form.</li> <li>- Ensure unambiguous forms of communication (brochures, maps, visual and other material) that will clearly demonstrate and explain to all interested parties the changes that will be brought about by the introduction of renewable energy sources.</li> <li>- Organize public forums concerning the effects of renewable energy on the destination and, with the participation of local leaders and planning engineers, reply to all questions posed.</li> <li>- Ensure the participation of NGOs and all organized interest groups and together with them modify the details of the study, as required.</li> </ul> <p><b>Quantification:</b> The costs of the above activities are largely costs incurred by the investors, not the community. The costs incurred by the community will involve the cost of organizing public forums, workshops, etc. as well as the cost of time spent by participants.</p> |
| Low surface density of solar radiation, even lower density of biomass, biogas and waste, but slightly higher surface density of wind | <p>Only small-scale hydropower plants and geothermal sources have high surface density. An area of one square metre of ground in temperate latitudes receives between 1200 and 1600 kWh of solar radiation per year; when wheat is grown on that square metre, the resulting straw has an energy content of only 2 kWh (Kalea, 2009, 134). This cannot be compared to an oil well that annually pumps 100,000 tons and has an energy content of about one billion kWh but takes up a surface area of some few hundred square metres. However, the negative environmental externalities of an oil well are inversely proportional to its size.</p> <p><b>Quantification:</b> This effect is measurable in natural and technical sciences.</p>   |

| EFFECT  | DESCRIPTION AND QUANTIFICATION  |
|---|---|
| Impossible to transport   | <p>It is impossible to transport almost all types of renewable energy or to store them in their original form. They must be consumed on site and at the rate at which they are produced. Only firewood and other types of biomass and waste can be transported over reasonably long distances (the energy required for transport across overly long distances would exceed the energy content of the matter being transported, which would not be sensible in terms of energy) and can obviously be stored and used as needed. Biogas can also be stored.</p> <p><b>Quantification:</b> Unmeasurable effect.</p>  |
| Oscillations in natural flows                                   | <p>All renewable energy sources have great oscillations, with the exception of geothermal energy which has no oscillations and is a constant source. Biogas and waste are also almost constant sources. Firewood, as a source, oscillates to a lesser degree, and its ability to be stored helps to compensate for oscillations. Biomass matures almost immediately but, as a rule, it takes a year for the process to repeat itself. It helps that biomass can be stored. Wind oscillates between 0% and 100% and more, because wind turbines must be shut down during storms and when wind speed is very low. Because the power of a wind turbine is proportional to the cube of the wind speed, even a small change in speed causes a considerable change in power. Doubling the wind speed gives eight times the wind power. Solar radiation is also a source that oscillates between 0% and 100%, because there is no sunlight during the night. Small-scale hydropower plants may be located on watercourses that dry up under certain circumstances.</p> <p><b>Quantification:</b> This effect is measurable in natural and technical sciences.</p>  |
| Utilization period of installed capacities                      | <p>The annual ratio of energy generated and installed capacity is low for all RE sources with high natural oscillations because the facilities operate at full capacity for only a small part of the year. Energy storage systems need to be provided for all types of RE with a low annual capacity utilization rate. The energy stored can then be used when there is little or no influx and demand exists. Such systems can be used in solar energy utilization (storage in hot water tanks with good thermal insulation) or smaller quantities of electrical energy can be stored in batteries in PV systems or (possibly, in the future) in hydrogen as an electrical energy storage medium. Wind turbines in Germany receive so much wind that they could generate the energy needed for an entire year by operating at full capacity only one day out of five and shutting down the other four days. Larger quantities of electrical energy cannot be stored economically, because this would require massive energy storage systems, making energy too costly. Hence, electrical power grids or diesel generators are used as reserve solutions for almost all types of RE.</p> <p><b>Quantification:</b> This effect is measurable in technical sciences.</p> |
| Low efficiency rate of converting RE to a useful form of energy | <p>The efficiency rate of converting RE to a useful form of energy is lower than that of conventional energy sources. This especially applies to PV systems that have an average efficiency of only about 10% (for reasonably high priced PV cells). That means that 10 kWh of solar radiation are needed to obtain 1 kWh from PV cells. Small-scale hydropower plants, solar collectors and the direct (thermal) utilization of geothermal energy have higher efficiency rates. When using non-commercial fuel (biomass, biogas, waste), efficiency is slightly lower than in conventional facilities, because the latter have smaller generating units and simpler fuel preparation procedures, which make the installations less expensive.</p> <p><b>Quantification:</b> This effect is measurable in technical sciences.</p>   |

*Source: Modified after Kalea, M., Prednosti i nedostaci nekonvencionalnih izvora energije, EGE časopis za energetiku, gospodarstvo, ekologiju i etiku, 4/2009, pp. 132-135.*

Every tourist destination should put in place a cost management system and measure the relative energy efficiency of individual facilities (hotels, holiday flatlet complexes, campsites, etc.) to be able to constantly influence energy costs in the destination. Increased security requirements, rising living standards and increasingly numerous and more sophisticated IT equipment can have a substantial effect on the rise of energy costs. By introducing renewable energy sources, a destination can directly help to reduce annual energy costs through energy use control and by eliminating cost inefficiencies as well as by focusing future reconstruction and investment on

those parts of installations and facilities that are seen as having the greatest potential for saving energy (Wüstenhagen and Menichetti, 2012).

## 5. Conclusion

The costs and benefits discussed can be described as the types of benefits and costs that burden the broader or immediate community of a tourist destination and even future generations. Hence, it is recommended that in future research Generational Cost Benefit Analysis (GBA) should be applied as it provides support to environmental protection projects, investing today's efforts and costs to create advantages for future generations (Šliogeriene, 2015, 293). Clearly, GBA is based on the principles of sustainable development. It should be pointed out, however, that conventional cost-benefit analysis implies an assessment of society's willingness to accept the volume of costs (damage) in both the environment and for use of the environment, relative to the benefits that RE projects can provide for society. This means that society must be willing to accept certain costs (damage) in the environment and for the use of the environment, in return for economic growth and development, new jobs, the resolution of crucial issues in society, the improvement of living standards, and increases in Croatia's national budget revenue that each individual RE project will ensure. To keep costs at a reasonable level, it is necessary to assess impacts and select the most acceptable versions of RE projects. Cost-benefit analysis (together with the analysis of other influences) should make it possible to unambiguously decide whether society is willing to accept (pay) the costs (damage) that the introduction of renewable energy will cause for society (as well as the individual) relative to the benefits such projects will yield. Clearly, a low discretionary discount rate could help in making such a decision. Obviously, cost-benefit analysis is but one of many methods of analysis that is neither universal nor completely exact. As much as it is subject to arbitration because of its drawbacks, CBA nevertheless ensures uniformity of analytical procedure and contributes towards a more objective evaluation of projects than do simple profit considerations and the often across-the-board and subjective assessments of investment decision makers. To summarize, renewables are a crucial element for the future of tourism. The idea of renewable energy sources is important not only for tourism of today but, especially, for tourism of tomorrow.

## Acknowledgements

This paper has been financially supported by the University of Rijeka, for the project ZP UNIRI 4/16.

## REFERENCES

- Afrić, V. (1988): *Simbolički interakcionizam*, Revija za sociologiju, Vol. XIX, No. 1-2, pp. 1-13.
- Ahlheim, M. (2002): *Mjerenje troškova i koristi obnove i razvoja devastiranih područja* Financijska teorija i praksa Vol. 26, No. 3, pp. 691-711.
- Ahlroth, S., Nilsson, M., Finnveden, G., Hjelm, O., Hochschorner, E. (2011): *Weighting and valuation in selected environmental system analysis tools – suggestions for further developments*, Journal of Cleaner Production, Vol.19, pp. 145-156.

Almansa, C., Martinez-Paz, J.M. (2011): *What weight should be assigned to future environmental impacts? A probabilistic cost benefit analysis using recent advances on discounting*, Science of the Total Environment, Vol. 409, pp. 1305 – 1314.

Atkinson, G., Mourato, S. (2014): Environmental Cost-Benefit Analysis, Annual Reviews content online, p. 317-344.

[http://bioecon-network.org/pages/16th\\_2014/UNEP/Mourato\\_reading.pdf](http://bioecon-network.org/pages/16th_2014/UNEP/Mourato_reading.pdf) (18.03.2017.)

Blažević, B., Krstinić Nižić, M. (2011): *Evaluation of Investment Models by Application of Discretionary Rate – The Case of Renewable Energy in Tourism*, *Ekonomski pregled*, Hrvatsko društvo ekonomista – Ekonomski institut Zagreb, Zagreb, Vol.62, No. 11, pp. 636-661.

Čulo, K., Skenderović, V., Šandrak Nukić, I. (2013): *Metodologija izrade analize troškova i koristi u procjeni utjecaja na okoliš*, in Mustić, D., ed.: Društvo i tehnologija, Zagreb, pp. 78-79.

Dixon, John A. (2011): *Incorporating Environmental Costs and Benefits in Bank Projects: the application of economic valuation techniques*. Seminar materials presented at the IDB on 10 November, 2011. Washington, D.C.

Dixon, John A. (2012): *Economic cost-benefit analysis (CBA) of project environmental impacts and mitigation measures: implementation guideline*, IDB Technical Note; 428, pp.8  
Energy production and imports - Eurostat Statistics Explained  
[http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy\\_production\\_and\\_imports](http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_production_and_imports)  
(01.03.2017.)

European Commission – Renewable Energy <https://ec.europa.eu/energy/en/topics/renewable-energy> (15.03.2017.)

European Centre for the Development of Vocational Training, CEDEFOP, Skills for green jobs – European Synthesis Report (2010), European Union, [www.cedefop.europa.eu/files/3057\\_en.pdf](http://www.cedefop.europa.eu/files/3057_en.pdf) (10.03.2017.)

Gössling, S. (2000): *Sustainable tourism development in developing countries: Some aspects of energy use*, Journal Sustainable Tourism, vol. 8, pp. 410-425.

Imran, S., Khorshed, A., Beaumont, N. (2014): *Environmental orientations and environmental behaviour: Perceptions of protected area tourism stakeholders*, Tourism Management, Vol.40, pp. 290-299.

Kalea, M. (2009): *Prednosti i nedostaci nekonvencionalnih izvora energije*, EGE časopis za energetiku, gospodarstvo, ekologiju i etiku, Vol. 4, pp. 132-135.

Klessmann, C., Held, A., Rathmann, M., Ragwitz, M. (2011): *Status and perspectives of renewable energy policy and development in the European Union – What is needed to reach the 2020 targets?* Energy Policy, Vol. 39, pp. 7637-7657.

Krstinić Nižić, M., Rudan, E. (2013): *Economic Possibilities and Management of Solar Energy Use in Tourism*, Journal ECONOMIA. SERIA MANAGEMENT, vol. 16, Issue 1, pp. 93-105.

Kulišić, B. (2010), *Održivi razvitak lokalnih zajednica korištenjem OIE*, Energetski institut Hrvoje Požar, Zagreb, prezentacija na projektu Sustainable Mountains, radionica Poticaj korištenja obnovljivih izvora energije i racionalno korištenje energije u poljoprivredno-planinskim zajednicama u cilju održivog razvoja.

McKay, D.J.C., Hafermeister, D. (2012): *Sustainable Energy – Without the Hot Air*, American Journal of Physics, Vol. 78, pp.222

Ministarstvo zaštite okoliša i prostornog uređenja – Studija utjecaja na okoliš za vjetroelektranu Boraja, Ne-tehnički sažetak za javni uvid, Oikon d.o.o., Zagreb, lipanj, 2010.  
[http://puo.mzopu.hr/UserDocsImages/Sazetak\\_19\\_07\\_2010\\_1.pdf](http://puo.mzopu.hr/UserDocsImages/Sazetak_19_07_2010_1.pdf) (16.03.2017.)

Ministarstvo zaštite okoliša i prostornog uređenja – Studija o utjecaju na okoliš za vjetroelektranu Katuni, Ne-tehnički sažetak za javni uvid, APO d.o.o., Zagreb, veljača, 2010.  
[http://puo.mzopu.hr/UserDocsImages/Sazetak\\_17\\_03\\_2010\\_4.pdf](http://puo.mzopu.hr/UserDocsImages/Sazetak_17_03_2010_4.pdf) (16.03.2017.)

Molinos-Senante, M., Garrido-Baserba, M., Reif, R., Hernandez-Sancho, F., Poch, M. (2012): *Assessment of wastewater treatment plant design for small communities: Environmental and economic aspects*, Science of The Total Environment, Vol. 427-428, pp. 11-18.

Mourmouris, J.C., Potolias, C. (2013): *A multi-criteria methodology for energy planning and developing renewable energy sources at a regional level: A case study Thassos, Greece*, Energy Policy, Vol. 52, pp. 522-530.

Odluka o izmjeni odluke o visini naknade za korištenje prostora koje koriste proizvodna postrojenja za proizvodnju električne energije (NN 72/15)

Pašalić, Ž. (1999): *Osnove hrvatske gospodarstvene infrastrukture*, Sveučilište u Splitu, Ekonomski fakultet Split.

Perić, J., Šverko Grdić, Z. (2015): *Economic Impacts of Sea Level Rise Caused by Climate Change*, 3<sup>rd</sup> International Scientific Conference Tourism in Southern and Eastern Europe, Vol. 3, pp. 285-294.

Peršić, M. (2005): *Računovodstvo okoliša i održivi razvoj turizma*, skupina autora: Održivi razvoj turizma, Fakultet za turistički i hotelski menadžment Opatija, Opatija, pp. 115.

Refalo P. et al. (2017): *Gauging the Effectiveness of a Resource Management Awareness Campaign on a Central Mediterranean Island*. In: Sayigh A. (eds) Mediterranean Green Buildings & Renewable Energy. Springer, Cham.

Sandfier, P.A., Sutton-Grier, A.E., Ward, B.P. (2015): *Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being: Opportunities to enhance health and biodiversity conservation*, Ecosystem Services, Vol. 12, pp. 1-15.

Šliogeriene, J. (2015): *Multiple Criteria Analysis of the Life Cycle of the Built Environment*: monograph. Editors: A. Kaklauskas, E. K. Zavadskas. Vilnius: Technika.

Tomšić, Ž. (2014): *Mjerenje I analiza potrošnje energije*, skripta Gospodarenje energijom I utjecajima na okoliš u industriji



[https://www.fer.unizg.hr/\\_download/repository/MAPE\\_2014\\_Skripta\\_Uloga\\_Gospodarenja\\_energijom.pdf](https://www.fer.unizg.hr/_download/repository/MAPE_2014_Skripta_Uloga_Gospodarenja_energijom.pdf) (01.03.2017.)

Tarifni sustav za proizvodnju električne energije iz obnovljivih izvora energije i kogeneracije (NN 33/07, 63/12, 121/12, 144/12, 33/13, 151/13, 20/14, 107/14, 100/15)

Ortega-Izquierdo, M., Rio, P. (2016): *Benefits and costs of renewable electricity in Europe*, Renewable and Sustainable Energy Reviews, Vol.61, pp. 372-383.

UNEP -- United Nations Environment Programme Division of Technology, Industry and Economics, Switched On: Renewable Energy Opportunities in the Tourism Industry, UNEP Publication, Paris, France, 2003,  
<http://www.unep.org/pc/tourism/documents/energy/front.pdf>, (10.03.2017.)

Zakon o tržištu električne energije čl. 7 (NN 177/04, 76/07, 152/08, 22/13)

Watkins, Graham and Iona Hawken (2011): *Incorporating Ecosystem Service Analysis in IDB Projects*. Inter-American Development Bank Technical Note. Inter-American Development Bank: Washington, D.C

Wüstenhagen, R., Menichetti, E. (2012): *Strategic choices for renewable energy investment: Conceptual framework and opportunities for further research*, Energy Policy, Vol. 40, pp. 1-10.

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## **ENVIRONMENTAL CHALLENGES AND UTILITIES MANAGEMENT IN TOWN OSIJEK IN THE TIME OF THE RISE OF "MODERN TIMES"**

### **IZAZOVI ZAŠTITE OKOLIŠA I KOMUNALNO GOSPODARSTVO U GRADU OSIJEKU U DOBA USPONA „MODERNOGA VREMENA“**

#### **ABSTRACT**

*Today one of the biggest challenges is protecting the environment through model based on waste and water utility management, a municipal water supply, waste water supply, drainage, wastewater treatment and disposal of municipal waste. Environment protection is a complex area in which local and regional self-government units are continuously gaining increased competences, obligations, and responsibilities. The paper analyses the water and waste utility service, presents the state of utilities sector, and the flows in local loops scenario, specifying then technological solutions. It is presented the development of municipal utility services and forms of organization of public utilities, the key issues, challenges, potential technical, legislative, institutional arrangements and concrete measures. Based on relevant literature and archive sources, the author warns of problems with environmental protection, and its early warning signs dating back to early medieval times. Indeed, the problem receives its modern terms in Modern Era, namely, during the second half of 19th and early 20th century. Growth of economy, commerce and crafts, as well as building of roads and slow industrialization faced the town of Osijek with problems of environmental protection in various ways. Therefore, the problems of environmental protection in the city of Osijek were caused by urban and social construction of the city, its gradual industrialization, as well as the social problems of the city and other social events. How much the issue of environmental protection and nature was important can be seen from the legal regulation of the Croatian Parliament and the Croatian Government of the Triune Kingdom of Croatia, Slavonia and Dalmatia in Zagreb. In accordance with that, in 1884 Croatian parliament brought a Law on crafts, wich, naturally, had to be put in effect in Osijek too. Articles 25-36 give ruling on environment and ecology issues, as well as possible ways to deal with problems. Beside, environmental protection and clean streets were needed, as in the late 19th century Osijek had a Town embellishment society wich tried to form and build up citizens' awareness of ecology issues and the need for environmental protection.*

**Key words:** ecology, environment protection, utilities management, utilities infrastructure, legal regulation.

#### **SAŽETAK**

*Danas je jedan od najvećih izazova zaštita okoliša putem komunalnog gospodarenja vodoopskrbom, odvodnjom, pročišćavanjem otpadnih voda i zbrinjavanje komunalnog otpada. Zaštita okoliša je složeno područje u kojem jedinice lokalne i područne (regionalne) samouprave kontinuirano imaju sve više nadležnosti, obveza i odgovornosti. U radu se analizira komunalno gospodarenje vodom i otpadom, daje pregled stanja komunalne djelatnosti, te tokove u*

*infrastrukturi uz tadašnja tehnička rješenja. Razmatra se razvoj komunalnih djelatnosti i oblici organiziranja komunalnih službi uz pregled tadašnjeg stanja, navode se ključni problemi, izazovi, moguća tehnička, zakonodavna, institucionalna rješenja, te konkretne mjere. Na temelju relevantne literature i arhivskih izvora autorica upozorava na aktualnost problematike zaštite okoliša koja se i kod nas može prepoznati već od razdoblja ranog srednjeg vijeka. Zapravo, problem dobiva svoje moderne izraze u vrijeme uspona modernog doba, odnosno u drugoj polovici 19. i na početku 20. stoljeća. Rast gospodarstva, trgovine i obrta, kao i razvoj prometnica te postupnja industrijalizacije suočili su grad Osijek s problemima zaštite prirode i okoliša na različite načine. Dakle, problemi zaštite prirode i okoliša u gradu Osijeku bili su prouzročeni urbanom i socijalnom izgradnjom grada, njegovom postupnom industrijalizacijom, kao i socijalnim problemima grada te drugim društvenim događajima. Koliko je problematika zaštite okoliša i prirode bila važna može se vidjeti iz zakonske regulacije Hrvatskog sabora i Zemaljske vlade Trojedne Kraljevine Hrvatske, Slavonije i Dalmacije u Zagrebu. Shodno tome, Hrvatski je sabor 1884. donio Obrtni zakon koji se morao primjenjivati i u gradu Osijeku. U člancima 25. do 36. govori se izravno o ekološkim problemima te njihovoj sanaciji. Osim toga, u prilog zaštiti prirode i okoliša te urednosti i čistoći gradskih ulica govori i činjenica da je krajem 19. stoljeća i u Osijeku osnovano Društvo za poljepšavanje grada koje je nastojalo razvijati građansku svijest u pogledu ekoloških pitanja i zaštite okoliša.*

**Ključne riječi:** ekologija, zaštita okoliša, komunalno gospodarstvo, komunalna infrastruktura, zakonska regulativa.

## **1. The concept and development of utility activities**

In the modern state Local units, according to some, are "the natural basis for the exercise of democracy" because they are closer to the people and the fulfillment of their interests, and according to the others they are only one more power, and "power is dangerous for the freedom of the individual" (Pusić, 2002, 8). They should meet public needs and interests of citizens, thus local units are obliged to create conditions for meeting those interests and needs. In fact, from the very beginning of the organization of the human community, first in smaller towns and cities, and later in all major urban areas, there has been a need to engage in certain activities aimed at preserving the smooth functioning of the settlement as a form of organized human community (Sarvan, 2008, 1055-1086). One of the major obligations of local government is performing and organizing the performance of affairs of municipal economy.

In the earliest era residents of urban settlements faced the question of ensuring the supply of drinking water for the population, drainage of waste water, solid waste, maintenance of public squares and roads, as well as other activities necessary for the survival of the community. Pavić said that the city is a settlement with dense population, developed social division of labor, a compact built-up area, and appropriate public services (Pavić, 2001, 22).

Utility services are performed as a public service, and operators who perform them are often public authorities. The idea of public service comes from the 19th century, from the practice of the French State Council, and a definition which defines public services as "services whose even the shortest suspension leads to social disorder," perhaps best describes the necessity of municipal activities as a public service (Ivanišević, 1968, 42).

Utility services can be generally defined as economic activities that provide public services of interest to individuals and legal entities at the local community in which they live and work every day and which directly address the everyday needs of citizens in the settlements (Pavić,

2001, 120). In the legal literature "everyday needs" in the history of state are: food supply, quality control of grain, public works, maintenance of public buildings, construction line, control of measures and weights, cleanliness of streets and squares, aqueducts, river regulation, sewage, post office, the fire service, road maintenance and traffic order, public baths and so on. However, there is neither universal definition, nor universal list of utility services.

Utilities can be organized to perform as a concessioned public service, as mixed enterprises, and in the form of utility services that are under the direct control of the city administration (Pavić, 2006, 281-285).

## **2. Some utility services in Osijek**

### **2.1. City public transportation**

The expansion of the city and the distance between the parts divided by Tvrđa and its undeveloped entrance hall were the reasons for the introduction of mass transit of passengers. This need was growing along with the construction of the Upper and Lower Town. For these reasons, at the beginning of the '80s of the 19th century preparations for the introduction of modern public transport - horse railways began. In 1883 the joint stock company for the construction of horse railway in Osijek was founded by which the city of Osijek concluded a contract to build a tram through concessions (Živaković-Kerže, 1996, 99). The Agreement was signed on June 27, 1885, and came into force on 15 February 1886 when it was signed by the city council and the joint stock company for horse railways.<sup>1</sup>

With this Agreement, on July 14, 1883, the city council awarded the Osijek joint stock company for horse railways exclusive right to build the horse railways in Osijek on route from the Upper Town through Tvrđa in Lower Town. The Agreement was based on a concession document dated from 6 August 1883. The city government gave the Osijek stock company a privilege of building for the next 65 years starting from the day when the horse tram traffic began. Under the Agreement the city of Osijek allowed the joint stock company of Osijek to build a railroad and the necessary buildings on the city's area of 1900 square meters. The buildings immediately became the property of the city, and the Company was able to use them in the next 65 years while the Agreement was valid. According to the Agreement the major segment had to be completed by December 31, 1884. Otherwise, the city of Osijek would shut down and terminate the concession agreement with harmful consequences for the Company. The contract was fully satisfied, because the horse tram was open to traffic on the main segment even before the agreed deadline of 10 September 1884 (Živaković-Kerže, 1996, 103-105). It was the first tram line in Southeastern Europe and a significant means of transportation, which connected all parts of the city into a single unit (Sršan, 1984 a, 5-9).

Thus, for a while, Osijek solved the issue of urban public transport of passengers and goods, and carriages and wagons continued to ply in the areas with no trams.<sup>2</sup> However, at the end of the 19th century there was need to electrify the tram. Given that the city once gave the concession right for the lighting to the joint stock company for gas in Osijek, as well as the city public transport, there were disputes in connection with the introduction of power, and lighting of the city and the electrification of city transport. According to the then laws, the city was dependent on agreements, and was blackmailed by the joint stock companies and their terms, i.e. by the

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<sup>1</sup> The Agreement between the city government of Osijek and the Osijek joint stock company for horse railways on June 27, 1885; No. 4289.

<sup>2</sup> That the citizens of Osijek used, by time, more the services of driving horse tram is indicated by the revenue of trams that in ten years almost doubled in. See in: Journal of the County of Virovitica, 1895, No. 9, p. 71.

worsening transport services, gas and lighting, expecting that the city would entrust them with similar conditions the construction of power plants and other facilities. Therefore, in late 1898, the Osijek tram company announced the city government reorganization of their tracks on electric power. At the same time, they wanted to establish a headquarters for the electric lighting and transmission of electric power for what there was planned a principal of 400,000 forints. The company sought from the city to be awarded the authority for the next 25 years, so at the end of 1899, the Osijek city administration allowed the Osijek horse railways company to convert their horse tram into the electric one. The administration extended the previous permission to 50 years to another 15, thus committed at the same time, to have the company introduce electric lightening, but not as the sole beneficiary (Živaković-Kerže, 1996, 104-105).

Negotiations related to the electrification of the city and the tram came to the final stage in 1914, but then the First World War broke. During the war from 1914 to 1918 the Joint Stock Company was not investing in the maintenance of the tram, and since neither frequent interventions of the city could help, the municipality of Osijek took the tram in 1917 from the Company, but had to return it on the orders of the government in Budapest.

With the dissolution of the Austro-Hungarian Empire in 1918, Osijek sought from the new government to surrender the tram to the city municipality in order to regulate public transport. Finally, in April 1919, without waiting for a legal solution, the city put a tram under their control, formed a Steering and Monitoring Committee, arranged the issues with workers and open it to public traffic. Meanwhile, Commercial Bank of Zagreb sold the tram to the city of Osijek for 350,000 kroner.<sup>3</sup> Thus, as of 15 May 1919 the horse tram has been in the possession of the city of Osijek under the name the city tram. However, the electrification of the city and the tram would be realized only in 1926 (Sršan, 1984 b, 9).

## **2.2. Post and telecommunications**

A big step in the progress of communication is certainly the introduction of the telephone, so in 1887 the city government of Osijek began with preparations for the construction of telephone lines. It is difficult to determine the beginning of the construction of local lines in Osijek, but it is known that the works started at the latest in January 1888, what can be seen from the calculations of the city budget, and that the works were completed in November of the same year. In October 1889 the telephone network of the city government received the character of a public network when the Hungarian Ministry of Public Works and Communications approved that county and district authorities also be connected to this network (Belt, 1994, 15-17).

Although in 1892 there was a sudden development of telephony, Osijek was still waiting for the state to begin building a national public local network. Thus, it was only at the beginning of 1894 that Osijek received ministerial approval on the construction of national telephone network, and the construction was supposed to be managed by engineer Zorić after setting the telephone network in Zemun. In late May, the phone lines were connected to all three post offices in Osijek, Osijek thus became the first city in Croatia where the postal and telegraph offices also became telephone offices, accordingly the Postal Telegraph Company. In 1894 (May 31) at 10 o'clock there was an inauguration of telephone network by symbolic telephone conversation between Director Vuchetich and the mayor of Osijek Rotter (Belt, 2007, 174-177). Also, the built network was the first national public telephone network in Croatia and Slavonia, which cost the Hungarian Ministry of Trade almost 30,000 guilders. In addition to Osijek, at the end of 1900

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<sup>3</sup> After the collapse of the Austro-Hungarian monarchy, Budapest Bank sold the principal of the tram to the Zagreb Bank of Commerce.

there were only three city telephone networks in Croatia, in Brod on Sava and in Zagreb (Belt, 2007, 177).

At the end of 1901, the Hungarian Ministry of Commerce decided that a public telephone station in Osijek be included in international telephone traffic, which had already existed between the countries of the Hungarian crown and Austria. According to this decision, it was possible to make a phone call to all areas of the Austro-Hungarian Empire. Further development of telephony in 1914 in this area, was running in a very slow pace. However, it is important to note that in Osijek, at the end of the 1920s, a telephone exchange was also put into operation with a central battery, which was at that time a great and significant technical progress in relation to the induction stations.

### **2.3. Public lightning and gasification**

In major cities gas works existed as utility companies built primarily to meet the needs of public lighting (Lakatoš, 1924, 394). Thus, the Osijek city administration intended to build a gas company in order to introduce the city lighting and for other purposes. The gas company in Osijek was founded in 1884 by the English society Imperial Continental Gas Association of London as its subsidiary which was built right near the Upper Town railway station (today the building of the Ministry of Interior) (Mažuran, 1968, 23). Gasification of Osijek was carried out in February 1885 when the burial of gas pipes had been completed.

In 1900 the gas company was taken over by the Central Gas and Electric JSC from Budapest. But as in subsequent years gasification of households was expending, the Agreement was not respected. The city government received on daily basis appeals of citizens that the quality of the gas light was low, therefore, at the beginning of 1910, the city government suspended indefinitely the gasification of the city.<sup>4</sup> During the First World War the company was under the state control, and since 1921 it operated under the name Yugoslav JSC for Gas and Electricity, gasworks Osijek, i.e. Gas Plant JSC Osijek until the establishment of a new socio-political circumstances.<sup>5</sup>

In January 1907, the city government completed drafting the basics of electric street lighting and the tram because that year Zagreb got electric lighting as well, therefore Osijek did not want to fall behind.<sup>6</sup> For many years there was struggling who would carry out the electrification of Osijek and finally in 1926 it came to the electrification according to American company Charles B. Mac Daniel Jr. It was made out of two, at that time still independent companies Electricity plant and Electric tram of the free and royal city of Osijek, until upon the completion of the city council from 4 July 1929 when they merged into one company Electricity, Tram and Water supply of the free and royal city of Osijek.<sup>7</sup> The Municipality of free and royal city of Osijek was registered as the owner, and the subject of business enterprise was collection of payment for electricity, and electric supply of electric tram and the city water supply.

### **2.4. Municipal water supply**

<sup>4</sup> After several years of work of gasworks on the City Hall of 8 March 1910, the city councilor warned that the gas plant was using so-called water gas for lighting, for which it was not authorized, and due to increased gas consumption the gas plant was no longer able to meet the needs. It was capacitated to produce 4,000 m<sup>3</sup> of gas, and it was producing 5,000 m<sup>3</sup> of gas per day, which was a threat to the city. Meanwhile, gasworks requested some land for their expansion which was approved by the city representation. HR-DAOS-6, GPO, Minutes of city council, books no. 1061, line no. 42.

<sup>5</sup> Journal of the County of Virovitica, 1910, No. 1, p. 6.

<sup>6</sup> Journal of the County of Virovitica, 1907, No. 3, p. 36.

<sup>7</sup> HR-DAOS-6, GPO, Minutes of the city council, book No. 1080.

The problem of health and drinking water seriously began to be felt in the city of Osijek in the late 19th century, as various chemical industry waste and other pollutants, that were pumped daily into rivers and surface water, made a natural water unusable for drinking unless specifically purified. Since then, i.e. by the end of the eighties of the 19th century the question of water supply system of the city of Osijek would stay on the agenda of the meetings of the City Council, daily newspapers and citizens.

At the beginning of the 20th century the city of Osijek received several new offerings for the construction of municipal water supply. Namely, while the joint stock company for water, lighting and heating in Vienna and Budapest in early 1897 requested the postponement of the start of construction of urban water supply and the extension of the completion of the works, at the same time the Berlin company David Growe submitted a bid for the construction of water supply through concessions. Also, the city government was also addressed by civil engineers Prinz and Gleitsmann from Draždjanici offering a bid for construction of the aqueduct. The city authorities were supposed to decide whether to adopt the reasons for extending the deadline for construction of water supply or to adopt one of the new offers (Živaković-Kerže, 1996, 49-51).

The Special Committee of Osijek dealership established a contract between the company David Growe and the municipality of Osijek on the construction of a municipal water supply from mountain springs according to which the city guaranteed an annual income to the company Growe from water supply in the amount of 40,000 forints by water users. The city itself paid 19,500 a year for the use of water for public use, while the company Growe took over the guarantee for the bounty of mountain springs for municipal water supply. Under the agreement, the company would enjoy the privilege for 50 years, and for the purchase within this period a total amount of 1,680,000 forints was established according to the annual top contribution, and after the period of 50 years the plumbing would pass into the ownership of the city in a good condition. The company Growe guaranteed the quality and quantity of water, and the obligation of residents was to install the plumbing from the main streets into their houses. The poor ones, factories and public baths were exempted from this obligation. For each tenant there was a minimum amount of water that they had to pay. The company was also guaranteed an annual income of 80,000 crowns, while, under the agreement, the township should have received an income from 25% of revenue in the amount of more than 240,000 crowns, and 50% from more than 260,000 crowns. After the agreement was printed and prepared for discussion at the city council at the end of 1899, it came to some new agreements according to which the water supply would pass free of charge into the ownership of Osijek after 45 years (Živaković-Kerže, 1996, 49-51). However, as the city had a bad experience with the concession of horse-pulled tram and the gas plant, it did not want to have the water supply run by the concessionaire, so in early 1900 the city representation voted against the construction of water supply being carried out by the company Growe.

The third possibility of Osijek water supply was from deep wells, so at the session of the city council in November 23, 1909 it was almost unanimously concluded to build water supply in Osijek from deep wells. In late December 1910, there was another meeting of the city council where they unanimously adopted conclusions on the implementation of the Drava water supply.<sup>8</sup> The accepted study was sent to be resolved by the Government of the Land.<sup>9</sup> At its session in April 1911, the City Hall decided to finance the costs for city sewage, city water supply system and building of a new city hall. Negotiations were carried out with financial institutions, upon

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<sup>8</sup> HR-DAOS-6, GPO, Minutes of the city council, Books No. 1062.

<sup>9</sup> Journal of the Virovitica county, 1909, No. 23, p. 219.; 1910, No. 24, p. 241



which a loan was designated in the amount of 6.5 million crowns. In August 1911 The Government of the Land approved the conclusion of the city council.

However, just in time for the start of works, the realization was interrupted by the start of World War I. After the collapse of the Austro-Hungarian Empire in 1918 the attempts to construct urban hygiene water supply continued, but at a lower intensity than before. Therefore, the existing water supply network of the fire water supply was extended (Sršan, 1985, 176-184). In 1905, the Fire department decided to build a water supply system for the more important streets to the most important points of the city with the corresponding hydrants in the Upper Town. Although the first normal water supply<sup>10</sup> was introduced, which set the basis for expansion of the existing water supply system, it was impossible to stop thinking about building a true hygienic water supply system, which would supply the town with water from deep or mountain sources. But as the city of Osijek was in debts because of the construction of power plants and municipal electric tram in 1926, the issue of the construction of water supply was postponed for ten years.

## 2.5. City drainage

The importance of drainage or sewage waste water treatment and purification is very important for each urban area with regard to health, aesthetic and economic conditions. Drainage is an indicator of the cultural level and the situation in the city, and it is even more important than any other utility structure. Due to this, water supply Committee at its meeting held in November 1909, discussed the entire city sewer (Živaković-Kerže, 1996, 49-51). But, right from the start of construction of the canal network in 1912 some mistakes were made, and already in 1914 because of World War I, further works on the construction of drainage network had to be suspended.

At the same time, with the attempts of Osijek to solve the problem of building hygienic water supply and single channel network, the city's government at its session on February 20, 1911 issued the fundamentals of the Statute of the city of Osijek for the construction of home channels and drainage of the soil. This statute was supposed to come into force after being approved by the City Assembly and the Royal Government of the Land, and those who were to act contrary to the provisions of this Constitution would be penalized according to the existing regulations, and unfinished activities would be finalized by the township at the expense of the private entrepreneur, and the cost would be enforced through the court. The sewer which was located within the boundaries of the house and land had to be implemented by the owner of the house in the preclusive period of three months and under the threat of financial penalties. The owner was also required, before the start, to inform the city government about these actions and to submit a layout plan, thus the construction could not begin until the owner received a written permission from the city government according to the institutions of the construction order. The city district could also take over the cleaning of private sewer, if so requested, but under the condition that private entrepreneur bears the costs. But in any case it performed the cleaning of the part of the sewage canal that was below the street, but again the costs were at the expense of a private entrepreneur. If the owner wanted to obtain a permit for the sewer, he had to surrender a written statement to the city district that he would carry on the cleaning (as a private entrepreneur) or it would be carried out by the township at his expense. Also, this declaration was required from those owners who had had a complete sewage implemented. The city district was required to establish a permanent price for cleaning. These costs had the character of public appropriations, so they could also be enforced through the court. As the introduction of water supply in all the

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<sup>10</sup> From the Rok Square through Strossmayerova street to Šamačka, then through Pejačevićeva street to the Main square (today Ante Starčević) and Županijska street to the theatre with a total length of 4 km.

houses on the basis of this Constitution was a precondition for connection to the sewer, so the water supply could have been introduced to all households only pursuant to a separate water supply Statute. For all the objects and details of the city's sewage system there were standard parts prescribed, so everyone could get a glimpse of the models of these objects which were placed in the city's construction office. Each house or land that was connected to the city sewer, had to bear the cost of construction of sewage and in such a way that the duty of payment began from the date of sewage-house connections to public street connection. Sewer charges were arranged as follows: City levy increased 11% per year for the purpose of building a major sewage, and in addition each homeowner paid 8,000 filirs per constructed or planned land, and the owners of gardens and fields paid 200 filirs per m<sup>2</sup> for use of urban sewage. For factories and public buildings there had to be a lump sum determined by the amount of running water instead of fees per levies (Art. 1-20).<sup>11</sup>

After the collapse of the Austro-Hungarian Empire, the works on the construction of the canal network continued, but in another mode of financing: nomore from the investment loan but on the basis of regular annual budget of the city of Osijek. However, as the city did not have a lot of money at its disposal, and there were constructions of other utility facilities (power plants, electric trams), construction of drainage network dragged on for a long time.

## **2.6. Waste management**

The provisions of the Statute on the export of garbage from the houses in the city of Osijek in 1913 regulated the measures for dealing with household waste in those parts of the city where there was an organized system of waste management for all residents and it was determined that the fee for handling household waste (transport) had to be paid by all owners of real estates (houses). Treatment of household waste in the city of Osijek was performed only by the city authorities through designated authorities or through lease agreements. In 1895 a contract was signed between the city of Osijek and volunteer Fire Department Gornji Grad in Osijek on garbage collection (street cleaning). In this case, the tenant was required to obtain a specific number of vehicles for performing the transport of household waste, thus to collect the fee. City authorities were responsible for deciding on the location of disposal (landfill) which had to be located outside the city. Instead of taxes for the export of garbage homeowners were required to pay the yield for that purpose, i.e. the wage determined in the amount of 1% of the rent.<sup>12</sup> Namely the former Statute from 1893 regulated the payment of a fee for garbage collection in a way that the streets of the city were divided into three categories (classes). Thus it was determined that the owners of the houses in the first class streets pay 80 filirs, in the second one 60 filirs and in the third one 40 filirs.<sup>13</sup>

## **2.7. Chimney sweeping**

Speaking about the importance of chimney-sweeping crafts the city government, after the meetings held in September 1885 and May 1886, addressed the Government of the Land, the Department of Home Affairs with the request to grant the statute of the chimney-sweeping. This Statute was approved by the Government of the Land on 11 August 1886. The chimney-sweeping craft is related to the so-called building areas, and therefore the area of the city of

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<sup>11</sup> In addition to the aforesaid, the basis of the statutes also regulates the following issues: the construction and the materials needed for sewerage, drainage of the roof, water supply for domestic and kitchen use, flushing toilets, traps, ventilation, rinsing and the like. Read more in: HR-DAOS-6, GPO, city statutes, box No. 5906 (The basis of the statute of the city of Osijek for construction of home channel and drainage).

<sup>12</sup> HR-DAOS-6, GPO, City statutes, box No. 5906.

<sup>13</sup> Ibid.

Osijek is divided into three districts, namely: District I includes the Upper Town with two chimney sweepers; District II includes the entire Inner and New Town; District III includes the Lower Town. Every chimney in use must be cleaned at least once a month, and at least twice a month in places where the fire is on most of the day or night. Osijek chimney sweepers performed this work for the fee for cleaning the chimney determined by this Statute, thus already on 5 October 1885, they sent to the city government a request for approval for price charges for cleaning chimneys and other objects in the city. The price list was approved on 10 October by the Government of the Land.

Before the entry into force of the new law on the organization of the city municipalities of 21 June 1895, at the meeting on May 23, 1895 the city council adopted the new statute for chimney-sweeping craft in the town of Osijek. Unlike the previous one this Statute specifies in more details the place, time and manner of conducting chimney-sweeping work; penalties for committing offenses against the provisions of the Statute; it also contains provisions on prohibition of this craft, as in the previous Statute this had not been determined, etc. Also, although the Statute prescribed the amount of tax for performing chimney-sweeping work, the parties were given the opportunity to make a deal with the chimney sweeper of their district to lower the prices with a monthly or annual lump sum.<sup>14</sup> So, as the fees for chimney sweeping actions were established administratively, the payment would be charged the same way but only if the party refused to pay chimney sweeper related fees. Therefore, fees for chimney sweeping business were collected directly from the parties.

### 3. Concluding remarks

In the current view of municipal activities that had been organized in the city of Osijek, we noticed that most of the services that were technically complex and required a lot of money, the city administration performed through various companies, joint stock companies. So, there is a model of organization by joint stock company which is typically based on long-standing concession and contract rules. This is therefore a concessionaire service. However, as the Osijek city government had a bad experience with giving concessions concerning the horse tram and gas company, it came to the transition of the concession companies into the hands of city municipality and under its direct control. The city formed a management and supervisory board and set more legal solutions that regulated the issue of traffic in the city. That is why the construction of the water supply system was in the competence of the city municipalities. In addition to city municipalities, the state also often takes concession service into their own hands, which was the case with the construction of the telephone network in Osijek. Besides the fact that the concession documents could have been assigned to a joint stock company or a legal entity, it could have also been assigned to a physical person. This is evident in the city of Osijek in the case of chimney sweeping and waste management. And in terms of bus transport and its normative regulation, we can say that it is of a private-legal nature, and that carriers are obliged to comply with the instructions regarding driving. Also, from the aforesaid it comes out that the utility system in the city of Osijek was financed by revenue from the city budget, from the price of utility services, utility fees and concession fees.

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<sup>14</sup> The subjects that were often discussed at the meetings of the city council were the requests of Osijek chimney sweepers to increase the chimney sweep taxes by 50%. Thus, at the meeting of the city council on 2 June 1922, the self-governing committee proposed the city council to partly accept the request and approve the increase of previous charges by a further 30%. The city council unanimously approved the proposed increase of chimney sweeping tax and therefore, a new price list came into force on 1 July 1922. To this end, there was another meeting of the city council on October 11 the same year in which they accepted the proposal of the city councilor Ivan Bauer, in which he proposed to accept the price of Zagreb chimney sweepers. See in: HR-DAOS-6, GPO, Minutes of the city council, book No. 1073.

Besides, in support of the development of civic awareness in terms of environmental protection, as well as adequate neatness and cleanliness of city streets, speaks the fact that at the end of the century there was founded an Association for the beautification of the city of Osijek. At that time, with the help of the Society for the Beautification of the city of Osijek, which was founded in 1891 by architects, prominent citizens, artists and industrialists, there was a city document made under the name a Building Order. Its content precisely determined the way of decorating the space between and in front of the newly constructed buildings, as well as necessary gardening works, and the way of construction of certain fences.

## REFERENCES

- Belt, V. Z. (2007): *Osječke novine "Slavonische Presse" - glavni pokretač izgradnje prve državne telefonske mreže u Hrvatskoj, u Osijeku 1894. godine*, in: Zbornik radova 14. Znanstvenog skupa: Nijemci i Austrijanci u hrvatskom kulturnom krugu, Njemačka narodnosna zajednica Zemaljska udruga Podunavskih Švaba u Hrvatskoj, 3.-5. 11., 2006, pp. 157-184.
- Belt, V. Z. (1994): *U znaku napretka*, Osijek
- Ivanišević, S. (1968): *Prilog diskusiji o pojmu javne službe*, Zbornik radova Visoke upravne škole, No. 5, pp. 69-88
- Lakatoš, J. (1924): *Industrija Hrvatske i Slavonije*, Zagreb
- Mažuran, I. (1968): *Vodič kroz arhivsku građu*, Osijek
- Pavić, Ž. (2001): *Od antičkog do globalnog grada*, Zagreb
- Pavić, Ž. (2006): *Upravni problemi grada*, in Koprić, I., ed.: Javna uprava – nastavni materijali, Zagreb, pp. 281-285
- Pusić, E. (2002): *Globalno i lokalno: lokalne jedinice u procesu globalizacije*, Hrvatska javna uprava, Vol. 4, No. 1, pp. 3-19
- Sarvan, D. (2008): *Obavljanje komunalnih djelatnosti kao javne službe*, Hrvatska javna uprava, Vol. 8, No. 4, pp. 1055-1086
- Sršan, S. (1984 b): *100 godina javnog gradskog prometa u Osijeku*, Katalog izložbe, Osijek
- Sršan, S. (1984 a): *Javni promet u Osijeku 1884-1984*, Osijek
- Sršan, S. (1985): *Vodoopskrba Osijeka - nekada i danas*, Anali Zavoda Jugoslavenske akademije, No. 4, pp. 155-203
- Živaković-Kerže, Z. (1996): *Urbanizacija i promet grada Osijeka na prijelazu stoljeća: (1868. - 1918.)*, Osijek

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## **THE ROLE OF “GREEN” ELECTRICITY GENERATION INCENTIVES**

### **ULOGA MJERA ZA POTICANJE PROIZVODNJE “ZELENE” ELEKTRIČNE ENERGIJE**

#### **ABSTRACT**

*Despite significant investments and incentives, renewable energy resources are still not economically competitive to traditional fossil energy resources, except for isolated sustainable power systems detached from the national electricity grid. As far as the cost of “green” power production, or the power generated from renewable resources, is not approximately equalized to the cost of fossil energy resources, or until the renewable energy technologies become competitive, it is necessary to make a considerable effort in the form of financial incentives and support towards the renewable energy sector. This implies further improvement and application of renewable energy technologies, which should stimulate the development of domestic production of energy equipment and services, the creation of new jobs and development of entrepreneurship in the energy sector and other related industries, the creation of new, innovative technologies and ultimately development of economy in general.*

*The purpose of this study is to determine the significance and the role of measures, or public authorities' incentives to stimulate production and greater use of “green” electricity. Thereby the paper analyzes various systems of stimulation, such as preferential purchase prices, or feed-in tariffs for generated energy, models of market premiums, systems of mandatory quotas, certificates, models of direct subsidies for renewable resources installation, support for research and development, and other. The paper confirms the hypothesis about the impact of incentives on the increased use of renewable energy resources in EU Member States. Moreover, even though there is a potential for renewable resources, further action is necessary in the form of technical and administrative/legislative mechanisms in order to grow and develop the renewable energy market.*

**Key words:** incentives, renewable energy resources, "green" electricity, guaranteed purchase price, development of economy.

## SAŽETAK

*Obnovljivi izvori energije, usprkos znatnim ulaganjima i poticajima, još uvijek nisu ekonomski konkurentni tradicionalnim, fosilnim energetske resursima, osim za izdvojene održive elektroenergetske sustave koji su odvojeni od nacionalne elektroenergetske mreže. Sve dok se, barem približno, ne izjednače troškovi proizvodnje "zelene" električne energije, tj. električne energije proizvedene iz postrojenja obnovljivih izvora energije, u odnosu na fosilne energetske resurse, a tehnologija obnovljivog izvora ne postane konkurentna, potrebno je ulagati značajne napore u vidu financijskih poticaja i potpora u sektor obnovljivih izvora energije. Spomenuto znači daljnje unapređenje i primjenu tehnologija obnovljivih izvora energije te bi trebalo predstavljati poticaj razvoju domaće proizvodnje energetske opreme i usluga, odnosno otvaranju novih radnih mjesta i razvoju poduzetništva u energetici i drugim vezanim djelatnostima, kreiranju novih i inovativnih tehnologija, te u konačnici, razvoju ukupnog gospodarstva.*

*Svrha istraživanja ovog rada je utvrditi značaj i ulogu mjera, odnosno aktivnosti tijela javne vlasti kojima se potiče proizvodnja te veća primjena "zelene" električne energije. Pri tome se u radu analiziraju različiti sustavi poticanja, poput povlaštenih otkupnih cijena, odnosno zajamčenih tarifa (engl. feed-in tariffs) proizvedene električne energije, modela tržišnih premija, sustava obvezujućih kvota, certifikata, modela izravnog subvencioniranja instalacije obnovljivog izvora, podrške za istraživanje i razvoj, te ostalo. U radu se potvrđuje hipoteza o utjecaju sustava poticanja na porast korištenja obnovljivih izvora energije u državama članicama Europske unije. Isto tako, iako potencijal za obnovljivim izvorima postoji, potrebno je dodatno djelovati u vidu tehničkih i administrativnih/zakonodavnih mehanizama kako bi se tržište obnovljivih izvora energije nastavilo širiti i razvijati.*

**Ključne riječi:** poticajne mjere, obnovljivi izvori energije, „zelena“ električna energija, zajamčena otkupna cijena, razvoj gospodarstva.

## 1. Introduction

Renewable energy resources are mostly considered within the context of sustainability, i.e. sustainable development. Even though, due to the limited availability and continuity of application, renewable energy resources alone cannot fulfill the conditions for achieving sustainable development, primarily the economic element of development, they appear as significant, additional forms of conventional energy. With time, renewable energy resources are expected to assume even a greater role in electricity generation and thus contribute to sustainability.

In the recent decades, several reasons for the public support of the production of electricity from the renewable sources have been put forward. Besides various social-economic advantages such as job creation, energy diversification, security and stability, and the improvement of opportunities of regional and local development, the environmental motives in the form of pollution externalities from conventional energy sources have been the main argument for promoting electricity generation from renewable energy sources.

Despite significant investments and incentives, renewable energy resources are still not economically competitive to traditional fossil energy resources, except for isolated sustainable

power systems detached from the national electricity grid. As far as the cost of “green” power production, or the power generated from renewable resources, is not approximately equalized to the cost of fossil energy resources, or until the renewable energy technologies become competitive, it is necessary to make a considerable effort in the form of financial incentives and support towards the renewable energy sector. In this context, the participation of governments is necessary in the initial phase of the introduction of the new renewable energy technologies. It will allow to secure their development and to protect them from the direct competition of conventional technologies. This governmental support can be justified from two points of view: the correction of the negative environmental externalities resulting from the use of fossil fuels and the stimulation of the technical/technological change (Menanteau, Finon, Lamy, 2003).

Given the mentioned above, the purpose of this study is to determine the significance and the role of measures, or public authorities' incentives to stimulate production and greater use of electricity generated from renewable resources. The paper confirms the hypothesis about the impact of incentives on the increased use of renewable energy resources in EU Member States. Moreover, even though there is a potential for renewable resources, further action is necessary in the form of technical and administrative/legislative mechanisms in order to grow and develop the renewable energy market.

## **2. Literature review**

Numerous studies point out the impact of support schemes / incentives on the increasing use of renewable energy sources, i.e. analyze the development of renewables in the “green” electricity generation as a result of different support schemes and incentives.

It is cited that the past two decades of growth in renewable energy sources of electricity have been largely driven by out-of-market support policies, i.e. fixed-price feed-in tariff. While these policies have proven to be effective, today it led to costly market distortions as well as to limit investor risk (Huntington et al., 2017). García-Alvarez and Mariz-Pérez (2012) analyze the main characteristics and the results of the promotion mechanisms of renewable energy used in the two European countries leaders in terms of installed capacity and production of renewable energy (Germany and Spain). Their research can serve as the basis for the design of regulation in other countries given that it highlights the main advantages of a feed-in tariff system. In a similar way, Winkler et al. (2016) cite that the kind of support instrument can influence the degree to which renewables influence the market. In a case study for Germany they analyze the market impacts of different support schemes. In a stylized Cournot model of interacting spot and forward electricity markets, Dressler (2016) analyze how different price-based support schemes affect producer strategies and competition in the wholesale market. She compares the strategic behavior of renewable and conventional producers in terms of electricity production and forward market sales in the presence of two different price-based support schemes: feed-in tariffs and feed-in premiums. Results show that the feed-in premium, which is the European Commission's current scheme of choice, may enhance market power and favor conventional electricity production.

## **3. Characteristics and specificities of “green” electricity generation incentives**

Depending on the life cycle of power plant that exploits a renewable energy source, it appears various mechanisms and forms of support, i.e. incentives, such as, for example, fiscal incentives (tax reduction/exemption, or tax credit for investment/production), incentives of public authorities (direct payment for the renewable energy production, or guarantees or loans for the renewables), or regulation/incentives which can be price-driven (fixed payment feed-in



tariff/premium payment feed-in tariff), quantity-driven (tendering/bidding), or quality-driven (voluntary “green” electricity purchasing) (Irena, 2012). Supports that are the subject of this research analyzes the regulatory measures to encourage “green” electricity generation, i.e. price-driven and quantity-driven / quality-driven regulation incentives. These support schemes represent the main mechanism in supporting and increasing the share of renewable energy sources.

The main difference between *feed-in tariff (FIT) policies* is whether the remuneration they offer to renewable energy generators is dependent or independent from the actual electricity market price (Klein et al., 2008). Market-independent FIT policies are generally known as fixed-price policies, since they offer a fixed or guaranteed minimum price for “green” electricity based on the specific development cost of the renewable energy technology for every kWh of electricity delivered to the grid. In this case, the remuneration is independent from the electricity market price. On the other hand, market-dependent FIT policies are generally known as premium-price policies, or feed-in premiums (FIP), since a premium payment is added above the market price. Premium-price FIT support schemes require that renewable energy producers provide their “green” electricity to the market, effectively competing with other energy suppliers to meet market demand (Couture, Gagnon, 2010). Hence, the premium tariff represents a modification of the commonly used fixed tariff towards a more market-based support instrument (Klein et al., 2008). Under market-dependent FIT policies, payment levels tend to rise in step with rising retail prices, and vice versa. In order to avoid extra profits when average market prices rise, some jurisdictions have begun to implement caps and floors on FIT premium amounts to ensure that overall remuneration remains within a reasonable range.

This premium can be designed either to represent the environmental and social attributes of renewable energy, or to help approximate the generation costs of different renewable energy technologies (Couture, Gagnon, 2010). Thereby, FIT support schemes have two main features. The first, redemption price that is given to producers of “green” electricity is above the electricity price given from the conventional sources. Secondly, it ensures the integration of “green” electricity in the electricity network, wherewith renewable generation power plants ensures the access to the transmission and distribution grid activities. Therefore, stated systems represent a key instrument that applies to both categories, economic and ecological aspect of regulation. In order to allow greater investor choice, some jurisdictions, as in the case of the Republic of Croatia, offer both the fixed price and the premium price option to renewable energy producers, leaving them the choice to decide which policy option is best suited to their individual risk and investment model (Couture, Gagnon, 2010).

Unlike price-driven policies which set a price for “green” electricity and let the market determine the quantity supplied, *quantity-driven policies* set the quantity to be achieved and allow the market to determine the price. Quantity-based policies include quota systems (also called quota obligations) and tendering/bidding support schemes. Under quota systems, governments typically mandate a minimum amount or share of capacity, generation or sales to come from renewable energy sources. Therefore, the mandate can be placed on producers, distributors or consumers. The share often increases over time, with a specific final target and end-date. Quotas can be linked to certificate trading, i.e. tradable “green” certificates. In general, certificates are awarded to renewable energy producers for the “green” electricity they generate, which can be traded or sold, and serve as proof of meeting their legal obligation. Also, electricity suppliers have to “prove” that they have met their obligations by showing the regulatory authority the number of certificates which must be equal to their obligation (Mitchell et al., 2011). Those with a surplus of certificates can trade or sell them; those with too few can build their own renewable

capacity, buy “green” electricity from other renewable plants (which generally involves a bidding process), or buy credits/certificates from others. It is important to know that most quotas have built-in penalties for actors who do not comply with quotas. On the one side, quota systems have produced increases in renewables, and, in general, the system is significantly less cost-effective than the FIT system, but on the other side, it can be inequitable and flawed (Mendonça, 2007).

Another quantity-based policy is the tendering system which is less commonly used support scheme. This is a mechanism in which renewable energy developers bid for power purchase agreements and/or access to a government-administered fund through a competitive bidding process. Regulators specify an amount of capacity or share of total “green” electricity to be achieved, and the maximum price per kWh. Project developers then submit price bids for contracts. Governments set the desired level of generation from each renewable energy resource, and the growth rates required over time. Also, there are sometimes separate tenders for different renewable energy technologies (Mendonça, 2007).

The instrument mobilising consumer’s interest and support for a greater use of renewable energy sources is considered as *quality-driven incentive*, i.e. voluntary “green” electricity scheme. Its key feature relies on the voluntary purchase basis, ensuring a flexible and simple implementation. The advantages of such scheme are securing a pool of financial means from interested consumers, less state involvement and reduced spending from the already restricted public authority funds. The absence of “green” energy voluntary purchase implies the lack of guarantee measures ensuring quantity goals for the utilisation of renewable energy sources, thus failing to be cost-effective, and the effectiveness of which depends on electricity prices and consumers’ access to information and awareness (Gan, Eskeland, Kolshus, 2007).

#### **4. Analysis of the promotion policies of renewable energy in the European Union with special emphasis on Croatia**

Not only globally, but also in most EU Member States feed-in systems are applied as a support instrument for the electricity generated from renewable resources. These systems have proven to be effective and efficient in supporting renewable electricity generation in many European countries (Ragwitz et al., 2012). This refers to already mentioned incentives, namely feed-in tariffs and feed-in premiums.

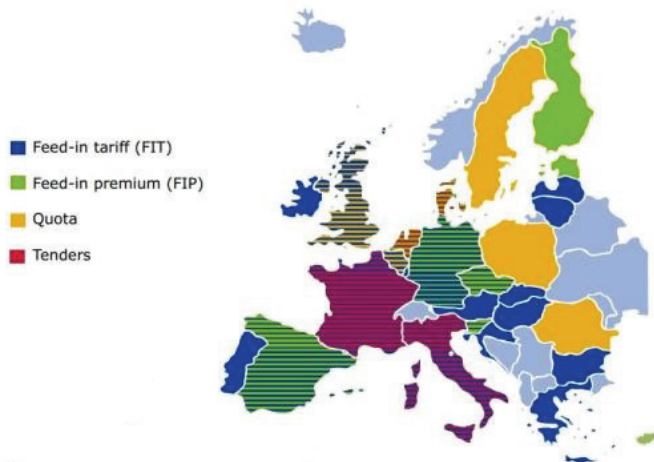
The first European country to introduce into legislation the incentives for the dispatch of electricity from renewable energy sources in the network grid was Germany. Since 1990 many supporting programs have been introduced in Germany to promote the development and use of renewable energy resources. The most important was the Law on Feeding Electricity into the Grid for Renewable Energy (*german: Stromeinspeisungsgesetz – StrEG*), that has been in force since 1991 (Alturki, Khelifa, El-Kady, 2013). Since German laws, i.e. incentive mechanisms for renewable energy have been very successful in creating the market of renewable energy resources and strengthening the electricity supply companies, they have often been used as a framework/benchmark for other national legislation.

Due to the restricting measures of application of feed-in tariff systems encouraging the generation of electricity from renewable resources and the lack of incentives for the improvement and development of renewable energy market, there was the need to evolve from a fixed-price feed-in tariff system into premium-price feed-in tariff payment policies. Moreover, over the last years, a trend towards feed-in premiums can be observed in different European

countries. Similarly, certain EU Member States apply other incentives and support schemes for renewable electricity as well, such as quota scheme<sup>1</sup> and tendering systems.

In order to clearly illustrate the types of incentives for renewable electricity generation in the EU Member States, Figure 1 is given. There is a wide variety of renewable electricity support schemes: while certain Member States apply only one type of support schemes for renewables on their electricity market, i.e. fixed-price feed-in tariff (FIT), premium-price feed-in tariff (FIP), quota or tenders scheme, it should be noted that a combination of these incentives and supports is applied on other markets. Until recently, most of national “green” electricity markets of EU Member States applied only one type of incentive, namely feed-in tariff or quota system. And while Figure 1 shows dominant renewable electricity support schemes only, secondary support instruments like tax incentives, investment grants, etc. are not indicated. A successful implementation of incentives for “green” electricity generation implies the inclusion of both primary and secondary support schemes with which a synergistic effect is achieved on the renewable energy market.

*Figure 1 Diversity of “green” electricity support schemes in the European Union in 2014*



Source: Klessmann, 2014

It is noted that the mentioned supports and incentives are a dynamic category that is constantly changing: depending on the activities on the electricity market, some EU Member States abolish or introduce new incentives and support schemes for “green” electricity generation. For example, a fixed-price feed-in tariff system was the only system applied in Croatia in 2014. After the introduction and implementation of the legal act of 1 January 2016 in Croatia, in addition to traditional feed-in tariff, feed-in premium is also applied (Official Gazette, 2015). According to this Act, a feed-in premium is a model of incentive for all renewable energy resources, while a feed-in tariff is a form of incentive for production plants and/or production units that use renewable energy resources, with a connected load of up to and including 30 kW. Considering technical advantages of the incentive model and the electricity production price, it can be

<sup>1</sup> At the time of writing of this article, quota scheme is applied in the following EU Member States: Belgium, Poland, Romania, Sweden, United Kingdom (European Commission, 2012).

assumed that the feed-in tariff system will primarily (or only) be used in solar power plants (Goić, Tojčić, 2016).

The system of incentives for “green” electricity generation is financed in the Republic of Croatia from two sources, namely from earmarked fees for the promotion of “green” electricity generation and from the funds collected from suppliers through the obligation of purchasing the electricity produced in renewable energy plants included in the incentive system proportional to the market share in the total supply. The fee for the promotion of “green” electricity generation is charged to final consumers of electricity as a fixed fee for every consumed kilowatt-hour (kWh) of electricity. This fee, as a support to “green” electricity producers, is charged in Croatia since 1 July 2007, then amounting to 0.0089 HRK/kWh (Official Gazette, 2007). It did not change until 2010, when it dropped to 0.0050 HRK/kWh (Official Gazette, 2009), whereas since 1 November 2013 the stimulation fee rose to 0.0350 HRK/kWh for all electricity consumers (Official Gazette, 2013). Such a drastic increase of the fee is attributed to the lack of funds necessary to pay renewable energy plants that are in the incentive system. Furthermore, the projections indicate that even the current fee of 0.0350 HRK/kWh is not high enough to settle the incentives for renewable energy technologies due to the legislative increase of quotas for wind power plants (with total installed capacity of 420 MW to 744 MW), which thus entered into the system of incentives without prior arrangement of the corresponding source of funding to balance the system (Bajs, Mikulić, Majstrovic, 2016). One of the possible measures to ensure sufficient funding for “green” electricity generation incentives is an additional increase of the fee for renewable energy resources, which could even double in near or distant future, from current 0.0350 HRK/kWh to as high as 0.0750 HRK/kWh (Bičak, 2017). In this way, almost all contractual obligations of renewable energy plants or “green” electricity producers could be met.

This primarily refers to wind power companies that in Croatia lead the way in the production of electricity from “sustainable” renewable resources<sup>2</sup>. It was these supports and incentives for “green” electricity generation that ensured the penetration of wind power companies into Croatian electricity market. With relatively favorable wind potential and substantial funds in the form of incentives for renewable energy resources, wind power companies have become an obvious example of the increase in the share of renewable energy resources in certain EU Member States, including Croatia.

## 5. Conclusion

Renewable power deployment policies principally aim to increase the installed capacity of renewable energy technologies and the generation of renewable electricity. In achieving this, they may target a range of other outcomes (Irena, 2012), such as economic (enhancing economic competitiveness, job creation, technology cost reductions, a sustainable level of domestic production and market share in renewable energy technologies, etc.), environmental (environmental protection, reduction of greenhouse gas emissions (Kyoto protocol), (environmental) risks involved with nuclear power, etc.), and energy outcomes (a more sustainable, secure energy system, i.e. enhancing energy supply security, reducing import dependence of the energy system, etc.). In this sense, incentives and support schemes for renewable energy have a crucial role, on the one side, on the increased use of renewables and, on the other side, on the development of the national economy.

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<sup>2</sup> In 2014, wind energy covered 78.55% of electricity out of the total electricity produced from renewable resources and cogeneration (HROTE, 2015).

Empirical analysis suggests that price-driven incentives, i.e. fixed-price / premium-price feed-in tariffs are (in this moment) the most effective policy to encourage the rapid and sustained deployment of renewable energy. There are several different ways to structure a price-driven policy, each with its own strengths and weaknesses (Couture, Gagnon, 2010), which can be analyzed more detailed in the further research.

Finally, towards to the successful functioning of support schemes and incentives for “green” electricity generation, and development of renewable electricity market, it is necessary to implement, not only the legislative framework and supporting administrative measures, but also the technical possibilities of the electricity sector in the acceptance these measures and activities in the market.

## REFERENCES

Alturki, Y. A., Khelifa, N., El-Kady, M. A. (2013): *Promoting Alternative Energy Programs in Developed Countries: A Review*, Energy and Power Engineering, Vol. 5, No. 2, pp. 140-152.

Bajs, D., Mikulić, S., Majstrovic, G. (2016): *Mogućnosti prihvata obnovljivih izvora energije u hrvatski elektroenergetski sustav (s aspekta regulacije sustava)*, Energetski institut Hrvoje Požar, Zagreb

Bičak, D. (2017): *Predložena naknada za obnovljive izvore od 7,5 lipa*, <http://www.poslovnih.hr/hrvatska/predlozena-naknada-za-obnovljive-izvore-od-75-lipa-325688> (accessed 27 March 2017)

Couture, T., Gagnon, Y. (2010): *An analysis of feed-in tariff remuneration models: Implications for renewable energy investment*, Energy Policy, Vol. 38, No. 2, pp. 955-965.

Dressler, L. (2016): *Support schemes for renewable electricity in the European Union: Producer strategies and competition*, Energy Economics, Vol. 60, pp. 186-196.

European Commission (2012): *Legal sources on renewable energy*, in: Renewable energy policy database and support, <http://www.res-legal.eu/>, (accessed 15 March 2017)

Gan, L., Eskeland, G. S., Kolshus, H. H. (2007): *Green electricity market development: Lessons from Europe and the US*, Energy Policy, Vol. 35, No. 1, pp. 144–155.

García-Alvarez, M. T., Mariz-Pérez, R. M. (2012): *Analysis of the success of feed-in tariff for renewable energy promotion mechanism in the EU: Lessons from Germany and Spain*, Procedia - Social and Behavioral Sciences, Vol. 65, pp. 52-57.

Goić, R., Tojčić, A. (2016): *Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*, Novi zakonodavni okvir elektroenergetskog sektora, Hrvatski ogranak Međunarodne distribucijske konferencije (HO CIRED)

HROTE (2015): *Godišnji izvještaj o sustavu poticanja proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije u Republici Hrvatskoj za 2014. godinu*

Huntington, S. C., Rodilla, P., Herrero, I., Batlle, C. (2017): *Revisiting support policies for RES-E adulthood: Towards market compatible schemes*, Energy Policy, Vol. 104, pp. 474-483.

IRENA (2012): *Evaluating policies in support of the deployment of renewable power*, IRENA Policy brief.

Klein, A., Pfluger, B., Held, A., Ragwitz, M., Resch, G., Faber, T. (2008): *Evaluation of different feed-in tariff design options – Best practice paper for the International Feed-In Cooperation*, Energy Economics Group, Fraunhofer Institute Systems and Innovation Research, 2<sup>nd</sup> edition.

Klessmann, C. (2014): *Experience with renewable electricity (RES-E) support schemes in Europe – Current status and recent trends*, Ecofys, <https://de.slideshare.net/Ecofys/ecofys-2014webinarrese-supportpoliciesineurope>, (accessed 10 March 2017)

Menanteau, P., Finon, D., Lamy, M.-L. (2003): *Prices versus quantities: choosing policies for promoting the development of renewable energy*, Energy Policy, Vol. 31, No. 8, pp. 799-812.

Mendonça, M. (2007): *Feed-in Tariffs: Accelerating the Deployment of Renewable Energy*, World Future Council, Earthscan, London.

Mitchell, C., Sawin, J. L., Pokharel, G. R., Kammen, D., Wang, Z., Fifita, S., Jaccard, M., Langniss, O., Lucas, H., Nadai, A., Trujillo Blanco, R., Usher, E., Verbruggen, A., Wustenhagen, R., Yamaguchi, K. (2011): *Policy, Financing and Implementation*, in Edenhofer, O., Pichs-Madruga, R., Sokona, Y., Seyboth, K., Matschoss, P., Kadner, S., Zwickel, T., Eickemeier, P., Hansen, G., Schlomer, S. and von Stechow, C., ed.: IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 865-950.

Official Gazette (2007): *Uredba o naknadama za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*, 33/07, Zagreb

Official Gazette (2009): *Uredba o izmjeni uredbe o naknadama za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*, 155/09, Zagreb

Official Gazette (2013): *Uredba o naknadi za poticanje proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije*, 128/13, Zagreb

Official Gazette (2015): *Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*, 100/15, Zagreb

Ragwitz, M., Winkler, J., Klessmann, C., Gephart, M., Resch, G. (2012): *Recent developments of feed-in systems in the EU – A research paper for the International Feed-In Cooperation*. Fraunhofer Institute Systems and Innovation Research, Energy Economics Group, Ecofys.

Winkler, J., Gaio, A., Pfluger, B., Ragwitz, M. (2016): *Impact of renewables on electricity markets – Do support schemes matter?*, Energy Policy, Vol. 93, pp. 157-167.

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**ECOLOGICAL FOOTPRINT AS AN INDICATION OF SUSTAINABLE  
AGRICULTURE**

**EKOLOŠKI OTISAK KAO POKAZATELJ ZA ODRŽIVU  
POLJOPRIVREDU**

**ABSTRACT**

*One of the biggest problems in the world today is an oversized consumption and use of natural resources which, in comparison with the accelerated pace of development, are too slowly restored. Therefore, the concept of a sustainable development is one of the priority objectives of global contemporary society. The sustainability of the food production system is gravely compromised due to several issues: the use of agrochemicals, loss of plant and animal biodiversity of the both wild and farmed species, and the desertification of the soil. Agricultural production is considered to be one of the most powerful pollutants. As fertile agricultural land surfaces are being reduced, the need for nourishment is increasing, as is the pressure to make use of as much land surfaces with a smaller level of fertility as possible, with an intensive treatment which at the same time endangers sustainability.*

*An important indicator of sustainability and unsustainability is ecological footprint. It shows what amount of land area is needed for the production of food, energy and other resources crucial to sustain the current, highly consumptive lifestyle. This is a quantitative measure that shows how countries, regions, cities and even individuals create pressure thus consuming the planet and how that pressure exceeds the limits of sustainability.*

*The aim is to determine and identify possibilities of organic farming as a sustainable system. The methods that are used in the paper are: calculating the various categories of consumption of natural resources with an emphasis on non-renewable energy sources by using the calculator of the ecological footprint.*

*A sustainable food production includes an integrated system of plant and animal ecological farming technology that will meet the long term requirement for food, improve the quality of the*



*environment and natural resources on which the agricultural economy depends. It will also maintain the economic value of production without compromising the ability of future generations to meet their own needs.*

*Agricultural production is sustainable if it's profitable, useful for individuals, the community and if it contributes to the preservation of the environment. This implies economic, social and environmental sustainability.*

**Key words:** Ecological footprint, Sustainability, Organic farming.

## SAŽETAK

*Problem današnjeg svijeta je prevelika potrošnja i korištenje prirodnih resursa koje se u usporedbi s ubrzanim tempom razvoja presporo obnavljaju. Stoga koncept održivog razvoja postaje jedan od prioriteta globalnih ciljeva suvremenog društva. Održivost sustava proizvodnje hrane je ozbiljno ugrožena zbog više razloga: primjena agrokemikalija, gubitak bioraznolikosti biljnih, životinjskih, divljih i uzgajanih vrsta te ugaženosti tla. Poljoprivredna proizvodnja se smatra jednim od najznačajnijih zagađivača. Kako se plodne poljoprivredne površine smanjuju, a potrebe za hranom rastu, povećava se i pritisak da se iskoristi što više zemljišta sa manjim stupnjem plodnosti uz intenzivnu obradu što ugrožava održivost.*

*Važan indikator održivosti, odnosno neodrživosti je ekološki otisak. On pokazuje kolika je površina zemlje potrebna za proizvodnju hrane, energije i drugih dobara potrebnih za zadržavanje sadašnjeg, visoko potrošačkog načina života. To je kvantitativna mjera koja pokazuje koliko države, regije, gradovi, pa i pojedinci stvaraju pritisak i troše planetu te koliko taj pritisak prelazi granice održivosti.*

*Cilj rada je utvrditi mogućnosti ekološke poljoprivrede kao održivog sustava. Metode koje se koriste u radu su izračunavanje različitih kategorija potrošnje prirodnih resursa s naglaskom na neobnovljive izvore energije primjenom kalkulatora ekološkog otiska.*

*Održiva proizvodnja hrane podrazumijeva integrirani sustav biljne i životinjske ekološke tehnologije uzgoja koji će dugoročno zadovoljiti potrebe za hranom, poboljšati kvalitetu životne sredine i prirodnih resursa o kojima ovisi poljoprivredna ekonomija te održati ekonomsku vrijednost proizvodnje bez ugrožavanja mogućnosti budućih generacija da zadovolje svoje potrebe.*

*Poljoprivredna proizvodnja je održiva ukoliko je profitabilna, korisna za pojedince i zajednicu i pridonosi očuvanju okoliša. To podrazumijeva ekonomsku, socijalnu i ekološku održivost.*

**Ključne riječi:** Ekološki otisak, Održivost, Ekološka poljoprivreda.

## 1. Introduction

Modern agricultural production is focused on achieving high results which is possible with the use of technology and techniques of high energy requirements. A large number of different technological operations particularly in plant production involves the use of chemical products. Heavy equipment leaves almost irreparable damage on agricultural land. The size of agricultural holding is not measured only by the surface of the property, but also by the amount of capital invested in modern production technology. An indicator of successful agricultural production is the presence of modern management methods, openness to innovations and acceptance of risks and uncertainties. This production is based on the scientific achievements and its application. Education and knowledge is a prerequisite for understanding, acceptance and application of technological progress, for connecting and finding solutions.

But all of the above is often inconsistent with the system of sustainability both at national and global levels. In fact because of the less favorable overall result, conventional agriculture is getting less and less compatible with the value system of the sustainable development concept. Excessive and irrational use of non-renewable natural resources, that is conditionally renewable, and the use of fertilizers and pesticides in plant production and antibiotics and hormones in livestock production leave permanent adverse effects on the environment. Such intensive agriculture achieves in the short term, increased fertility and high yields, which is destructive for the ecosystem on long terms (Šiljković, 2001). At the same time this undermines the social sustainability, because due to the increase in productivity it generates deagrarianization and consequently deruralization, which is reflected in the demographic destabilization of rural areas.

Awareness of the vulnerability of the ecosystem is slowly but surely changing. Frequent ecological disasters of great proportions that are associated with harmful effects of modern lifestyle, point to the need for changes in the way of using natural resources. Sustainability has become a broad term that can be applied to almost all forms of life on Earth, from local to global levels, and is based on economic growth, social progress and environmental protection. On the basis of four categories: natural resources, lifestyle, population and technological efficiency it is possible to calculate the environmental burden by expressing ecological footprint.

With higher capital investment and the creation of new production, technology seeks to find a balance between an acceptable level of agricultural production and environmental sustainability. Therefore, we talk about alternative forms of agricultural production which are both economically viable and socially acceptable, such as organic farming. Organic agriculture is one of the constituent elements of the sustainability concept, as it is based on the use of renewable resources without the use of chemicals in food production, in contrast to conventional agricultural production, whose adverse effects are known and proven.

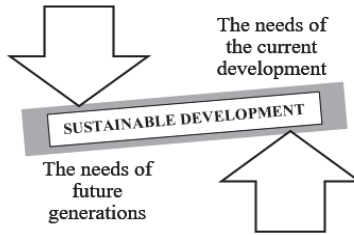
## **2. Ecological footprint**

Croatia has a great socio-economic and economic potential (traditions, human capital, agricultural land, water, biodiversity, climate) for the development of sustainable forms of agriculture. Natural resources are limited and hardly renewable. The system of sustainable agricultural production does not mark the return to low yields, but adopting a production of satisfactory yields and profit without degradation of natural resources.

Sustainability usually speaks through three dimensions, environmental, economic and social, and they are essential in the analysis of sustainable practices. Sustainable development implies a networked self-renewal of the total natural and social fabric composed of its environmental, economic and socio-cultural classes of today and in the future. (Lay, 2007).

As a generally accepted definition of sustainable development is considered to be the definition of the World Commission on Environment and Development (Brundtland, 1987) which states: Sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technical development and institutional change are in harmony with each other and allow the needs and expectations of current and future generations. Sustainable development is possible only if the consumption of renewable resources is lower than the natural opportunity for renewal.

**Figure 1** The concept of sustainable development



Source: Authors

In order to meet the needs of current development, natural resources are being over-used which calls into question the viability of future generations (Figure 1). It is therefore necessary to act towards establishing a balance between the opportunities and needs.

In order to monitor and compare data on sustainable development, the international community has identified several indicators based on which they monitor the processes and the development of sustainable development, and ecological footprint has been accepted as a general indicator. (Črnjar and Črnjar, 2009)

According Grofelnik (2010) ecological footprint is based on measurements of the quantity of the resource used and the produced waste, or by measuring energy that is converted by calculation to equivalent of the appropriate surface. Ecological footprint is a name for a measure of man's exploitation of natural resources of the earth, converted into agricultural area (hectares) per capita, which is necessary for the production of food, energy and other resources necessary to maintain the current life standard of the population in a given area or the whole Earth. Ecological footprint represents the sum of all the resources that people require from a certain area. It involves a biological cultivated area or biocapacity required for crops, pastures, inhabited areas, forest and fishing areas.

The expression of the ecological footprint uses a unit of global hectares (gha) as an area of the unit used to express the actual biocapacity of the environment. A global hectare is a unit for measuring our demands on the Earth (ecological footprint) and the country's ability to meet our demands (biocapacity) ([Http://glossary.periodni.com/glosar.php?hr=globalni+hektar](http://glossary.periodni.com/glosar.php?hr=globalni+hektar)). It reflects human needs for biocapacity in the environment. A global hectare is calculated for each year on the level of productivity of the whole country, individual states or smaller spatial units. The basic formula for calculating ecological footprint is:

$$EO = D / Y$$

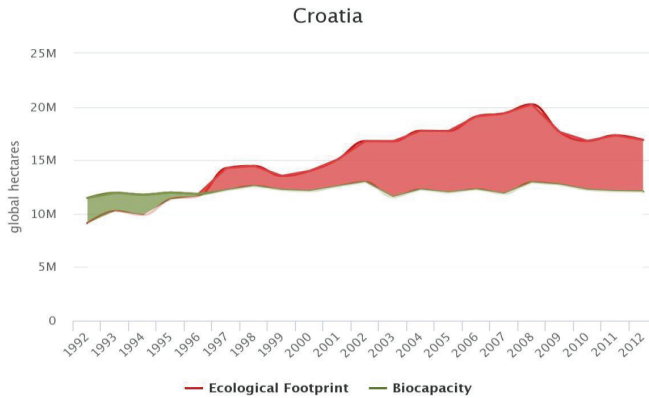
D = annual need for products and absorption of carbon dioxide

Y = yield in natural resources from the same year

These data are expressed in global hectares. In order to obtain ecological footprint a large number of data is used which is retrieved from public databases such as the United Nations FAOSTAT on a global and national level and regional statistical offices as well as a number of indicators that originate from companies or individuals who speak about the use of energy sources. The most important data needed to calculate the ecological footprint are data on energy use, transport or

transport, waste management and attitude towards food.

**Figure 2** The ratio between the ecological footprint and biocapacity in Croatia (1992-2012)



Source: National Footprint Accounts, 2016

Global Footprint Network monitors the consumption of natural resources by the mankind (ecological footprint) compared to the ability of nature to respond to that consumption by restoring natural resources (biocapacity), (<http://data.footprintnetwork.org/>). The calculations are published in the publication Atlas of Environmental Footprint, where one can find numeric and graphic calculations of the ecological footprint of various categories, as well as areas that are not monitored. According to data from the same source, since 1996, in Croatia there is a certain equalization of values of consumption and renewal of natural resources where a deficit period begins. Then comes an increased consumption of natural resources in relation to the value of biocapacity which can be associated with technological and manufacturing advances, particularly in the field of agriculture and transport. According to the WWF (World Wide Fund for Nature) in 2014 Croatia consumes resources equal to 1.86 planets.

Technological progress, the impact of agriculture and irrigation increased the average yield per hectare, which led to an increase in biocapacity from 9.9 to 12 billion global hectares in the period between 1961 and 2010. However, in this period, the human population has increased from 3.1 billion people to 7 billion thus reducing biocapacity per capita from 3.2 to 1.7 global hectares. Meanwhile ecological footprint of individual countries has increased from 2.5 to 2.7 gha per capita. (<http://croatia.panda.org>)

Considering that all of humanity uses natural resources and depends on them, ecological footprint can be measured on many levels, for each person, a city, a country or globally for the whole world. The most complete prints are considered to be the ones calculated at the level of a country, continent or globally. Also individual ecological footprint can be measured for a specific product, service or process on the basis of their life cycle. Governments, companies, research institutions and non-governmental organizations use ecological footprint analysis as a tool for scalable management of their development. In terms of social responsibility, organizations calculate their ecological footprint and are making them public, in order to demonstrate their readiness to take action, in terms of environmental protection and display a possible comparative advantage in this field. With ecological footprint as an important indicator of sustainable development, answers are

needed about the world today and the one that we leave to future generations.

### 3. Organic agriculture – Holder of sustainable development

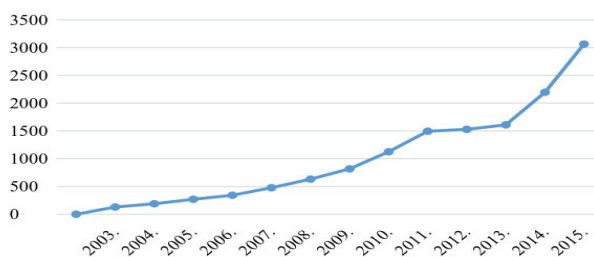
Every form of agricultural production is a direct intervention in nature, which often leads to the disruption and change of the nature's ecosystems, depending on the intensity of production, only to make a better income (Šiljaković, 2001). Conventional agriculture production inserts great amount of energy in form of fertilizers, pesticides and heavy machinery into the soil. Environmental protection is done with the usage of agrotechnical measures in accordance with sustainable organic production. Term Organic agriculture means an integrated system of plant/animal production procedures that will in long term:

- fulfill needs for food
- improve quality of life and natural resources on which agricultural economy is depending on
- enable effective usage of renewable and nonrenewable resources,
- enable reeling of natural biological cycle
- keep economical value of production and
- improve life quality of agricultural manufacturer and society.

The most acceptable form of sustainable system in agricultural production is ecological farming. Reasons for disrepair are unfavorable economic conditions, mined terrain and depopulation of village, but they also create great opportunities for ecological farming. Activities to encourage the development of organic farming started in 2005 when 0.2% of total agricultural land was under some form of organic farming, an increase of 600 times compared to the year 2000.

According to Deže and associates (2016), ecological farming is a system of management which tends to be ethically acceptable, ecologically pure, socially equitable and economically profitable agricultural production. It is based on the principals linked to preservation of health of people and quality of soil and ecosystems. Production methods rely on production inputs from biological diversity without usage of synthetic inputs, resources and materials. Organic agriculture produces food without the use of fertilizers, genetically modified (GMO) organisms, pesticides and other chemical products. The entire system of production develops sustainable agroecosystem based on natural ability of plants, animals and landscapes to sustain themselves. This system of agricultural production is continually growing, in Croatia and in the world, which can be seen at the chart 1.

*Chart 1 The number of organic agricultural holdings*



*Source: Ministry of Agriculture*

There are more farmers who opt for production of foods according to ecological principles. Increase in number of organic producers, also increase the number of the area under organic production in Croatia (chart 1)

**Table 1** The share of organic area in relation to the total utilized agricultural land

| Year  | Utilized agricultural land, ha | Area under organic production, ha | The share of ecological production |
|-------|--------------------------------|-----------------------------------|------------------------------------|
| 2007. | 1.201.756                      | 7.577                             | 0,63                               |
| 2008. | 1.289.091                      | 10.010                            | 0,78                               |
| 2009. | 1.299.582                      | 14.193                            | 1,09                               |
| 2010. | 1.333.835                      | 23.282                            | 1,75                               |
| 2011. | 1.326.083                      | 32.036                            | 2,42                               |
| 2012. | 1.330.973                      | 31.904                            | 2,40                               |
| 2013. | 1.568.881                      | 40.660                            | 2,59                               |
| 2014. | 1.508.885                      | 50.054                            | 3,32                               |
| 2015. | 1.537.629                      | 75.883                            | 4,94                               |

*Source: Central Bureau of Statistics*

Organic agriculture is based on a few basic principles that create a sustainable relationship of man towards nature. One of the principles is the conservation of nature by setting the foundation of agricultural production in cooperation with nature, which can be done by understanding nature and her laws.

The second principle is to minimize the consumption of nonrenewable natural resources and energy as well as the exclusion or only exceptionally allowance to use the artificial fertilizers and chemical pesticides for plant protection. Organic farming seeks proper care of the agricultural land to maintain and increase its fertility, organic matter content, nutrient and biological activity and improve the soil structure. Taking care of the agricultural land in organic agricultural production is achieved by harmonizing and proper management of soil tillage, fertilization and the introduction of a well-planned crop rotation.

In organic farming classic principle of tillage is replaced with the reduced tillage systems, and their selection depends on the existing soil, climatic conditions and the needs of cultivated species. The aim is that organic production systems are adapted as much as possible to the individual conditions and to promote the natural processes. The difference in the approach to conventional and organic agriculture is on the economic and technological basis. Conventional agriculture focuses on achieving maximum yields of specific crops, and is based on a simple reflection: the yields are increased by introducing substances and removing the risk. This practice is not justified because it is destroying the production area, threatens biodiversity, supports the oil and chemical industry, encourages climate change etc.

Organic agriculture has a more complex approach which includes, in addition to their own production, the conservation of natural resources. Access to organic agriculture breaks the linear process and turns it into a circular flow of matter and energy. Farmer takes agricultural products from the soil, but the circuit is closed by means of composting, green manure and manure produced on the farm. Organic agriculture is in a long-term ethically, socially, healthwise and economically more acceptable than conventional production, and because of the increased nutritional quality of the product, organic farming is able to provide the manufacturer fairer income when compared to conventional agriculture.

#### 4. Conclusion

Maintaining the balance between human needs for well-being and the preservation of natural resources and ecosystems on which depend the future generations, is a characteristic of the 21st century. The disproportion between the use of natural resources and biocapacity has led to reflections on the sustainability of the system at all levels of society. Sustainable development is basically simple because it implies a greater capacity for regeneration biocapacity than resource consumption. On the other hand, it is complicated because of the interdependence and interconnectedness of economic growth, social progress, social security and the fact that a unit is greater than the sum of the parts.

For the purposes of monitoring and comparison of data for sustainable development a generally accepted indicator was established - ecological footprint, which follows the consumption of natural resources by mankind (ecological footprint) in relation to nature's ability to respond to that consumption by restoring natural resources (biocapacity). Measuring the ecological footprint allows better management of natural resources in order to take the necessary measures for its reduction.

As agricultural production is a major consumer of natural resources, the way in which it takes place in many ways can impact the ecological footprint. During the process of agricultural production, it is important to rely on local soil fertility, crop rotation as a factor in its preservation and a rounded production system. Synchronized relationship between plant and animal production through ensuring a sufficient amount of animal food, and a sufficient amount of manure for fertilizing the soil and plant production, is requirement for a sustainable agriculture and acceptable value of environmental footprint.

#### REFERENCES

- Črnjar, M., Črnjar, K. (2009): *Menadžment održivoga razvoja*, Glosa, Rijeka
- Deže, J., Ranogajec, Lj., Lončarić, R., Rabik, M. (2016): *Mogućnosti razvoja poduzetništva u ekološkoj poljoprivredi Vukovarsko-srijemske županije*, Poljoprivreda/Agriculture, Osijek, Vol. 22:2016 (2) pp. 64-69
- Šiljković, Ž. (2001): *Južna Europa u ostvarivanje koncepta organske poljoprivrede*, Geoadria, Vol. 6, No. 1, pp. 93-112
- Batelja Lodeta, K., Gugić, J., Čmelik, Z. (2012): *Ekološka poljoprivreda u Europi i Hrvatskoj s osvrtom na stanje u voćarstvu*, Pomologia Croatica, Vol.17, No. 3-4, pp. 135-148
- Grofelnik, H. (2010): *Ekološki otisak cestovnog prometa na cresko-lošinjskom arhipelagu*, Geoadria, Vol. 15, No. 2, pp. 269-286
- Lay, V. (2007). *Razvoj sposoban za budućnost: prilozi promišljanju održivog razvoja Hrvatske*, Institut društvenih znanosti Ivo Pilar, Zagreb
- Hajduković, I., Radić Lakoš, T. (2010): *Održiva poljoprivredna proizvodnja kao odgovor na degradaciju tala*, [https://bib.irb.hr/datoteka/579904.Hajdukovi-Radi\\_Lako.pdf](https://bib.irb.hr/datoteka/579904.Hajdukovi-Radi_Lako.pdf) (accessed 19 March 2017)



<http://data.footprintnetwork.org/countryTrends.html?cn=98&type=cdToT> (accessed 10 March 2017)

<http://glossary.periodni.com/glosar.php?hr=globalni+hektar> (accessed 11 March 2017)

[http://croatia.panda.org/wwf/izvjetaj\\_o\\_stanju\\_planeta/izvjetaj\\_o\\_stanju\\_planeta\\_2014/indeks\\_i\\_vueg\\_planeta/ekoloki\\_otisak/](http://croatia.panda.org/wwf/izvjetaj_o_stanju_planeta/izvjetaj_o_stanju_planeta_2014/indeks_i_vueg_planeta/ekoloki_otisak/) (accessed 15 March 2017)

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## **ENVIRONMENTAL TOTAL-FACTOR ENERGY EFFICIENCY IN THE EU COUNTRIES<sup>1</sup>**

### **UKUPNA FAKTORSKA ENERGETSKA EFIKASNOST S OBZIROM NA UTJECAJ NA OKOLIŠ U ZEMLJAMA EUROPSKE UNIJE**

#### **ABSTRACT**

*Governments of all countries are under pressure due to environmental issues like global warming and climate change. That is why one of the most important objectives for any energy policy is the improvement of total-factor energy efficiency. The purpose of this research is to evaluate the total-factor energy efficiency in EU countries and to examine the impact of undesirable outputs on these countries' energy efficiency. We used DEA (Data Envelopment Analysis) SBM Bad output model, incorporating multiple inputs and two kinds of multiple outputs: desirable and undesirable as the result of input utilization. Undesirable outputs are an anomaly, which should not be ignored when measuring total-factor energy efficiency. Namely, in case of emissions or pollution, regulatory standards define the maximum amount of undesirable outputs. The empirical results confirm that the DEA scores for total-factor energy efficiency incorporating undesirable outputs are more realistic than those obtained based only on desirable outputs as they do not calculate the negative impact on the environment. Results show significant differences in environmental total-factor efficiencies among developed and less developed EU countries. For every relatively inefficient country the projected values on efficient frontier are determined, as targets. These targets are useful in policy decision-making regarding environmental total-factor energy efficiency. Therefore, in order to solve their environmental problems, inefficient countries should aim to change their energy structure and consume*

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<sup>1</sup> This work has been fully supported-supported in part by Croatian Science Foundation under the project IP-2013-11-2203 and has been supported in part by the University of Rijeka under the project number13.02.1.3.05.

*behaviour. On the other hand, efficient countries whose governments have already directed their energy policy to environmental energy should serve as good practice examples.*

**Key words:** *Total-factor energy efficiency, EU countries, DEA, undesirable output.*

## SAŽETAK

*Vlade svih zemalja su pod pritiskom zbog ekoloških pitanja kao što su globalno zagrijavanje i klimatske promjene. Zato je jedan od najvažnijih ciljeva za svaku energetska politiku poboljšanje ukupne energetske efikasnosti. Svrha ovog istraživanja je procijeniti ukupnu faktorsku energetska efikasnost u zemljama EU te ispitati utjecaj nepoželjnih izlaza na njihovu energetska efikasnost. U radu smo koristili model Analize omeđivanja podataka (AOP), SBM s nepoželjnim outputima, koji uključuje više ulaza i dvije vrste višestrukih izlaza: poželjnih i nepoželjnih koji predstavljaju rezultat korištenja ulaza. Nepoželjni izlazi su anomalija, koju ne treba zanemariti kod mjerenja ukupne faktorske energetske efikasnosti. Naime, u slučaju ispuštanja plinova ili onečišćenja, regulatorni standardi određuju moguću količinu neželjenih izlaza kao rezultata proizvodnog procesa. Empirijski rezultati potvrđuju da su vrijednosti ukupne faktorske efikasnosti, dobiveni korištenjem Analize omeđivanja podataka, koji uključuju neželjene izlaze realniji nego rezultati koji su dobiveni na temelju samo poželjnih izlaza jer se u tom slučaju ne uzimaju u obzir negativni utjecaji na okoliš. Ustanovljene su i značajne razlike u ocjeni ukupne energetske efikasnosti s obzirom na okoliš između razvijenih i manje razvijenih zemalja EU. Za svaku neefikasnu zemlju su određene projicirane vrijednosti na efikasnu granicu koje određuju potencijalne ciljeve. Ti ciljevi su korisni u politici donošenja odluka koje se tiču ukupne faktorske energetske efikasnosti s obzirom na okoliš. Stoga, da bi riješile probleme ukupne faktorske efikasnosti vezane za okoliš, neefikasne zemlje bi trebale imati za cilj promjenu svoje energetske strukture kao i njezine potrošnje. S druge strane, efikasne zemlje čije su vlade već usmjerile svoju energetska politiku prema očuvanju okoliša bi trebale poslužiti kao primjeri dobre prakse.*

**Ključne riječi:** *ukupna faktorska efikasnost, države EU, AOP, neželjeni izlaz.*

## 1. Introduction

International concern over environmental issues such as climate change and global warming, i.e. increasing of greenhouse gases has put economic and political pressures on governments of both developed and developing countries. Therefore, one of the most important objectives for any energy policy is the improvement of energy efficiency, especially for those countries with high dependency on imported energy, and the impact of energy resources on the environment. The objective of improving energy efficiency is not only for environmental benefits, such as reducing CO<sub>2</sub> emissions, but also to achieve the development of national economy, enhancement of industrial competitiveness and energy conservation.

Regarding the mentioned above, the European Union advocated the ambitious targets, so-called as 20/20/20 goals (Council of the European Union, 2007): 1) reduce greenhouse gas (GHG) emissions by 20% in 2020 compared to 1990 levels; 2) increase energy efficiency so as to achieve the objective of saving 20% of the EU's energy consumption compared to projections for 2020; 3) a binding target of a 20% share of renewable energies in overall EU energy consumption by 2020. Energy efficiency appears to be the only energy item in these fundamental EU goals; the improvement of energy efficiency not only that can lead to reduce GHG

emissions, but also it can increase the renewable energy share without new investment. Measures to ensure energy efficiency becoming a priority for any nation willing to develop their economy.

In this sense, the purpose of this research is to evaluate the total-factor energy efficiency in the EU countries and to examine the impact of undesirable outputs on these countries' energy efficiency. It should be noted that most studies assessing the energy efficiency at the macroeconomic level using a total factor structure adopt the Data Envelopment Analysis (DEA) method, as it provides an appropriate mechanism for dealing with multiple inputs and multiple outputs to measure the efficiency ratio of each Decision Making Unit (DMU) under evaluation (Camiato, Rebelatto, Rocha, 2016). So, the analysis tool used in this study is the Data Envelopment Analysis, through the SBM Bad output model, incorporating multiple inputs and two kinds of multiple outputs: desirable and undesirable as the result of input utilization. Undesirable outputs are often occur in the environmental context, and represent an anomaly, which should not be ignored when measuring total-factor energy efficiency. In contrast to the "desirable" outputs which should have as high as possible value, "undesirable" outputs, or environmentally unfavorable outputs, achieve as low as possible value. Also, in case of emissions or pollution, regulatory standards define the maximum amount of undesirable outputs as a result of the production process.

DEA method was developed to analyse the relative efficiency of a DMU, by constructing a piecewise linear production frontier and projecting the performance of each DMU onto that frontier. A DMU that is located on the frontier is efficient, whereas a DMU that is not on the frontier is inefficient. For every relatively inefficient DMU the projected values on efficient frontier are determined, as targets. These targets are useful in policy decision-making regarding environmental total-factor energy efficiency. Therefore, in order to solve their environmental problems, inefficient DMUs, i.e. inefficient countries should aim to change their energy structure and energy consumption. On the other hand, efficient countries whose governments have already directed their energy policy to environmental energy should serve as good practice examples.

## **2. Measuring environmental total-factor energy efficiency using dea method**

The concept of efficiency plays a vital role in contemporary ecological economic theory (Jollands, 2006). Depending on the context in which it appears, different representations of eco-efficiency have been discussed in the existing literature. Eco-efficiency can be defined as a measure of efficiency that takes undesirable aspects of evaluation or operational assessment of environmental performance of DMUs into account (You, Yan, 2011). Preferred output values mean preferred targets for outputs of a decision-making unit, while undesirable (bad) outputs represent undesirable targets for the evaluated units in a production process. According to commonly accepted World Business Council for Sustainable Development's definition, eco-efficiency is the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle, to a level at least in line with Earth's estimated carrying capacity (DeSimone, Popoff, 1997, p. 47). Eco-efficiency is measured by environmental indicators that can involve material and energy issues. It should be noted that assessment of the environmental efficiency may also include certain economic indicators to extend the standard eco-efficiency model (DeSimone, Popoff, 1997, p. 47).

There might be some challenges associated with measurement and assessment of the environmental efficiency. First, although there are numerous data concerning environmental issues, the data must be standardized. Furthermore, besides being standardized and reliable, the

question then arises whether environmental data are actually available in the public, especially at enterprise or economic activity level (Dyckhoff, Allen, 2001). On the other hand, international institutions such as The International Energy Agency or EU databases provide environmental data at the national level. Due to a range of issues related to research methodologies, until recently it was difficult to compare one country's performance to others based on environmental indicators. In particular, data used to be divided into different indicator group sets based on a weighted value or index, which also applied to selecting the best indicators. The process was very difficult having in mind that the data or indicator sets may be extensive and complex. Deriving weighted relations, for example, in functional relations, proved to be extremely challenging due to lack of knowledge on the effects of natural resource depletion and pollution emission (Dyckhoff, Allen, 2001).

The DEA method provides a measure of efficiency that allows for assessing the performance of a set of different entities or decision-making units that operate under similar conditions (Cooper, Seiford, Zhu, 2004). Data envelopment analysis is a powerful approach in measuring and comparing relative efficiency that avoids a need for a priori choices of weights and does not require specifying the form of relation between inputs and outputs. Data envelopment analysis tailored to assess environmental performance tends to use preferred and undesirable output values such as, for example, waste disposal, pollution or harmful emissions. Likewise, undesirable outputs can be measured in health care (complications that can occur during surgery) or economics (tax rates).

### **3. Literature review**

Evaluation and measurement of environmental efficiency provide valuable information that can be used with the aim of creating preconditions for development of a society, while preserving environment. This information is particularly intended for public authorities, organizations and companies that are directly or indirectly related to environmental management and performance.

One of the early studies on environmental efficiency, which was conducted in 1995, involved 19 OECD countries during the period from 1970 to 1990. Initially, the study included the following variables: Real GDP Per Capita, Inflation Rate, Unemployment Rate and the Balance of Trade (the difference between a country's imports and its exports for a given period). Additional two variables were eventually included (nitrous oxide (N<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>) emissions as undesirable outputs) and further analysis was carried out to determine changes in the efficiency trend. The study focused on the comparison of efficiency among 14 European and 5 non-European OECD countries. The expanded additive model approach revealed that European countries have lower relative efficiency after including the environmental issues (Lovell, Pastor, Turner, 1995).

Färe, Grosskopf and Tyteca (1996) were the first authors to include the variable of pollution in the DEA methodology at the microeconomic level, involving electric power industry. They analysed environmental efficiency of the U.S. electric companies that produce electrical energy from fossil fuels, including total world emissions of SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> (in tonnes) as undesirable outputs. The study was based on two different sets of data comprising of 49 respectively 90 DMUs. Since then a considerable number of researches on electricity production have been conducted using the DEA method involving various variables of environmental pollution (cf. Zhou, Ang, Poh, 2008, cf. Ramli, Munisamy, 2013).

In 2003, a survey was conducted across 103 Italian regions, divided into four groups based on the geographic zones, to evaluate relative environmental efficiency. The study included three sets of factors or variables: number of employees as input, gross domestic product as desirable output, with ambient concentrations of nitrogen dioxide and particulates as undesirable output. The findings revealed that only a few regions have a significantly low environmental efficiency (Nissi, Rapposelli, 2006).

In the period from 2000 to 2010, Vlahinić-Dizdarević and Šegota (2012) examine the macroeconomic level of the energy efficiency changes in the EU countries and compare results with the traditional energy efficiency indicator. The DEA CCR multiple input-oriented model is applied in order to analyse the efficiency of the use of three inputs (capital stock, labour and energy consumption) in producing GDP as the output. In order to obtain the dynamics of data from 2000 to 2010 in calculating energy efficiency the extended DEA method - window analysis - is adopted. The empirical results show that the hypothesis on considerable differences in measuring energy efficiency between traditional one-factor and total-factor approach is confirmed. The findings on total-factor energy efficiency scores reflect the possibility of substitution among factors in a medium run and changes in the composition of energy use.

By using the input-oriented data envelopment analysis approach with the assumption of a variable returns-to-scale, Fang, Hu and Lou (2013) compute the pure technical efficiency and energy-saving target of Taiwan's service sectors during 2001–2008. Besides the analyzing the effects of industry characteristics on the energy-saving target by applying the DEA method, they also calculate the pre-adjusted and environment-adjusted total-factor energy efficiency scores in service sectors. Results show that the most energy efficient service sector is finance, insurance and real estate, which has an average total-factor energy efficiency of 0.994 and an environment-adjusted total-factor energy efficiency of 0.807. The study also utilizes the panel-data, random-effects Tobit regression model with the energy-saving target (EST) as the dependent variable.

Zhang, Kong and Yu (2015) propose a metafrontier slack-based efficiency measure (MSBM) approach to model ecological total-factor energy efficiency. They conduct an empirical analysis of regional ecological energy efficiency by incorporating carbon dioxide (CO<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions and the chemical oxygen demand (COD) of China during 2001-2010. The results indicate that most of the provinces are not performing at high ecological energy efficiency. Also, significant regional technology gaps in ecological energy efficiency exist in three areas.

#### **4. Description of data and the model**

A panel dataset of 28 EU countries from 2008 to 2014 is collected for the analysis. Panel data enable a DMU to be compared with other counterparts, but also because the movement of efficiency of a particular DMU can be tracked over a period of time. Therefore the panel data are more likely to reflect the real efficiency of a DMU than cross-sectional data. Annual series used in the analysis as inputs are: gross fixed capital formation in current prices in million euro as a proxy for capital, labour employment annual series in thousands persons employed and energy consumption in thousands tons of oil equivalent, all obtained from EUROSTAT (European Commission, 2017). Annual series used as outputs are: GDP at market prices in million euro and two undesirable outputs: carbon dioxide and sulphur oxides emissions in tonnes, all collected from the EUROSTAT.

Table 1 presents the summary statistics of the inputs and outputs used in the DEA model. In our model three production factors (labour-employment, capital-gross fixed capital formation and energy-energy consumption) produce one desirable output (GDP) and two undesirable outputs (CO<sub>2</sub> and SO<sub>x</sub> emissions). The correlation matrix is shown in the Table 2.

**Table 1** Statistics on input and output variables in 2014

| Value of variable | Capital  | Employment | Energy   | CO <sub>2</sub> emissions | SO <sub>x</sub> emissions | GDP       |
|-------------------|----------|------------|----------|---------------------------|---------------------------|-----------|
| Max               | 5851470  | 349602     | 3132393  | 6750739430                | 59660131                  | 29239300  |
| Min               | 14525    | 1545       | 8858     | 52276040                  | 46561                     | 84263     |
| Average           | 967671.4 | 64331      | 574076.5 | 1039153924                | 10428786                  | 5000398   |
| SD                | 1471057  | 86017.26   | 774666.1 | 1450904194                | 15607209                  | 7627750.2 |

*Source: Authors' calculation*

**Table 2** Correlation coefficients of input and output variables

| Variable                  | Capital  | Employment | Energy   | CO <sub>2</sub> emissions | SO <sub>x</sub> emissions | GDP       |
|---------------------------|----------|------------|----------|---------------------------|---------------------------|-----------|
| Capital                   | 1        | 0,971566   | 0,988942 | 0,903501147               | 0,6291712                 | 0,9918128 |
| Employment                | 0,971566 | 1          | 0,984658 | 0,956703296               | 0,7618548                 | 0,9767951 |
| Energy                    | 0,988942 | 0,984658   | 1        | 0,931836383               | 0,7028478                 | 0,9797972 |
| CO <sub>2</sub> emissions | 0,903501 | 0,956703   | 0,931836 | 1                         | 0,8114032                 | 0,9136125 |
| SO <sub>x</sub> emissions | 0,629171 | 0,761855   | 0,702848 | 0,811403179               | 1                         | 0,6333703 |
| GDP                       | 0,991813 | 0,976795   | 0,979797 | 0,913612549               | 0,6333703                 | 1         |

*Source: Authors' calculation*

As it is shown in the table 2, inputs and outputs are highly positive correlated. The highest coefficient of correlation between inputs and outputs is between capital and GDP (0.99) while the lowest coefficient of correlation is between capital and SO<sub>x</sub> emissions (0.63). High values of coefficients of correlation between inputs and outputs have approved their choice, implying that increasing values of inputs result with increasing values of outputs.

A number of modelling techniques have been developed to address energy efficiency dilemmas because energy efficiency is a difficult concept to define. It is often confused with energy conservation, although conservation indicates the use of less energy, while efficiency implies reaching a given output with a lower use of resources. Evaluating energy efficiency is a very important tool in energy and economic policy and it is usually done by two indicators: energy intensity and energy efficiency. Energy intensity is defined as the energy consumption divided by the economic output (GDP). It is the most commonly used basis for assessing trends in energy efficiency since a truly technical definition of energy efficiency can only be obtained through measurements at the level of a particular process or plant. Energy intensity is thought to be inversely related to efficiency, the less energy required to produce a unit of output or service, the greater the efficiency. A logical conclusion, then, is that declining energy intensities over time may be indicators of improvements in energy efficiencies. Trends in energy intensities are influenced by changes in the economic and industrial activities of the country (structural changes), the energy mix and the efficiency of the end-use equipment and buildings. The second indicator – energy efficiency, sometimes called energy productivity – is the reciprocal value of energy intensity and is measured as the economic output divided by the energy input (consumption). The energy efficiency is in fact more an indicator of “energy productivity” than a true indicator of efficiency from a technical viewpoint. Its level reflects the nature of the economic activity (the economic structure), the structure of energy mix and the technical energy



efficiency. In order to overcome these problems, data envelopment analysis (DEA) as a relatively new non-parametric approach to efficiency evaluation has been applied very often for benchmarking energy performance that is capable of handling multiple inputs and outputs. It is also applied in order to compare the energy efficiency performance of different countries/regions from the viewpoint of production efficiency. New researches have combined total factor energy efficiency with undesirable emissions like CO<sub>2</sub> and SO<sub>x</sub> in order to analyse environmental impacts that have become crucial issue for the economic policy.

DEA is linear programming method for measuring the relative efficiency of DMUs in converting multiple inputs into multiple outputs. Let us suppose that  $n$  DMUs having three factors: inputs, good outputs and bad (undesirable) outputs as represented by three vectors  $x \in R^m$ ,  $y^g \in R^{s_1}$  and  $y^b \in R^{s_2}$ , respectively. In the presence of undesirable outputs efficiency can be defined as “capacity” of DMU to produce more desirable outputs and less undesirable outputs with less input resources or, more precisely, by following definition (Cooper, Seiford, Zhu, 2004):

*Definition: A DMU<sub>o</sub> ( $x_o, y_o^g, y_o^b$ ) is efficient in the presence of undesirable outputs if there is no vector ( $x, y^g, y^b$ ) element production possibility set such that  $x_o \geq x, y_o^g \leq y^g, y_o^b \leq y^b$  with at least one strict inequality.*

Bad-output model, as modified SBM model (Tone, 2001), is used to estimate relative efficiency of 28 EU countries in converting three selected inputs into selected desirable output and two undesirable outputs:

$$\rho^* = \min \frac{1 - \frac{1}{m} \sum_{i=1}^m \frac{s_{io}^-}{x_{io}}}{1 + \frac{1}{s} \left( \sum_{r=1}^{s_1} \frac{s_r^g}{y_{ro}^g} + \sum_{r=1}^{s_2} \frac{s_r^b}{y_{ro}^b} \right)}$$

s.t.  $x_o = X\lambda + s^-$   
 $y_o^g = Y\lambda - s^g \quad y_o^b = Y\lambda + s^b \quad L \leq e\lambda \leq U \quad s^- \geq 0, s^g \geq 0, s^b \geq 0, \lambda \geq 0,$

where  $\lambda$  is intensity vector,  $L$  and  $U$  are the lower and upper bounds of the intensity vector,  $s^-$  and  $s^b$  excesses in inputs and bad outputs,  $s^g$  expresses shortages in good outputs while  $s_1$  and  $s_2$  denote the number of elements in  $s^b$  and  $s^g$  with equality  $s=s_1+s_2$ . If the above program has the optimal solution  $(\rho^*, s^-, s^g, s^b)$  the DMU is efficient in the presence of undesirable outputs if and only if  $\rho^* = 1, s^- = 0, s^g = 0, s^b = 0$ . If the DMU is not efficient it can become efficient by following projections:  $x_o \leftarrow x_o - s^- \quad y_o^g \leftarrow y_o^g + s^g \quad y_o^b \leftarrow y_o^b - s^b$

It follows that Bad-output model is useful in indicating sources and amounts of relative inefficiencies for each inefficient country under estimation. In order to capture the dynamics of efficiency and changes during the 2008-2014 periods in EU we have conducted DEA for each year using DEA- Solver- Pro 13.0.

## 5. Empirical results and discussion

After selecting input and output variables, in the first stage the efficiency scores of countries in each year of the 2008-2014 period are analysed. This is followed by identifying sources and

amounts of relative inefficiency. Table 3 contains the summary efficiency score results from the DEA analysis using Bad-output model with constant returns to scale.

*Table 3 Efficiency scores for the EU countries in the period 2008-2014*

| Country        | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     |
|----------------|----------|----------|----------|----------|----------|----------|----------|
| Austria        | 0,663516 | 1        | 0,74001  | 0,699609 | 0,723701 | 0,674451 | 0,67018  |
| Belgium        | 0,534928 | 0,587215 | 0,545269 | 0,553081 | 0,581322 | 1        | 0,541386 |
| Bulgaria       | 0,213054 | 0,23297  | 0,254522 | 0,258418 | 0,205462 | 0,257659 | 0,265181 |
| Croatia        | 0,373642 | 0,377813 | 0,384098 | 0,381578 | 0,420321 | 0,361422 | 0,455309 |
| Czech Republic | 0,320896 | 0,31735  | 0,29534  | 0,312374 | 0,321393 | 0,330627 | 0,296302 |
| Cyprus         | 0,463317 | 0,484546 | 0,469846 | 0,498517 | 0,635109 | 1        | 1        |
| Denmark        | 1        | 1        | 1        | 1        | 1        | 1        | 1        |
| Estonia        | 0,269233 | 0,306817 | 0,286591 | 0,262664 | 0,269915 | 0,256675 | 0,277539 |
| Finland        | 0,498689 | 0,510376 | 0,460992 | 0,476716 | 0,496961 | 0,483621 | 0,634009 |
| France         | 1        | 1        | 1        | 0,754305 | 1        | 0,790614 | 1        |
| Germany        | 0,668043 | 0,662622 | 1        | 0,581279 | 0,598044 | 0,557702 | 0,551806 |
| Greece         | 0,550205 | 0,612406 | 0,577596 | 1        | 1        | 1        | 1        |
| Hungary        | 0,384389 | 0,505939 | 0,371177 | 0,388047 | 0,403094 | 0,37405  | 1        |
| Ireland        | 1        | 1        | 1        | 1        | 1        | 1        | 1        |

*Table 3. Continued*

|                 |          |          |          |          |          |          |          |
|-----------------|----------|----------|----------|----------|----------|----------|----------|
| Italy           | 0,727997 | 0,745253 | 0,670212 | 0,65436  | 0,745117 | 0,860916 | 1        |
| Latvia          | 0,355637 | 0,381917 | 0,368176 | 0,375798 | 0,366448 | 0,575566 | 0,373536 |
| Lithuania       | 0,333581 | 0,405828 | 0,420492 | 0,372025 | 0,410911 | 0,403609 | 0,404398 |
| Luxembourg      | 1        | 1        | 1        | 1        | 1        | 1        | 1        |
| Malta           | 0,503298 | 0,532033 | 0,436311 | 0,525848 | 0,493709 | 0,555109 | 0,590428 |
| Netherlands     | 0,596302 | 0,623156 | 0,588249 | 0,597043 | 0,654182 | 0,723316 | 0,651691 |
| Poland          | 0,35756  | 0,339751 | 0,334179 | 0,328396 | 0,366353 | 0,353003 | 0,348336 |
| Portugal        | 0,517744 | 0,65482  | 0,688148 | 1        | 1        | 1        | 1        |
| Romania         | 0,259823 | 0,299972 | 0,284437 | 0,265795 | 0,28421  | 0,286872 | 0,310934 |
| Slovak Republic | 0,341339 | 0,408747 | 0,338305 | 0,326418 | 1        | 0,399222 | 0,409593 |
| Slovenia        | 0,376174 | 0,419403 | 0,408769 | 0,422727 | 0,601602 | 0,410886 | 0,420429 |
| Spain           | 0,523972 | 0,58869  | 0,559838 | 0,549304 | 0,578927 | 0,593589 | 0,558316 |
| Sweden          | 1        | 0,729566 | 1        | 1        | 1        | 1        | 1        |
| United Kingdom  | 1        | 1        | 1        | 1        | 1        | 1        | 1        |

*Source: Authors' calculations*

According to the efficiency scores, the countries with the highest energy efficiency scores in the whole analysed period are Denmark, Ireland, Luxembourg and United Kingdom, while the worst performers in total-factor energy efficiency that takes into account the level of harmful emissions are transition economies. In 2014 the worst relative efficiency was obtained by Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. These worst performers are countries with relatively strong industrial basis and their level of CO<sub>2</sub> and SO<sub>x</sub> emissions are relatively high in comparison with the level of inputs and GDP. As one could expect, the results for Croatia are similar to other new EU Member States, although there is a positive change in 2014. Findings for Croatia could be related to decrease in inputs, especially employment and energy consumption, while undesirable outputs (emissions) have been reduced. On the other hand, developed countries with highest energy efficiency that experienced the strongest growth of renewable energy like Denmark, UK and Luxembourg are countries that are graded as the most efficient.

These findings for the analysed period can be related to the possibility of substitution among factors in a medium (7 years) run and to changes in the composition of energy use.

Although these results are more or less expected, the paper tempts to test the differences between one-factor traditional energy efficiency approach and the total-factor energy efficiency that takes into account the environmental costs of economic activity such are CO<sub>2</sub> and SO<sub>x</sub> emissions.

Furthermore, DEA enables us to consider potential improvements (as projections on efficient frontier) for each inefficient country, shown in the table 4. We can see that all inefficient countries should decrease the amounts of undesirable outputs and that present value of GDP should be achieved with fewer amounts of all inputs. It means that inefficient countries do not use their inputs efficiently. For example, Croatia with efficiency score approximately 46% does not use capital, employment and energy efficiently in order to achieve present value of GDP and at the same time produces too much undesirable CO<sub>2</sub> and SO<sub>x</sub> emissions. Projections imply that Croatia should use 14.52% less capital, 66.36% less employment and 51.12% less energy, and produce 46.95% less CO<sub>2</sub> and 45.05% less SO<sub>x</sub> to achieve the present amount of 429778 GDP.

*Table 4 Efficiency scores, projections and changes for 28 EU countries in 2014*

| Country     | Score    | (I)capital |           | (I)employ  |           | (I)energy  |           | (O)Carbon diox |           | (O)Sulphur |           | (O)GDP     |           |
|-------------|----------|------------|-----------|------------|-----------|------------|-----------|----------------|-----------|------------|-----------|------------|-----------|
|             |          | Projection | Change(%) | Projection | Change(%) | Projection | Change(%) | Projection     | Change(%) | Projection | Change(%) | Projection | Change(%) |
| Austria     | 0,67018  | 642892,9   | -14,43%   | 14913,88   | -57,89%   | 283102,2   | -12,80%   | 443278740      | -9,28%    | 1264836,7  | -18,21%   | 3304176    | 0,00%     |
| Belgium     | 0,541386 | 779845,6   | -15,01%   | 18090,92   | -53,21%   | 343410,3   | -35,87%   | 537708449,5    | -25,87%   | 1534279,3  | -56,63%   | 4008050    | 0,00%     |
| Bulgaria    | 0,265181 | 49564,24   | -45,09%   | 5415,79    | -78,94%   | 58566,28   | -66,99%   | 148987352,2    | -65,40%   | 3197052    | -82,54%   | 427622     | 0,00%     |
| Croatia     | 0,455309 | 71435,22   | -14,52%   | 4425,248   | -66,36%   | 40057,32   | -51,12%   | 67749827,93    | -46,95%   | 80370,537  | -45,05%   | 429778     | 0,00%     |
| Czech Rep   | 0,296302 | 304813,1   | -22,58%   | 7071,079   | -82,43%   | 134226,5   | -68,22%   | 210170546      | -75,74%   | 599693,59  | -94,72%   | 1566600    | 0,00%     |
| Cyprus      | 1        | 20524      | 0,00%     | 2960       | 0,00%     | 22291      | 0,00%     | 55198840       | 0,00%     | 1753002    | 0,00%     | 175674     | 0,00%     |
| Denmark     | 1        | 508114     | 0,00%     | 24251      | 0,00%     | 168027     | 0,00%     | 657983160      | 0,00%     | 2018771    | 0,00%     | 2652325    | 0,00%     |
| Estonia     | 0,277539 | 38443,69   | -20,15%   | 891,8198   | -83,65%   | 16928,94   | -74,65%   | 26507166,47    | -85,70%   | 75634,661  | -98,28%   | 197583     | 0,00%     |
| Finland     | 0,634009 | 377955,5   | -10,51%   | 13727,46   | -33,97%   | 181844,6   | -47,70%   | 293740036,3    | -37,04%   | 635784     | 0,00%     | 2054740    | 0,00%     |
| France      | 1        | 4659040    | 0,00%     | 231843     | 0,00%     | 2486283    | 0,00%     | 2314288060     | 0,00%     | 21449554   | 0,00%     | 21399640   | 0,00%     |
| Germany     | 0,551806 | 5689085    | -2,78%    | 131975,9   | -62,25%   | 2505227    | -20,02%   | 3922660313     | -41,89%   | 11192788   | -77,50%   | 29239300   | 0,00%     |
| Greece      | 1        | 206245     | 0,00%     | 22536      | 0,00%     | 243704     | 0,00%     | 619961060      | 0,00%     | 13303463   | 0,00%     | 1779406    | 0,00%     |
| Hungary     | 1        | 228826     | 0,00%     | 36217      | 0,00%     | 228533     | 0,00%     | 335504340      | 0,00%     | 149281     | 0,00%     | 1049533    | 0,00%     |
| Ireland     | 1        | 395741     | 0,00%     | 15632      | 0,00%     | 135607     | 0,00%     | 244376420      | 0,00%     | 1232385    | 0,00%     | 1931596    | 0,00%     |
| Italy       | 1        | 2693304    | 0,00%     | 166844     | 0,00%     | 1510271    | 0,00%     | 2554354590     | 0,00%     | 3030190    | 0,00%     | 16203811   | 0,00%     |
| Latvia      | 0,373536 | 45933,85   | -13,94%   | 1065,577   | -86,01%   | 20227,28   | -54,56%   | 31671679,01    | -52,52%   | 90370,908  | -66,81%   | 236079     | 0,00%     |
| Lithuania   | 0,404398 | 67704      | 0,00%     | 2363,123   | -79,20%   | 32276,24   | -51,79%   | 51977503,92    | -65,01%   | 115974,17  | -92,24%   | 365900     | 0,00%     |
| Luxembourg  | 1        | 95870      | 0,00%     | 2224       | 0,00%     | 42217      | 0,00%     | 66102970       | 0,00%     | 188616     | 0,00%     | 492728     | 0,00%     |
| Malta       | 0,590428 | 14525      | 0,00%     | 761,7156   | -50,70%   | 7715,905   | -12,89%   | 12853107,88    | -75,41%   | 19343,269  | -58,46%   | 84263      | 0,00%     |
| Netherlands | 0,651691 | 1195300    | 0,00%     | 49242,06   | -27,30%   | 593199,7   | -22,77%   | 967907158,6    | -39,72%   | 1883996,5  | -71,62%   | 6630080    | 0,00%     |
| Poland      | 0,348336 | 799661,9   | -1,41%    | 18550,62   | -84,97%   | 352136,5   | -62,67%   | 551371949,8    | -80,44%   | 1573266,2  | -97,36%   | 4109897    | 0,00%     |
| Portugal    | 1        | 259931     | 0,00%     | 35737      | 0,00%     | 220850     | 0,00%     | 410938000      | 0,00%     | 483282     | 0,00%     | 1730791    | 0,00%     |
| Romania     | 0,310934 | 292550,3   | -19,96%   | 6786,606   | -88,38%   | 128826,5   | -59,94%   | 201715293,5    | -68,20%   | 575567,66  | -96,64%   | 1503575    | 0,00%     |
| Slovak Rep  | 0,409593 | 147768,8   | -4,64%    | 3427,952   | -82,77%   | 65070,98   | -59,78%   | 101887503,9    | -64,94%   | 290722,39  | -32,49%   | 759464     | 0,00%     |
| Slovenia    | 0,420429 | 72637,58   | -0,71%    | 1685,053   | -77,35%   | 31986,45   | -51,92%   | 50084073,1     | -56,27%   | 142908,22  | -82,91%   | 373324     | 0,00%     |
| Spain       | 0,558316 | 1983350    | 0,00%     | 53820,8    | -62,18%   | 897649,6   | -23,07%   | 1419720246     | -28,06%   | 3732279,5  | -84,81%   | 10370250   | 0,00%     |
| Sweden      | 1        | 997355     | 0,00%     | 41753      | 0,00%     | 482088     | 0,00%     | 421413330      | 0,00%     | 6526911    | 0,00%     | 4326911    | 0,00%     |
| United Kin  | 1        | 3752481    | 0,00%     | 252526     | 0,00%     | 1897070    | 0,00%     | 3668901450     | 0,00%     | 41116532   | 0,00%     | 22608048   | 0,00%     |

*Source: Authors' calculations*

By incorporating projections we came to useful insights for the policy makers, especially in the context of main conclusions of Paris climate conference in 2015. Namely, all countries committed to a 40% reduction in greenhouse gas emissions by 2030 compared to 1990 and therefore the sustainable economic growth has become the crucial economic issue.

## 6. Conclusions

In this study, the comparison of environmental total factor energy efficiency between EU countries was performed by DEA methodology. We applied SBM model with undesirable outputs and the results of the research show that only eleven of twenty eight EU countries are relatively efficient. The main contribution of the analysis is potential improvements for

inefficient countries. As Camiato, Rebelatto and Rocha (2016) stressed it should be noted that the slacks cannot be interpreted as a rigid target, as it is only an indication of which variable is more detrimental to the efficiency of countries in relation to others.

This study could be further widened to consider the effects of the energy mix of the EU economies and energy prices in order to provide more insights on the aspects of energy efficiency, especially the possibility of energy sources' substitutability, which could significantly alter policy measures and their implications. The obtained results have consequences in implementing measures for improving energy efficiency in the EU in the light of the ongoing desire to reduce greenhouse gas emissions.

## REFERENCES

- Camiato, F. C., Rebelatto, D. A. N., Rocha, R. T. (2016): *Energy efficiency analysis of BRICS countries: a study using Data Envelopment Analysis*, Gest. Prod., São Carlos, Vol. 23, No. 1, pp. 192-203.
- Cooper, W. W., Seiford, L. M., Zhu, J. (2004): *Data Envelopment Analysis*, in: Handbook on Data Envelopment Analysis, International Series in Operations Research & Management Science, Vol. 71, pp. 1-39.
- Council of the European Union (2007): *Brussels European Council 8/9 March 2007*, Presidency conclusions, No. 7224/1/07, Brussels.
- DeSimone, L. D., Popoff, F. with the World Business Council for Sustainable Development (1997): *Eco-efficiency: The Business Link to Sustainable Development*, Massachusetts Institute of Technology, Cambridge.
- Dyckhoff, H., Allen, K. (2001): *Measuring ecological efficiency with data envelopment analysis (DEA)*, European Journal of Operational Research, Vol. 132, pp. 312-325.
- European Commission (2017): *EUROSTAT*, Statistics Database.
- Fang, C.-Y., Hu, J.-L., Lou, T.-K. (2013): *Environment-adjusted total-factor energy efficiency of Taiwan's service sectors*, Energy Policy, Vol. 63, pp. 1160-1168.
- Färe, R., Grosskopf, S., Tyteca, D. (1996): *An activity analysis model of the environmental performance of firms - application to fossil-fuel-fired electric utilities*, Ecological Economics, Vol. 18, No. 2, pp. 161-175.
- Jollands, N. (2006): *Concepts of efficiency in ecological economics: Sisyphus and the decision maker*, Ecological Economics, Vol. 56, pp. 359- 372.
- Lovell, C. A. K., Pastor, J. T., Turner, J. A. (1995): *Measuring macroeconomic performance in the OECD: A comparison of European and non-European countries*, European Journal of Operational Research, Vol. 87, No. 3, pp. 507-518.
- Nissi, E., Rapposelli, A. (2006): *Assessing Ecological Efficiency via Data Envelopment Analysis*, <http://www.old.sis-statistica.org/files/pdf/atti/CIME0905p171-174.pdf> (accessed 7 March 2017)

Ramli, N. A., Munisamy, S. (2013): *Modeling undesirable factors in efficiency measurement using data envelopment analysis: A review*, Journal of Sustainability Science and Management, Vol. 8, No. 1, pp. 126-135.

Tone, K. (2001): *A slacks-based measure of efficiency in data envelopment analysis*, European Journal of Operational Research, Vol. 130, pp. 498-509.

Vlahinić-Dizdarević, N., Šegota, A. (2012): *Total-factor energy efficiency in the EU countries*, Proceedings of Rijeka Faculty of Economics: Journal of Economics and Business, Vol. 30, No. 2, pp. 247-265.

You, S., Yan, H. (2011): *A new approach in modelling undesirable output in DEA model*, The Journal of the Operational Research Society, Vol. 62, No. 12, pp. 2146-2156.

Zhang, N., Kong, F., Yu, Y. (2015): *Measuring ecological total-factor energy efficiency incorporating regional heterogeneities in China*, Ecological Indicators, Vol. 51, pp. 165-172.

Zhou, P., Ang, B. W., Poh, K. L. (2008): *A survey of data envelopment analysis in energy and environmental studies*. European Journal of Operational Research, Vol. 189, No. 1, pp. 1–18.

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## **AGROECOLOGY AS A FACTOR OF ECONOMIC DEVELOPMENT**

### **AGROEKOLOGIJA KAO ČIMBENIK EKONOMSKOG RAZVOJA**

#### **ABSTRACT**

*The term agroecology (AE) is very broad and it is understood as a responsible way of life according to the tradition of the local environment. The approaches that are developed in Slovenia and in which we can find the content of AE, are limited to single segments of the term. Thus Organic Farming (OF) means farming according to EU guidelines, which takes into account the relationship to plants and animals, but they are not based on heritage or tradition and they do not direct natural resources in the direction of energy-saving use. OF knows irrigation and reclamation of land, ploughing, spraying and protective agents. OF procedures are certified and as such generally applicable everywhere, regardless of location, tradition or the conditions of nature (Online source 2). Typical of biodynamic agriculture is the compliance with the rhythm of nature and to understand the cosmic forces and energies of the Earth, such as ethers. This is the highest level of responsible attitude to nature, but is not officially supported since it is not interesting for biodynamic agricultural markets because it does not use poisons (Online source 1).*

*AE deals with contents as ecology in agriculture, organic farming, sustainable agriculture, green agriculture, permaculture, ecoremediations, integrated farming and natural agriculture. According to the official definition, the term AE means the use of traditional practices that are consistent with the characteristics of the local environment and do not limit only on food production, but also on food processing (recipes), products made from natural materials, especially wood, stone and construction as well as on ways of sustainable relationship to nature (water storage, attitude to water use, attitude to soil, shallow ploughing, attitudes toward animals, plants). We have discovered the concept of AE and its use and influence in Croatia.*

**Key words:** agroecology, agriculture, ecoremediation, organic farming, permaculture.

#### **SAŽETAK**

*Pojam agroekologija (AE) je vrlo širok i podrazumijeva se kao odgovoran način života prema tradiciji lokalne sredine. Pristupi koji su razvijeni u Sloveniji, u kojoj možemo pronaći sadržaj AE, ograničeni su na pojedine segmente toga pojma. Tako organska poljoprivreda (OP) znači*

uzgoj u skladu sa smjernicama EU-a, gdje se uzima u obzir odnos prema biljkama i životinjama, ali se oni ne temelje na baštini i tradiciji te ne usmjeravaju prirodne resurse u smjeru korištenja za uštedu energije. OP poznaje navodnjavanje i isušivanje zemljišta, oranje, prskanje i zaštitna sredstva. Postupci OP su certificirani i kao takvi, općenito primjenjivi svugdje, bez obzira na mjesto, tradiciju ili prirodne uvjete (Internetski izvor 2). Tipično za biodinamičku poljoprivredu je sklad s ritmom prirode i razumjeti kozmičke sile i energije na Zemlji, poput etera. To je najviša razina odgovornog odnosa prema prirodi, ali nije službeno podržan, jer nije zanimljivo za biodinamička tržišta poljoprivrednih proizvoda, jer se ne koriste otrovi (Internetski izvor 1; Piercea 1990).

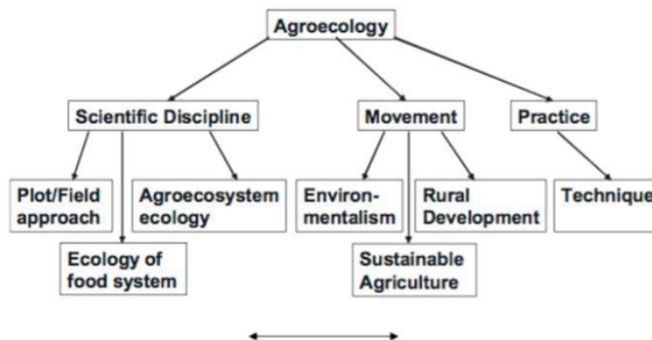
AE se bavi sadržajima poput ekologije u poljoprivredi, organskim uzgojem, održivom poljoprivredom, zelenom poljoprivredom, permakulturom, ekoremedijacijama, integriranim uzgojem i prirodnom poljoprivredom. Prema službenoj definiciji pojam AE znači korištenje tradicionalnih metoda koje su u skladu s obilježjima lokalne sredine i ne ograničavaju se samo na proizvodnju hrane, nego i na preradu hrane (recepti), proizvode izrađene od prirodnih materijala, osobito drva, kamen i izgradnju, kao i na načine održivog odnosa prema prirodi (skladištenje vode, stav prema uporabi vode, odnos prema tlu, plitko oranje, stavova prema životinjama, biljkama). Otkrili smo koncept AE i njegovu uporabu i utjecaj u Hrvatskoj.

**Ključne riječi:** agroekologija, poljoprivreda, ekoremedijacija, organska poljoprivreda, permakultura.

## 1. Introduction

Recent literature has helped define and categorize different understandings and definitions of agroecology. In Wezel et al. (2011) the authors systematically categorize different perspectives of agroecological traditions in various key-playing countries. They describe the different traditions of AE through examples from these key countries. The three categories given are AE as a scientific discipline, a movement, and a practice, and their meanings are described below in Figures 1.

**Figure 1** The diversity of current types of meanings of agroecology.



Source: Wenzel, et al., 2011, p. 3

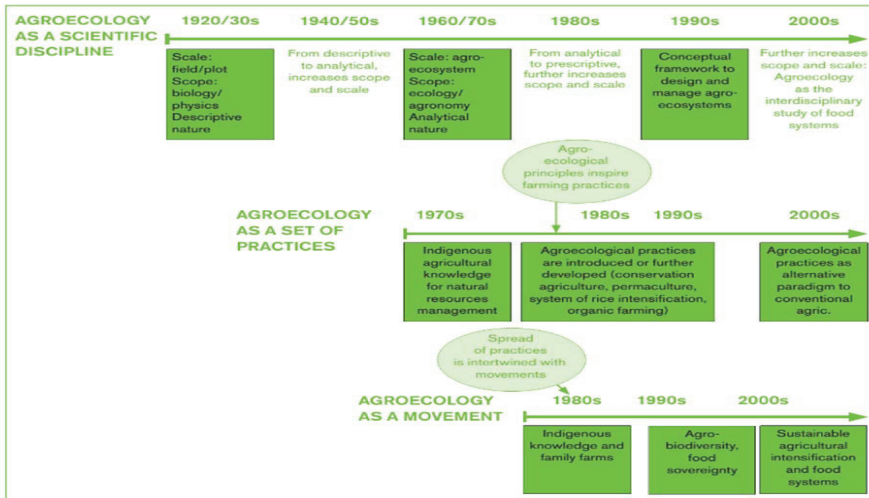


The inability to accept agroecology's wider societal implications in the food system today is considered by many researchers as an archaic practice. When looking along the timeline of its history, definitions pertaining solely to agronomy, ecology, zoology and botany (considered as the main disciplines to have contributed to AE's beginnings from the 30s-60s (Wezel, et al., 2009) are acceptable when defining borders of an experiment or acknowledging a field trial. Yet today, many researchers are embracing a new trend, while acknowledging the more narrow definitions of AE (Gliessman, 1984). Such trends are moving forward to embrace broader definitions of AE such as "the ecology of food systems" (Francis et al., 2003). Even Altieri, perhaps the most well-known professor of Agroecology, who began firmly rooted in the scientific discipline of AE, has begun the shift to include the social, as seen in his 'Agroecology in Action' website:

"To put agroecological technologies into practice requires technological innovations, agriculture policy changes, socio-economic changes, but mostly a deeper understanding of the complex long-term interactions among resources, people and their environment. To attain this understanding agriculture must be conceived of as an ecological system as well as a human dominated socio- economic system" (Altieri, 2016).

This transition from AE as a scientific discipline to its empirical, socio-cultural inclusion and practice has been more prevalent in South, Central and North America. These movements include examples such as Via Campesina in South and Central America and Brazilian involvement in connection to rural development (which led to the first integration of agroecological approaches in policy (MDA & Agrário, 2013). In the US, the broader definition has expanded its use particularly in higher education with many practical AE educational programs and field studies. Europe in general has remained scientifically rooted, yet many movements are self-proclaimed agroecological followers. In Austria in particular, due to the immense public, political and institutional support of organic farming, many connections can be made to AE movements. Figure 3 describes the changes of the definition of AE through scale and time.

**Figure 2** Temporal changes in scale and dimension of the definition of agroecology and in applied researches



Source: *Agroculture*, 2014.

Speaking about agroecology is quite new for public policies. But the research and technical institutes, the actors of agriculture and environment development, teachers and associations have developed, for years, agroecological practices in order to optimise production systems by the natural controls and the organic interactions within the agro-systems. The various actors and the numerous meanings of the concept of agro-ecology make it possible to define different approaches and work environment for the introduction of agro-ecosystems. Researches carried out around agroecology made it possible to clarify the bases and distinguish three periods related to its building:

### Agroecology as a science:

As a scientific interdisciplinary approach, agroecology has a critical function, which is a product of the questioning of the prevailing intensive agronomic pattern by the overuse of inputs in the agroecosystem. It also puts into question the prevailing ecological pattern of nature preservation, which advocates a land spare of biodiversity and food production rather than a land share of the two functions. Agroecology is, therefore, a hybrid system, which has an exploration function towards other conceptual and technical ways; taking roots in the food systems knowledge. The word appears for the first time in the 30s scientific writings, with Bensen's publishing. Until the 60s, agroecology remains a scientific subject centred on ecology principles (*écologie systémique*, Odum, 1971). In the 80s, Altieri (2016) defines agro-ecology as the applying of ecology principles to the redefinition of agronomy. The main idea being that the analysis of agroecosystem and its sustainability would enable the production of knowledge and practices which would make agriculture sustainable. Outside the plot, the analysis of agroecosystem highlighted the whole farming system.

## **Agroecology as a food system:**

From the two previous schools, agro-ecology becomes the study of interaction between food production and society, extending the scope to all food systems (Lieblein & al. 2003), combining, not only the productive dimension but also the sector organisation and consumption dimensions. This concept of food systems was taken up later on by Gliessman (2006), making the social sciences' contribution decisive in the understanding of the food systems building, by integrating the socio-economic and political dimensions through time and space.

Agro-ecology based on scientific and traditional knowledge:

It is a science that bridges ecological and socio-economic aspects. It can work at various levels – farm, community, national, regional, etc. Biological processes are enhanced using agroecological principles and these principles can be shared via farmer-to-farmer exchanges. Agro-ecology needs to be built from the bottom up, especially through social movements in rural areas.

The concept of agroecology implies a break with the era of intensive production and artificialisation of the natural environment to meet food needs. The priority now is to develop agricultural practices which respect the natural environment, the diversity of the eco-systems and of the territories while being at the same time productive and financially sustainable. This conceptual break, in turn, changes thoroughly the orientations and practices of the research, education and training systems which are no longer devoted to support the implementation by farmers of technical recipes and packages based on chemical inputs, energy and mechanization to give way to a new combination of knowledge, know-how and practices based on interactions with the natural environment, new crops and breeding management techniques aiming at the resilience and productivity.

## **2. Research work methodology**

For understanding agroecology in Slovenia, we analysed two projects:

### **2.1. The analyse of the project “SAGITER”**

Project SAGITER-Agro-ecological knowledge and ingenuity of rural areas. We gathered data for the project SAGITER, which is the acronym for the project "Agro-ecological knowledge and ingenuity of rural areas", from the website of the Chamber of agriculture and forestry of Slovenia. In the framework of the Leonardo da Vinci programme, the Chamber of agriculture and forestry (KGZS) is the Slovenian representative as a partner organization in the project with the title SAGITER. The project deals with the field of AE. This takes into account the legality of farming, according to traditional systems, adjusted to the specificities of their environment. The project SAGITER combines the ten partner institutions from seven European countries.

<http://sagiter.eu/wakka.php?wiki=PourquoI>

### **2.2. The analyse of the project “Teaching agro-ecology in the transitory period, its consequences on the agricultural knowledge Systems” (<http://www.euroeducates.eu/sl/>)**

The Euro-EducATES project is an Erasmus+ project which takes place in the key action "cooperation and innovation for good practices" and in the field of "strategic partnerships for vocational education and training (Bergerie nationale de Rambouillet, 2016). Project will have five outputs: a first report makes an inventory and a comparative and critical study of the diversity of approaches of agroecology; a second report talks about innovations and changes

induced by agroecology. It will be based on case studies; three educational tools (one based on written materials, one based on audiovisual techniques and one for E-learning developments).

### 2.3. Defining the direction of AE

Based on the review of different materials (books, articles, web pages, project materials) relating to agroecology, main- and sub-indicators were defined which we take into account and we recognize the occurrence of AE in Slovenia (in practise, in research and in education).

*Figure 3 Indicators and sub-indicators*

| Main Indicator                              | Sub-Indicator  |
|---|--|
| Social                                      | Community  |
|   | Communication  |
|   | Education  |
|   | Transition / Transformation  |
|   | Tradition  |
|   | Political  |
|   | Social Justice (intergenerational thinking, worker rights, gender aspects, etc.) |
|   | Values and Ethics  |
|   | Autonomy-food sovereignty  |
|   | Environmental  |
| Soil health                                 |  |
| Landscape (spatial dimension)               |  |
| Climate                                     |  |
| Climate Change                              |  |
| Animal Health                               |  |
| Plant Health                                |  |
| Ecosystem Services (clean water, air, etc.) |  |
| Ecoremediation                              |  |
| Permaculture                                |  |

| Main Indicator | Sub-Indicator                                 |
|----------------|---|
| Economic       | Tourism                                       |
|                | Marketing                                     |
|                | Membership                                    |
|                | Green jobs                                    |
|                | E-marketing                                   |
|                | Autonomy (e.g.) less inputs less costs, etc.) |
| Technical      | Digital technology                            |
|                | New tools                                     |

Source: Own work (A. Vovk Korže, 2017)

The contents of AE are gaining their importance due to climate change, lack of natural resources, pollution of the groundwater and its lack as well as the disappearance of biodiversity. AE is a term that can be used in several ways, as a science, as a movement and as a practice in the field of agriculture in the world. AE treats agriculture in an interdisciplinary way. Agriculture is considered as part of the ecology; therefore, AE is focused on organic principles.

Agroecologists often see the addition or the umbrella of agroecology to organic agriculture as a possibility to further guide the current organic system by including additional agroecological principles. Because of agroecology's distance from institutionalisation to the extent of organic with standards, regulation, certification, and political agendas, it is also seen as a possibility to circumvent some of the economic and institutional interests and to replace resulting hindrances with possibilities that come from a less manipulable form of sustainable agriculture (Altieri & Nicholls, 2003). Agroecology is seen by some as a possibility to rescue organic farming from the risks of conventionalization.

### 3. Agroecology for economic development

#### 3.1. Agroecology and ecoremediation

Ecoremediations are an innovative, environmentally and health friendly technology, which includes the collection, containment, cleaning and reusing water. In doing so, ecoremediations take advantage of and promote the self-cleaning ability of natural ecosystems, and complements with constructed wetlands, vegetational belts and other sustainable methods that imitate nature and processes in natural ecosystems. These are the reasons why ecoremediations are extremely useful in agricultural areas, because they are using the appropriate methods of reducing or even prevent the runoff of nutrients and protective agents in the waters and groundwater, but also provides water for watering.

The possibilities of using ERM to reduce the negative influence in agriculture and as an alternative to complement measures of agro-environmental programmes are:

- The reduction of contamination of groundwater with nitrates, phosphates and pesticides, and organic matter and ammonia compounds from livestock farms and in areas with agricultural and horticultural production;
- The reduction of air pollution;
- Reduce the effects of wind erosion and mudslides;
- Reducing the accumulation of pesticides in the soil;
- Reduction of saline soils;
- The increase of landscape diversity and biodiversity;
- Holding water and enriching the groundwater;
- Act as a supplement to the existing system for the prevention of pollution;
- Prevents drying out, etc.

### **3.2. Biodynamic farming**

In the beginning, biodynamic farming was strongly influenced by the situation in agriculture after the First World War. In the time of war, industrial production was highlighted and food production has been neglected. Therefore, agricultural land after the First World War was in a very poor condition. The second cause was Justus von Liebig's theory about feeding plants with mineral fertilizers, which has led to a rapid degeneration of plants, decline in the quality of the crop and depletion of soil. The German farmers and powerful land owners were aware of that and thus called R. Steiner in to help them. He taught eight lectures on the agricultural course in 1924 in Koberwitz and with this he moved the principles of biodynamic farming, which was the first organic farming as an alternative to chemical agriculture.

### **3.3. Permacultural farming**

Sustainable, permanent societies may be based only on what it can maintain and be restored on its own. Our current unbalanced policy, unsustainable use of the Earth and the lack of caring for people and the environment are already causing the need to change. The change must lead us back to the balanced society. The people who live according to the principles of permaculture, by observing the natural cycles have developed strategies which allow them to create their own system of sustainable life (Raman, 2006). All it takes is the awareness that we cannot exploit nature endlessly and that we need to adapt to the natural rhythm (season, available resources, and the idea that we can do it). Permacultural systems are sustainable, give profitable crops, require minimum effort for maximum result, they are ethical and caring for the Earth and people and generate surpluses, which we share with others. This part of Permaculture and the real results that are already visible on the Learning Centre for self-sufficiency in Dole, are the starting point of realising that even educational institutions can be directed to the use of permaculture in school gardens. We always need practical experience before going into something new. Therefore, in this paper, we have gathered ways of organizing garden with the use of permaculture. These methods are simple, and convince us that in the nature the matter and energy circulate, and that the easiest thing to take into account is the nature's own guidelines. By creating our own permaculture gardens we can develop creativity, connect health, movement and food production and make a special contact with the soil, plants and animals, thus creating added value. The world's biggest problem nowadays is the lack of fertile soil (Whitefield, P. 2012).

### **3.4. Sustainable – green agriculture**

The new reform for the period from 2014-2020, is responding to the environmental, economic and territorial challenges with greater emphasis on sustainable development, the strengthening of the competitiveness of agriculture and rural development. The essential new feature is the Green component which devotes 30% of direct payments to agricultural practices, which are beneficial for the climate and the environment within which the measures will be implemented: diversification of crops, maintenance of permanent grassland and areas of ecological significance. Specific support will be passed on to young farmers who will start with agricultural activity for the first time. The support is intended to facilitate the start-up activities and the structural adjustment of their holdings. With this a generational rejuvenation in the agricultural sector will also be stimulated. A new element in the scheme for small farmers means a simplification of the procedures for entry into the scheme. Better targeting of direct payments is also reflected in the new terms and conditions for receiving direct payments to so-called active farmer, the minimum size of the agricultural holding.

### **3.5. Organic farming**

OF represents a form and method of farming that is gaining increasing importance in the Slovenian agricultural area, however, its origins date back to the early 90s. Due to the nature-friendly technological processes, it enables the sustainable management of cultural landscapes and natural resources and at the same time, promotes the principles of animal welfare or adaptation of breeding to a certain animal species and breeds. In OF, integrated crop production and animal husbandry are complementary, and thus they trace the natural methods and circulation of materials in nature (online source 8).

OF at the same time ensures the production of high-quality and safe food, rich in nutritional value and with a high content of vitamins, minerals and antioxidants. Whereas the use of soluble mineral fertilisers can be chemically synthesized, plant protection products (pesticides), genetically modified organisms and products derived from such organisms, as well as a variety of growth regulators with this method of farming are prohibited, therefore there are virtually no expected residues of these substances in crops or foods and consequently in the consumer.

## **4. Conclusion**

The contents of Agroecology are gaining their importance due to climate change, lack of natural resources, pollution of the groundwater and its lack as well as the disappearance of biodiversity. AE is a term that can be used in several ways, as a science, as a movement and as a practice in the field of agriculture in the world. AE treats agriculture in an interdisciplinary way. Agriculture is considered as part of the ecology; therefore, AE is focused on organic principles.

To put agroecological technologies into practice, technological innovations, agriculture policy changes, socio-economic changes, but mostly a deeper understanding of the complex long-term interactions among resources, people and their environment are required. To attain this understanding, agriculture must be conceived of as an ecological system as well as a human dominated socio- economic system.



## REFERENCES

Altieri, M. A. (2016), *Forgotten Agricultural Heritage* : <https://books.google.si/books?id=OsmVDQAAQBAJ&dq=Altieri,+2016&hl=sl&sa=X&ved=0ahUKEwiLsP3jjJDTAhUCWhQKHSoLB-YQ6AEIKzAC>

Bergerie nationale de Rambouillet (2016) *The various approaches of agro-ecology in the different countries*. Report France. Euro-EducATES.

Wezel, A. et all. (2011) *Agroecological practices supporting the provision of goods and services in agriculture. Examples from France and Europe*

Wezel, A, S. Bellon, Thierry Dore, C. Francis, D. Vallod, et. all., 2009: *Agroecology as a science, a movement and a practice. A Review*. Agronomy for Sustainable Development, Printer verlag/ EDP Science(INRA, 2009, 29(4).

Raman, S. (2006). *Agricultural sustainability – principles, processes and prospects*. New York: Food products Press, 474 pg.

Whitefield, P. (2012). *Permaculture in a Nutshell*. Permanent Publications. London: Permaculture Association.

Odum, E.P., 1983: *Basic Ecology*. Publish by Harcourt Brau, Philadelphia Saunders College Pub, ISBN 0030584140

Raman, S. (2006). *Agricultural sustainability – principles, processes and prospects*. New York: Food products Press, 474 pg.

*Agroecology, 2014, Key Concepts, Principles and Practices*.  
<http://agroeco.org/wp-content/uploads/2015/11/Agroecology-training-manual-TWN-SOCLA.pdf>

Altieri & Nicholls, 2003.

Denise Van Dam & al, 2012:  
<https://books.google.si/books?id=Ur95acIe59UC&pg=PA32&lpg=PA32&dq=Denise+Van+Dam+%26+al,+2012&source=bl&ots=hJ-7IpYcTw&sig=K3c0KyR13ISseyUuFwXeo2X9oXw&hl=sl&sa=X&ved=0ahUKEwiV4pe9jpDTAhXCXBQKHTRyC88Q6AEIVTAJ#v=onepage&q=Denise%20Van%20Dam%20%26%20al%2C%202012&f=false>

Francis, T., *Social Construction*.  
<https://books.google.si/books?id=Z5CYe3O170EC&dq=Francis+,+2003&hl=sl&sa=X&ved=0ahUKEwiqmOXci5DTAhUHchQKHYYWkCU0Q6AEIIDAB>

Gliessman, S.R., 1964, *The ecology of Sustainable Food System*.  
[https://books.google.si/books?id=1ofOdCFaP5IC&pg=PA19&lpg=PA19&dq=Altieri,+1983;+Gliessman,+1984&source=bl&ots=PZZcZy85ql&sig=QoL\\_tqk40NUWhqGOtY77xOtKL1I&hl=sl&sa=X&ved=0ahUKEwiAgv27ipDTAhXBbRQKHa3MDXwQ6AEILzAE#v=snippet&q=Altier i%2C%201983%3B%20Gliessman%2C%201984&f=false](https://books.google.si/books?id=1ofOdCFaP5IC&pg=PA19&lpg=PA19&dq=Altieri,+1983;+Gliessman,+1984&source=bl&ots=PZZcZy85ql&sig=QoL_tqk40NUWhqGOtY77xOtKL1I&hl=sl&sa=X&ved=0ahUKEwiAgv27ipDTAhXBbRQKHa3MDXwQ6AEILzAE#v=snippet&q=Altier i%2C%201983%3B%20Gliessman%2C%201984&f=false)

MDA & Agrário, 2013

<https://books.google.si/books?id=zP-WCgAAQBAJ&pg=PA45&dq=MDA+%26amp;+Agr%C3%A1rio,+2013&hl=sl&sa=X&ved=0ahUKEwighMqkjZDTAhXCQBQKHav8CJIQ6AEIGjAA#v=onepage&q=MDA%20%26amp%3B%20Agr%C3%A1rio%2C%202013&f=false>

Lieblein & al. 2003  
<https://books.google.si/books?id=N47wCgAAQBAJ&pg=PA76&dq=Lieblein+%26+al.+2003&hl=sl&sa=X&ved=0ahUKEwjPm7z5jpDTAhVB1hQKHcn5BNsQ6AEIGjAA#v=onepage&q=Lieblein%20%26%20al.%202003&f=false>  
[http://agroeco.org/wp-content/uploads/2016/01/Altieri-GurrBiodivInsectPests\\_2012.pdf](http://agroeco.org/wp-content/uploads/2016/01/Altieri-GurrBiodivInsectPests_2012.pdf)  
<http://sagiter.eu/wakka.php?wiki=PourquoI>  
<https://agroeco.org/wp-content/uploads/2015/11/Agroecology-training-manual-TWN-SOCLA.pdf>  
[www.agroecology.org](http://www.agroecology.org)

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## **OVERVIEW OF PREDICTION MODELS FOR BUILDINGS ENERGY EFFICIENCY**

### **PREGLED PREDIKTIVNIH MODELA ENERGETSKE UČINKOVITOSTI ZGRADA**

#### **ABSTRACT**

*The purpose of the paper is to provide an overview of existing models that deal with energy efficiency for buildings. The research aims to scientifically contribute the realization of European Commission directives about reducing greenhouse gas emissions, increasing energy efficiency and using 20% of energy consumption from renewable energy resources until 2020. There are Strategies of energy development as well as National plans of energy efficiency in Croatia and in other EU countries, which quantify and control the objectives of reducing immediate energy consumption. However, the data on energy efficiency have not been analyzed enough for the purpose of efficient management of energy consumption and cost reduction, while there is a lack of research that use machine learning methods to more precisely detect interdependence among variables, prediction of payback period and other analytics. In this paper, the methodology used in previous research as well as the choice of variables used to model energy efficiency of buildings is analyzed. The advantages and limitations of previous approaches are identified which can serve as a baseline for future research in providing more efficient models.*

**Key words:** energy efficiency, machine learning, buildings, prediction.

#### **SAŽETAK**

*Svrha rada je dati pregled postojećih modela koji se bave energetsom učinkovitošću zgrada. Istraživanje ima za cilj znanstveno doprinijeti ostvarenju direktiva Europske komisije o smanjenju emisije stakleničkih plinova, povećanju energetske učinkovitosti i podmiranju 20% potreba potrošnje energije iz obnovljivih izvora energije do 2020. godine. U Hrvatskoj i drugim zemljama Europske unije postoje Strategije eneretskog razvoja i Nacionalni planovi energetske učinkovitosti kojima se kvantificiraju i prate ciljevi smanjenja neposredne potrošnje energije. Međutim, podaci o energetske učinkovitosti se nedovoljno znanstveno analiziraju u svrhu učinkovitijeg upravljanja energijom i postizanja manjih troškova, a posebice nedostaju istraživanja koja koriste metode strojnog učenja u svrhu preciznije detekcije utjecaja ulaznih varijabli, predviđanja razdoblja povrata ulaganja i druge analitike. U radu se analizira metodologija korištena u prethodnim istraživanjima kao i izbor varijabli pri modeliranju energetske učinkovitosti javnih zgrada. Identificirane su prednosti i nedostaci prethodnih pristupa, što može poslužiti kao osnova za daljnja istraživanja u kreiranju učinkovitijih modela.*

**Key words:** *energetska učinkovitost, strojno učenje, zgrade, predviđanje.*

## 1. Introduction

The importance of energy efficiency topic for European Union and other countries is emphasized in a number of European Commission directives. For example, the directive 2002/91/EC introduces five essential elements for reducing energy consumption, among which is the obligatory energy certification of buildings. In order to follow those directives, Croatia has brought the Law on energy efficiency and industry as well as institutions are invited to apply the regulation ISO 50001, which defines requirements for establishing energy management. There are several institutions in Croatia founded by the government that take care of recording and measuring energy efficiency in public sector. The Agency for Legal Trade and Real Estate Brokerage (APN) is in charge of managing the centralized information systems that monitors energy efficiency in public buildings: the Information system of energy management (ISGE). The purpose of ISGE system is to enable systematic energy management in public sector (APN, 2017). Another institution founded by the Croatian government, the Center for Monitoring Business Activities in the Energy Sector and Investments (CEI) is established with the objective of finding solutions for improving the financial effectiveness of companies in the energy sector in which the state has shares or holds stock (CEI, 2017). To be able to fulfil its purpose, CEI is in charge of the System for measuring and verifying energy savings (SMIV). By those two systems it is possible to manage the energy consumption and savings in public sector. Although the IT infrastructure and the methodology for certifying energy efficiency of buildings exists, there is still a lack of integrated methodological framework for prediction of energy efficiency of buildings. Therefore, the aim of the paper is to provide a state-of-the art of existing methodology, by analyzing literature in the area of data analytics and energy efficiency.

## 2. Previous research

Tommerup (2007) emphasized that buildings are the largest individual energy consumers, since the building sector itself contains 40% of total primary energy consumption. The buildings in Croatia are responsible for 30% of total energy consumption, out of which 70% is spent on heating and warming water (Čulo and Krstić, 2008). Those data imply that efficient management of public buildings is important in trying to reduce energy consumption and state expenditures. Since most of public buildings in Croatia still uses non-renewable natural resources and greenhouse gases, this issue also influences environment. Previous research shows that there are a number of efforts to predict energy consumption and cost using different methodologies, including mathematical methods (Sabo et al., 2011), statistical forecasting methods (Mangold et al., 2015), machine learning (Naji et al., 2016) and simulations (Yeong et al., 2017). Various deterministic and stochastic models have been exploited for predicting energy consumption. Statistical methods such as autoregressive moving averages (ARMA), cycle analysis or multiple regression have been mostly used (Gutierrez et al., 2005), while recent papers test machine learning methods such as neural networks (Tonković et al, 2009; Melo et al., 2016) and support vector regression (Naji et al., 2016). One of the gaps that could be noticed is a lack of integrated methodological framework for intelligent data analysis based on machine learning methods that will be able to discover hidden relationships among data. Regarding variables and parameters that should be included in modeling energy consumption, Patterson (1996) emphasizes three groups of indicators that should be considered: physical-thermodynamic, economic-thermodynamic, and purely economic indicators. As a measure of model success the authors mostly use mean square error (MSE), mean absolute error (MAPE) or similar measure. Hsu

(2016) used integrated clustering methods for prediction of energy consumption of multifamily buildings in New York City, where cluster wise regression was compared to common two-stage algorithms that use K-means and model-based clustering with linear regression. Borgstein et al. (2016) bring an overview of existing methods used for analyzing, classifying, benchmarking, rating and evaluating energy performance in non-domestic buildings. They found five main groups of methods: engineering calculations, simulation, statistical methods, machine learning and other methods. In their study they bring advantages and limitations of those methods. Besides that, they also map the use of performance evaluation in energy efficiency programmes and standards. Their study emphasizes a need to further develop interactions between the main modelling techniques to produce simple, robust and validated models. Santamouris (2016) brings an overview of models used specifically for cooling the buildings. It can be concluded from the previous research that there are efforts of researchers towards modeling energy efficiency and consumption, mostly by using methods of operational research and statistical methods, while machine learning methods have only recently introduced in this area. Since this paper aims to compare existing models regarding methodology used, a more detailed overview of previously developed models for predicting energy efficiency of buildings is given in the Results section.

### 3. Methodology

In order to provide an overview of existing models for predicting energy efficiency, we have conducted a basic search of Web of Science Core Collection (WoS CC) database, since it is one of the most relevant databases of academic publications. Keywords used for searching were: „buildings energy efficiency“ and „prediction model“. They were searched within the topic of publications indexed in Science Citation Index Expanded (SCI-Expanded), Social Science Citation Index (SCI), and Arts and Humanities Citation Index (A&HCI). The time span used for analysis was from 2012 to 2017, as shown in Figure 1.

*Figure 1* Advanced search of papers in WoS CC database used for analysis

The screenshot shows the Web of Science search interface. At the top, it says 'WEB OF SCIENCE™' and 'Web of Science™ Core Collection'. Below that, there's a search bar with the query 'buildings energy efficiency' and a dropdown menu set to 'Topic'. Below the first search bar, there's an 'AND' operator and a second search bar with the query 'prediction model', also with a 'Topic' dropdown. There are links for '+ Add Another Field' and 'Reset Form'. Under the 'TIMESPAN' section, 'All years' is selected, and the search is limited to 'From 2012 to 2017'. Under 'MORE SETTINGS', the following indexes are selected: Science Citation Index Expanded (SCI-EXPANDED) --1955-present, Social Sciences Citation Index (SSCI) --1955-present, and Arts & Humanities Citation Index (A&HCI) --1975-present. The Conference Proceedings Citation Index- Science (CPCI-S) --1990-present is not selected.

*Source: author's search in Web of Science Core Collection database (2017)*

The search resulted with 201 papers (190 journal articles, 11 reviews and 6 conference proceedings papers) that satisfy the above criteria. For the purpose of this preliminary research, we have selected 20 most relevant ones according to WoS CC order list.

The journals from which the majority of papers come from are: Energy and Buildings, and Applied Energy. The number of papers across publications that have frequency of more than 2 in the search results list is shown in Table 1.

*Table 1* Frequency of papers across publications

| Publication name                     | Number of papers within search results | % of 201 |
|--------------------------------------|--|----------|
| Energy And Buildings                 | 64                                     | 31,841%  |
| Applied Energy                       | 17                                     | 8,458%   |
| Applied Thermal Engineering          | 8                                      | 3,980%   |
| Energy Procedia                      | 8                                      | 3,980%   |
| Energies                             | 7                                      | 3,483%   |
| Energy                               | 7                                      | 3,483%   |
| Building And Environment             | 6                                      | 2,985%   |
| Renewable Energy                     | 6                                      | 2,985%   |
| Renewable Sustainable Energy Reviews | 6                                      | 2,985%   |
| Solar Energy                         | 5                                      | 2,488%   |

Source: author's search in WoS Core Collection database (2017)

For the purpose of this preliminary research, only 20 most relevant papers were analyzed to get the overview of the suggested prediction models in the area of energy efficiency of buildings.

#### 4. Results - comparison of existing prediction models

Papers selected according to the procedure described in previous section were analyzed, and those among them that suggest a new prediction model were compared according to following criteria: (1) methodology used for modeling purposes, (2) input variables used for modeling, (3) output variables used for modeling, and (5) types of buildings the model is aimed for. The overview of those models is presented in Table 2.

*Table 2* Overview of prediction models from selected papers

| Reference paper     | Methodology used for modeling purposes   | Input variables used for modeling   | Output variables used for modeling   | Types of buildings             |
|---------------------|--|---|--|--------------------------------|
| Jeong et al. (2017) | Data mining (correlation analysis, decision trees, ANOVA), life cycle cost analysis, real option valuation, and Monte Carlo simulation | Energy consumption data (heating, hot water, electricity and water), information from energy certificates, building attributes (unit size, total floor area, completion year, etc.) | Two evaluation indices: Site energy use intensity (EUI), and CO2 emission intensity (CEI) of buildings | Multi-family housing complexes |

| Reference paper          | Methodology used for modeling purposes   | Input variables used for modeling   | Output variables used for modeling   | Types of buildings   |
|--------------------------|--|---|--|--|
| Liang et al. (2016)      | Univariate and multivariate regression analysis, sensitivity analysis  | Time of the week, air temperature, occupancy  | Energy consumption   | Commercial buildings   |
| Killian and Kozek (2016) | Model predictive control (MPC) algorithms for optimizing future response                                       | Inputs on energy consumption  | Building dynamics, predictions of future disturbances, constraints, and conflicting optimization goals | Any buildings, smart grids of buildings  |
| Naji et al. (2016)       | Support vector regression (SVR), adaptive neuro-fuzzy inference system (ANFIS), Energy Plus simulation program | Weather data, building envelope parameters such as material thicknesses and insulation K-value  | Energy consumption of buildings  | Residential buildings  |
| Melo et al. (2016)       | Linear regression vs. artificial neural networks (ANNs)  | Thermal transmittance, thermal solar absorptance, shading device, ventilation opening factor  | Energy efficiency labeling   | Residential buildings  |
| Sun et al. (2016)        | Probabilistic method of risk assessment based on PDFs  | Fabric characteristics, roof characteristics, window characteristics and heating, ventilating, and air conditioning (HVAC) characteristics  | Energy use intensity and energy cost   | Office buildings, although it can be used on any buildings   |
| Wang and Ding (2015)     | Simulation model by polynomial and Markov chain-Monte Carlo methods.   | Indoor occupancy rate and computer input power  | Energy consumption of office equipment   | Office buildings   |
| Chung and Park (2015)    | Time series analysis to discover patterns of energy consumption  | Electricity, heating, hot water, and cooling energy consumption   | Annual mean, maximum, and minimum values, also daily mean, maximum and minimum                         | Hotels, hospitals, and offices   |
| Mangold et al. (2015)    | Stepwise regression  | Inputs used in energy certificates in Sweden: building characteristics, building usage, building area, heating, Household electricity and water, ventilation, and recommended energy usage reducing measure | Energy efficiency  | Various types of buildings (multifamily-dwellings, residential buildings, row houses, single-family-dwellings) |
| Son et al. (2015)        | Relieff variable selection algorithm and support vector machines method  | Input variables taken from 2003 Commercial Building   | Energy consumption of government-owned buildings   | Government-owned buildings   |



| Reference paper       | Methodology used for modeling purposes  | Input variables used for modeling   | Output variables used for modeling      | Types of buildings     |
|-----------------------|---|---|---|------------------------|
|                       | of machine learning   | Energy Consumption Survey (CBECS) database  |   |                        |
| Chou and Bui (2014)   | Various data mining techniques, such as support vector regression (SVR), artificial neural network (ANN), classification and regression tree, chi-squared automatic interaction detector, general linear regression, and ensemble inference model | 8 input parameters: relative compactness (RC), surface area, wall area, roof area, overall height, orientation, glazing area, glazing distribution, and cooling load/heating load | Cooling load (CL) and heating load (HL) | All types of buildings |
| Farzana et al. (2014) | ANN model, two Grey models, a Regression model, a Polynomial model and a Polynomial regression model were used to forecast and compare demand.  | Input data from a structured questionnaire survey on household energy consumption   | Future energy consumption               | Residential buildings  |

Source: author

#### 4.1. Comparison of methods used for modeling

It can be seen from Table 2 that out of 12 compared models, only four of them uses purely statistical methods such as linear regression, time series analysis, probability density functions, or similar method (Chung and Park, 2015; Mangold et al., 2015; Liang et al., 2016; Sun et al., 2016). Limitations of those papers is that they do not exploit possibilities of machine learning and simulation. Another four papers combine or comparatively use statistical methods with machine learning in a data mining process (Farzana et al., 2014; Chou and Bui, 2014; Melo et al., 2016; Son et al., 2015). For example, Son et al. (2015) use statistical method of variable selection to reduce the input space, and then apply support vector machines as a machine learning method to produce the model for predicting energy consumption of government-owned buildings. On the other hand, Chou and Bui (2014) and Farzana et al. (2014) confront statistical methods and machine learning methods to find the most accurate model. The rest of the papers base their modeling procedure on combining machine learning methods with simulations. Jeong et al. (2017) used methods of data mining, such as statistical methods and decision trees, life cycle cost analysis, real option valuation, and Monte Carlo simulation to build the model aimed for three types of multi-family housing complexes. Their model enables the prediction of % of energy saving potential, cost saving potential, and CO<sub>2</sub> emission reduction, and it can be used as a guideline for estimating the additional construction cost of the BEER-certification. Naji et al. (2016) used soft computing methods, namely support vector regression (SVR) versus adaptive neuro-fuzzy inference system (ANFIS) to estimate energy consumption of buildings and Energy Plus simulation program. Wang and Ding (2015) built an occupant-based energy consumption prediction model for office buildings, based on the analysis of the relationship between occupant behaviour and equipment energy consumption. The simulations were conducted by polynomial and Markov chain-Monte Carlo methods. Killian and Kozek (2016) dealt with the problem of conflicting optimization goals that exist in buildings, i.e. the maximization of user comfort versus the minimization of energy consumption. They apply a model predictive control (MPC)

strategy, which has been used in process control for a while, and apply it in building automation. This strategy contains control algorithms that utilizes an online process model to optimize the future response of a plant, and is promising for saving energy in buildings and to maximize the use of renewable energy sources, as well for integrating such buildings in smart grids.

#### **4.2. Comparison of variables used for modeling**

Regarding input variables used in the observed models, it can be noticed that most of the authors use data on previous consumption, weather data, and building characteristics available in energy certificates or data collected by their own surveys. Chung and Park (2015) as input variables used electricity, heating, hot water, and cooling energy consumption in the past time, trying to discover patterns for each of the building type. Jeong et al. (2017) used heating, hot water, electricity and water, information from energy certificates, building attributes (unit size, total floor area, completion year, etc.), then some defined parameters of time-series data such as inflation rate, interest rate, etc. to determine the cost saving potentials, as well as adjustable parameters such as probability density function of energy consumption, life cycle cost analysis and real option valuation. Similar to this research, the input space of Sun et al. (2016) consisted of fabric characteristics, roof characteristics, window characteristics and heating, ventilating, and air conditioning (HVAC) characteristics. The output data were energy use intensity and energy cost, and they were analyzed using curve-fitting techniques to find a best-fit distribution, therefore providing a risk analysis of energy performance and cost. Naji et al. (2016) used inputs including main building envelope parameters such as material thicknesses and insulation K-value. The input space of authors Wang and Ding (2015) included occupancy rate and computer input power which (related by time-varying indoor occupancy rate). Liang et al. (2016) have developed a prediction model of energy efficiency which adds occupancy as a variable into the baseline model which measures how much energy would have been used without retrofit (called the "baseline" of energy use), but the study has shown that occupancy did not significantly improve the accuracy of the baseline model. Melo et al. (2016) used thermal transmittance, thermal solar absorptance, shading device, ventilation opening factor as input variables, and multi-linear regression as well as artificial neural networks (ANNs) to predict the cooling degree hours and the annual energy consumption for heating and cooling. Mangold et al. (2015) investigated possible improvements of the process of issuing Energy Performance Certificates (EPC) in Sweden according to EU directives. When the output variables used in modeling is observed, it can be noticed that most of the authors use energy consumption or load as the output, while Jeong et al. (2017) use precalculated evaluation indices such as Site energy use intensity (EUI), and CO<sub>2</sub> emission intensity (CEI) of buildings. Also, most of the authors use static prediction of future consumption, while some of the bring building dynamics into the model (Killian and Kozek, 2016). Besides energy consumption, the cost of energy is also a target value in some models (Sun et al., 2016). Most of the authors used a specific types of buildings in their dataset, such as office buildings, government-owned buildings, residential buildings, while some of them suggested a general-type models for all sorts of buildings.

#### **5. Discussion and conclusion**

The aim of this paper was to give an overview of existing models that deal with energy efficiency for buildings. After conducting a search of relevant papers in WoS database, the most relevant papers were analyzed and the models provided in those papers are compared according to methodology used, input and output variables, and types of buildings used in modeling. The results show that some of the authors use purely statistical methods such as linear regression, time series analysis, probability density functions, or similar methods for predicting energy

consumption of buildings, while the other combine or competitively compare statistical methods with machine learning methods. The third group of models that could be extracted are the simulation models that use dynamic estimations of variables (such as Monte Carlo simulations) by a simulation program. The analysis also revealed that most of the authors use building physical characteristics in addition to weather data to predict consumption, while some authors also use occupation data. It can be concluded that more advantage could be given to modeling procedures which include integration of statistical, machine learning and simulation methods, since the energy consumption is a complex issue which requires more techniques to be involved in order to achieve more accurate prediction. This analysis is a preliminary and has some shortcomings such as the limited number of papers taken into consideration. The paper can serve as a baseline for future research in providing more efficient models for predicting energy consumption in buildings, with a focus to public buildings that could be more easily managed by a state institutions.

#### **Acknowledgments:**

This work has been fully supported by Croatian Science Foundation under Grant No. IP-2016-06-8350 "Methodological Framework for Efficient Energy Management by Intelligent Data Analytics" (MERIDA).

#### **REFERENCES**

APN - Agency for Legal Trade and Real Estate Brokerage. (2017): *ISGE system*, <http://www.apn.hr/informacijski-sustav-za-gospodarenje-energijom--isge.aspx>, [accessed March 26, 2017].

Borgstein, E.H. Lamberts, R., Hensen, J.L.M. (2016): *Evaluating energy performance in non-domestic buildings: A review*, Energy and Buildings, Volume 128, pp. 734-755., DOI: 10.1016/j.enbuild.2016.07.018.

CEI - Center for Monitoring Business Activities in the Energy Sector and Investments (2017): *About us*, <http://cei.hr/en/about-us/> [accessed March 28, 2017].

Chen, Q., Kleinman, L., Dial, A. (2015): *Energy performance of campus LEED (R) buildings: implications for green building and energy policy*, Journal Of Green Building, Volume 10, Issue 3, pp. 137-160.

Chou, J.S., Bui, D.K. (2014): *Modeling heating and cooling loads by artificial intelligence for energy-efficient building design*, Energy And Buildings, Volume 82, pp. 437-446.

Chung, M., Park, H.C. (2015): *Comparison Of Building Energy Demand For Hotels, Hospitals, And Offices In Korea*, Energy, Volume 92, pp. 383-393, DOI: 10.1016/j.energy.2015.04.016

Čulo, K., Krstić, H.(2008): *Cost benefit analysis of energy efficient family houses, Second International Conference on Harmonisation Between Architecture and Nature*, Eco-Architecture, Algarve, Portugal.

- Farzana, S., Liu, M., Baldwin, A., Hossain, M.U. (2014): *Multi-model prediction and simulation of residential building energy in urban areas of Chongqing, South West China*, Energy And Buildings, Volume 81, pp. 161-169, DOI: 10.1016/j.enbuild.2014.06.007.
- Gutierrez, R., Nafidi, A., Gutierrez Sanchez, R.G., (2005): *Forecasting total natural-gas consumption in Spain by using the stochastic Gompertz innovation diffusion model*, Applied Energy 80 (2), pp. 115–124, doi: 10.1016/j.apenergy.2004.03.012.
- Hsu, D. (2015): *Comparison of integrated clustering methods for accurate and stable prediction of building energy consumption data*, Applied Energy, 160, pp. 153-163., doi:10.1016/j.apenergy.2015.08.126.
- Jeong, J., Hong, T., Ji, C., Kim, J., Lee, M., Jeong, K., Koo, C. (2017): *Development of a prediction model for the cost saving potentials in implementing the building energy efficiency rating certification*, Applied Energy, Volume 189, pp. 257-270, DOI: 10.1016/j.apenergy.2016.12.024.
- Killian, M., Kozek, M. (2016): *Ten questions concerning model predictive control for energy efficient buildings*, Building And Environment, Volume 105, pp. 403-412, DOI: 10.1016/j.buildenv.2016.05.034
- Liang, X., Hong, T.Z., Shen, G.Q. (2016): *Improving the accuracy of energy baseline models for commercial buildings with occupancy data*, Applied Energy, Volume 179, pp. 247-260, DOI: 10.1016/j.apenergy.2016.06.141.
- Mangold, M., Osterbring, M., Wallbaum, H. (2015): *Handling data uncertainties when using Swedish energy performance certificate data to describe energy usage in the building stock*, Energy And Buildings, Volume 102, pp. 328-336, DOI: 10.1016/j.enbuild.2015.05.045.
- Melo, A.P., Fossati, M., Versage, R.S., Sorgato, M.J., Scalco, V.A., Lamberts, R. (2016): *Development and analysis of a metamodel to represent the thermal behavior of naturally ventilated and artificially air-conditioned residential buildings*, Energy And Buildings, Volume 112, pp. 209-221, DOI: 10.1016/j.enbuild.2015.12.021.
- Naji, S., Shamshirband, S., Basser, H., Alengaram, U.J., Jumaat, M.Z., Amirmojahedi, M. (2016): *Soft computing methodologies for estimation of energy consumption in buildings with different envelope parameters*, Energy Efficiency, Volume 9, Issue 2, pp. 435-453, DOI: 10.1007/s12053-015-9373-z.
- Patterson, M.G. (1996): *What is energy efficiency?: Concepts, indicators and methodological issues*, Energy Policy, 24 (5), pp. 377-390, doi: [http://dx.doi.org/10.1016/0301-4215\(96\)00017-1](http://dx.doi.org/10.1016/0301-4215(96)00017-1).
- Sabo, K., Scitovski, R., Vazler, I., Zekić-Sušac, M. (2011): *Mathematical models of natural gas consumption*, Energy conversion and management, Vol. 52 (2011), No. 3, pp. 1721-1727.
- Santamouris, M. (2016): *Cooling the buildings - past, present and future*, Energy And Buildings, Volume 128, pp. 617-638, DOI: 10.1016/j.enbuild.2016.07.034

Son, H., Kim, C., Kim, C., Kang, Y. (2015): *Prediction of government-owned building energy consumption based on an RReliefF and support vector machine model*, Journal Of Civil Engineering And Management, Volume 21, Issue 6, pp. 748-760,

Sun, S., Kensek, K., Noble, D., Schiler, M. (2016): *A method of probabilistic risk assessment for energy performance and cost using building energy simulation*, Energy And Buildings, Volume 110 , pp. 1-12, DOI: 10.1016/j.enbuild.2015.09.070

Tommerup, H., Rose, J., Svendsen, S. (2007): *Energy-efficient houses built according to the energy performance requirements introduced in Denmark in 2006*. Energy and Buildings, Volume 39(10), pp. 1123-1130.

Tonković, Z., Zekić-Sušac, M., Somolanji, M. (2009): *Predicting natural gas consumption by neural networks*, Technical Gazette, 16 (3), pp. 51-61.

Wang, Z.X., Ding, Y. (2015): *An occupant-based energy consumption prediction model for office equipment*, Energy And Buildings, Volume 109, pp. 12-22, DOI: 10.1016/j.enbuild.2015.10.002.

Web of Science (WoS) Core Collection database, Results analysis, <https://wcs.webofknowledge.com/RA/analyze.do> (accessed 20 April 2017)



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**SHARING ECONOMY: A CRITICAL REVIEW****EKONOMIJA DIJELJENJA: KRITIČKI PREGLED****ABSTRACT**

*The development of information and communication technologies caused evolution of consumption patterns, with an emphasis on strengthening the bargaining power of consumers. The new model of consumption is based on intensive application of the Internet, with the development of social capital that forms the basis for group organizing of consumers. Using the available information, consumers are building special groups on the basis of trust, which carry out valuation of products and services. These models of collaborative consumption are a part of so-called. „sharing economy“, which represents a new consumer paradigm. Sharing economy is central research topic of this paper. The goal is to conduct critical analysis of this concept and clarify different interpretations of the same, with the presentation of the basic sharing models. In addition, the paper will present development perspectives of sharing economy, with a focus on benefits offered by this model of consumption. These benefits may relate to reduction of unemployment and the informal economy, better utilization of resources, strengthening social capital and community, and increasing foreign direct investment. The paper also analyzes the key challenges of sharing economy, which are related to flexibility of the legal and economic environment. At the end, there will be given an appropriate conclusion, with recommendations for improving the development of sharing economy.*

**Key words:** sharing economy, collaborative consumption, Internet, consumption.

**SAŽETAK**

*Razvoj informaciono-komunikacionih tehnologija uzrokuje evoluciju modela potrošnje, sa naglaskom na jačanje pregovaračke moći potrošača. Novi modeli potrošnje počivaju na intenzivnoj primjeni Interneta, uz razvoj socijalnog kapitala koji čini osnovu za grupno organizovanje potrošača. Koristeći dostupnost informacija, potrošači grade posebne grupe na bazi povjerenja, koje vrše evaluaciju u proizvodima/uslugama. Navedeni modeli kolaborativne potrošnje spadaju u tzv. Ekonomiju dijeljenja, koja se odnosi na novu potrošačku paradigmu u svijetu. Ekonomija dijeljenja predstavlja centralnu istraživačku temu rada. Cilj je da se kroz kritičku analizu ovog pojma, pojasne različite interpretacije istoga, uz prikaz osnovnih modela na kojima počiva ekonomija dijeljenja. Pored toga, u radu će se predstaviti perspective razvoja ekonomije dijeljenja, sa fokusom na prednosti koje nudi novi modeli potrošnje. Date prednosti se mogu odnositi na smanjivanje*



*nezaposlenosti i sive ekonomije, bolju iskorištenost resursa, jačanje socijalnog kapitala i lokalne zajednice, te povećanje stranih direktnih investicija. Rad također analizira ključne izazove ekonomije dijeljenja, a koje se odnose na fleksibilnost pravnog i ekonomskog okruženja države. Na kraju će se navesti prigodan zaključak, uz navođenje preporuka za unaprijeđenje razvoja ekonomije dijeljenja.*

**Ključne riječi:** ekonomija dijeljenja, kolaborativna potrošnja, Internet, potrošnja.

## 1. Introduction

With the development of information and communication technologies, especially the Internet, there is a change in consumption patterns. In particular, this happens through the construction of collaborative consumption or sharing economy models. This new consumer paradigm is changing the perception of consumption, moving bargaining power from distributors to consumer groups. This is a part of wider economic evolution that shifts power from producers to distributors, and then toward consumers. Using the available informations, consumers develop a specific groups based on trust, which carry out valuation of products/services. These groups are very influential when it comes to communicating with companies. The differences between these consumption patterns are influenced by area of business in which they operate, but also their financial models. Sharing economy has major consequences for the economy and society as a whole. Specifically, this means questioning the old forms of business, economical framework and legal order, but also the very concept of work. Instead of a stable job, workers now tend to do more freelance jobs with a higher degree of flexibility, which is exactly what sharing economy is based on. This of course opens up many other issues, such as security and the like, which will be the central subject of critical analysis in the fourth chapter of the paper. In this paper, we will introduce the concept of sharing economy, with its basic models. We critically analyze the advantages and disadvantages of this new model of consumption, with emphasis on future trends and challenges.

## 2. Sharing economy

In recent years, wider academic public is increasingly beginning to use the term "sharing economy" or collaborative consumption, to mark the economic trends caused by the development of information technologies and consequently increase of consumer networking. Term sharing economy is often perceived wider than concept of collaborative consumption, which according to some authors implies only a significant part of the overall economic relations which are based on sharing. Sharing is a phenomenon as old as humankind, while collaborative consumption and the sharing economy are phenomena born of the Internet age (Belk, 2014, 1595). The term collaborative consumption occurred earlier, during the 70's of the last century, in the research paper entitled "Community Structure and Collaborative Consumption: A Routine Activity Approach" by Marcus Felson and Joe L. Spaeth. These authors focused on car sharing, while coining the first definition of collaborative consumption, as those events in which one or more persons consume economic goods or services in the process of engaging in joint activities with one or more others (Felson, Spaeth, 1978, 614). The term will get wider attention of the public in 2007., when Ray Algar published an article about this global phenomenon. In his paper for Leisure Report, Algar argued that technology is democratising the purchasing process (Algar, 2007), and that gives consumers control when it comes to price optimisation. Earlier, Thomas Friedman argued that the era of globalization has been characterized by the democratization of technology (home computers for all), the democratization of finance (credit cards for all) and the democratization of information (the Internet for all) (Friedman, 2000, 81). Sharing economy is the result of that democratization, as Buczynski states that this model is making the step forward from consumer based society to economic democracy (Buczynski, 2013, 20). This in fact, strongly supports the old thesis that capitalistic social order is an economic democracy in the strictest sense of the word (Mises, 2006,

158). One of the main pillars of sharing economy is democratization - deepening the impact of individuals on the system, and the creation of more efficient tools that allow the participation of a large number of people in decisions that affect their lives (Sajter, 2014). According to the theory of Thomas Kuhn, it is clear that the research area of sharing economy is still in "before paradigm" stage, characterized by a series of incomplete, competing theories in the scientific community, that compete for primacy to be a new paradigm (Letica, 2010, 44). Therefore, there are many definitions of sharing economy, which will be presented in the following lines.

Juho, Mimmi and Antti define the sharing economy as an umbrella concept that encompasses several ICT developments and technologies, among others collaborative consumption, which endorses sharing the consumption of goods and services through online platforms (Juho, Mimmi, Antti, 2016, 2047-2048). Defined as an "umbrella concept", sharing economy may relate to the fulfillment of number of consumer needs: from cooking over transportation up to alternative currencies. Previously, these products/services were provided by major companies, not individual entrepreneurs (Zervas, Proserpio, Byers, 2016, 30). Tuttle is more concrete, as he defines sharing economy as all-purpose term used to describe transactions in which someone in possession of a car, or home, or self-storage space, or commercial real estate, or almost anything else imaginable "shares" it with a stranger (Tuttle, 2014). Tuttle however critically states that word "sharing" is misused because in this model there is no real sharing, but only regular commercial transactions. More positive view, states that sharing economy is a form of consumption that promotes cooperation between people, awakens a sense of community and reinforces the sense of commitment. It is a form of consumption in which the social aspect becomes more relevant and important (De la Calle Vaquero, De La Calle Calle, 2013, 20). This new business model interferes with the older ways of doing business and changes not only what is consumed, but also how it is consumed (Stanić, 2015, 52). By doing this, sharing economy is struggling its way not only in the supply and demand for services, but also in finance (crowdfunding, microfinance), education (MOOC - massive educational programs), etc.

To summarize all these definitions, we can use main underlining principles of sharing economy business model (Umihanić, Omerović, 2016, 835): relying on the Internet technologies, especially smartphone apps; maximizing the utilization of existing resources; trusting to strangers and creating impersonal relationships, and designing the win-win-win deal for all parties included. Sharing economy only works via Internet technologies, and the main goal is to maximize resources using trust (social capital) as a basis of economic relations. When it comes to the causes that lead to rise of sharing economy, Sundararajan writes that "reengineering" of consumption is a natural consequence of the ongoing consumerization of digital technologies (Sundararajan, 2013). Because of fast development of sharing economy and the fact that Internet is a media of unprecedented opportunities (Husejnfendić, 2011, 51) that leads to the compression of space and time (Harvey, 2012, 16), there are many extraordinary challenges for regulators. That is why the European Economic and Social Committee has already recognized the potential of sharing economy, and in its report called for further action at EU level (Goudin, 2016). This, along with the dominant sharing economy models will be discussed in following chapters of the paper.

### **3. Business Models**

Sharing economy covers a variety of sectors (Frodesiak et al., 2011, 2): transportation (cars, bikes), apparel (clothing, accessories), food, living spaces, household appliances, money (social lending, virtual currencies, time banks) workspaces, travel, accommodation, space (storage, parking, spare rooms). Intensity of sharing in each sector is determined by nature and attractiveness of the sector, but also the influence and organization of consumers. The consumer is indeed the one who determines what company is (Drucker, 2008, 20). Thus, sharing companies are mainly in the sectors of transport, accommodation, money and the like. Within the sharing economy there are different business models that enable the realization of transactions and profit earning – create value for all

the parties involved (Zott & Amit, 2010, 15). Rachel Botsman, coauthor of a book "What's Mine Is Yours: The Rise of Collaborative Consumption", identified seven basic sharing models (Botsman, 2013):

- **Service fee** - company collects fees for services connecting suppliers and customers, host and guests, lenders and borrowers. This fee varies depending on specific market segment (5-40%), value of the transaction, as well as the importance of the service provided. An example of this business model is Airbnb that charges guests a fee of 6% to 12% for their reservations. The higher price of the reservation means lower fee. Hosts are charged with fee of 3%;
- **White label**—selling finished platforms or parts of the program, that buyer company can adapt and use. An example of this is Getable that sells an innovative technology which allows stores to sell their products on the Internet, their website or via Getable market;
- **Freemium** - company offers basic services or the use of platforms/applications. Users later continue to build a service or platform/application for additional and exclusive benefits. Good example is Netcyclar, that is offering basic services for free, while additional services (such as integrated postal service) are extra charged;
- **On sale** - the company buys unwanted goods. These goods are being recycled and changed, so they can be sold as final products (or just parts) for a higher price. Gazelle is an example of companies that applied this business model. Gazelle buys used electronics, and sells it as final product/parts;
- **Flat membership** - company charges a fixed monthly or annual fee regardless of the degree of usage. An example is TechShop which charges members a fixed fee of \$99 a month;
- **Tiered subscription plans** - company offers a variety of subscription plans with different prices according to the frequency of use and number of requested products. DimDom offers three subscription plans with different prices (\$39.95 for one toy per month, \$34.95 for five toys per month and \$29.95 for five toys every three months);
- **Membership plus usage**- company charges a fee for membership (sometimes with different plans according to the degree of use). Additional fees are charged according to usage. DriveNow charges a registration fee of \$29. After that, drivers pay 29 cents per minute of use of the vehicle. This covers the cost of parking and fuel.

Examining these business models, it is clear that each of the models has developed a financial scheme that ensures profits for the company, but at the same time offers cheap and available services for consumers. This is one of the main features of sharing economy which makes it more competitive compared to traditional industries. Sharing economy breaks down barriers and expands fast with the development of information and communication technologies, and the strengthening of social capital. Specifically, this model becomes familiar and socially acceptable for users, which speeds and on long run stabilizes its development. In the following chapter we will discuss key features of sharing economy and challenges ahead of decision makers in this area.

#### 4. Analysis of key features and challenges

Sharing economy with its dominant models is entering into every domain of consumption, but also the cooperation between individuals around the world. There is no equal distribution of these trends at the global level, so some countries are extremely fast at adopting sharing models, while other lag behind, mainly because of the lack of social capital and needed technology. The biggest beneficiaries

of these expansions are consumers, as well as small entrepreneurs and start-up companies. On the other side, there are many others who are harmed by this, mostly members of old, state protected industries. Based on the critical review of existing literature and research about sharing economy, it is possible to single out some advantages and disadvantages of these business models.

The main benefit of sharing economy is that it uses unused resources. As Lombardo notes, it is a form of recycle, reuse and repurpose (Lombardo, 2015). Shared economy is maximizing the use of resources like empty apartments, unused cars, unemployed workers and the like. These services allow for items to be used productively that would otherwise be gathering dust (Baker, 2014). By doing this, sharing economy affects the price reduction of goods and services. Consequently, operating costs for small businesses go down, which helps new entrepreneurs to realize significant savings in the first years of operation. Small businesses usually have insufficient cash flow that can not cover higher capital expenditure and costs, which means that they can rely on a cheaper sharing alternatives. Sharing rather than purchasing can help small businesses survive (Hakobyan, 2017). Sharing models are also developing new services. For certain services, traditional industries simply do not have the capital or market initiatives. Innovative delivery models enable cheap sets of new services for consumers. This creates new jobs and thus directly affects the employees. Unemployment is reduced as new employees join the labor market and circle of those who participate in the process of sharing, expands. In addition, sharing economy increases the productivity of individuals involved in these activities, while allowing greater flexibility of the workplace. Workers in these new industries tend to avoid traditional business hours. This keeps up with current labor trend of increasing the number of freelancers. In U.S. alone in 2014, there was about 54 million workers (34% of the population) that considered themselves freelancers (Horowitz, 2014). What is most interesting is the social impact of the sharing economy. Many authors write about the developing of new sense of community and strengthening of local communities. For instance, according to TechRepublic, Airbnb has coordinated free accommodations for people affected by natural disasters, and TaskRabbit has experimented with organizing volunteers and crisis situations. These and other trust-building efforts help sharing economy participants see one another as equals, building constructive relationships where none existed previously (Martucci, 2015). And all of this is becoming trendy as „rent“ is becoming the new „own“ (Boesler, 2013).

Numerous critics of sharing economy point out that there are many disadvantages to consider. Most of the criticisms is relating to the fact that the sharing companies often operate outside the legal framework or tend to deliver in „shadow“ areas of business. This allows them to avoid paying taxes, as many boosters have overlooked the reality that this new business model is largely based on evading regulations and breaking the law (Baker, 2014). Sharing services often avoid traditional controls such as inspections, which increases the risks of using certain products and services for the consumer. Also, due to the lack of regulation, sharing economy may constitute a breeding ground for all sorts of scams and schemes. As for the workers, sharing economy can have a negative impact on wages. Also, compared to traditional industries, sharing economy workers are not protected in the labor market (Kumar, 2015). This is one of the most loud criticism of sharing economy. Even, Democratic candidate in the last U.S. elections, Mrs. Hillary Clinton, criticized sharing companies for bad treatment of freelancers. Different sharing models may violate the privacy of the end users. In addition, there is no developed reputation transfer among different sharing platforms. This enables users with negative ratings on a single platform to take action on other platform, which ultimately can lead to fraud activities. Some argue that positive social aspects are overestimated and that all boils down mainly on short-term transactions for the sake of lower prices. When "sharing" is market-mediated - when a company is an intermediary between consumers who do not know each other - it is no longer sharing at all. Rather, consumers are paying to access someone else's goods or services for a particular period of time. It is an economic exchange, and consumers are after utilitarian, rather than social, value. (Eckhardt, Bardhi, 2015). Finally, there is a long term danger for general economy because of the potential change in consumer behavior (in favor of renting). The ripple effects could also be catastrophic, as writes Boesler. Adjusting to a consumer who does not

necessarily buy, but rather rents, would necessitate a shift in production, sales, and even employment structures (Boesler, 2013). Based on main features of sharing economy, it is possible to identify the key challenges for policy-makers in this area. These are:

- **Adapting the legal environment for needs of sharing economy.** In order to introduce sharing models in the standard legal and economic framework, it is necessary to work on the reform of the existing legislation and building inclusive institutions to accept new trends. This can be a special challenge because of the lobbying of existing, protected industry. However, if there is a will for using benefits of sharing economy, then policy makers must react promptly and properly, following the development of new technologies and consumer demands. Regardless of the initial anger (Milekić, 2015), resistance (Pavlič, 2016), legal barriers (SarajevoTimes, 2016) or even an absolute prohibition, like the one of Uber in Italy (Klix, 2017), sharing economy is becoming a trend of modern business that can not be stopped. Because of this it will be very challenging to harmonize and flexibilizethe existing legislation, for the purpose of adopting new trends. Doing this would reduceinformal economy and use tax potential of sharing companies.
- **Reforming the labor market.**Sharing economy is based on the low enter barriers for workers. While reducing unemployment and increasing productivity, workers are not adequately protected and receive lower wages. Therefore, it will be particularly challenging for the government to prepare the labor market for these new jobs/workforce, and to reform the education system with the aim to answer the needs imposed by sharing economy. In certain cases there are evidence that sharing economy is especially important for the emancipation of marginalized groups in the labor market, such as single mothers or teens.
- **Developing social capital.**Sharing economy mainly develops in countries with high levels of social capital, that is where transactions are marked by reciprocity, trust, and cooperation. In order to attract sharing companie, country needs to have social capital, as well as inclusive institutions and rule of law. This is a challenge for countries that have not yet taken advantage of sharing economy. In order to develop sharing models, it is necessary to work on building social capital which will form the basis of this economy. Consumers must have a certain level of trust in order to build mutual economic relations and share.
- **Developing technologies.** Since sharing economy primarily relies on technological conditions, a special challenge relates to facilitaing the development of new technologies. This would enhance the existing sharing models and create additional value for consumers. It is especially important that the new technology has a normal distribution, from the center to the periphery, so that less developed countries could benefit from technological improvements. The development of new technologies is directly conditioned by the available funds for science, primarily private investment.
- **Securing and protecting data.** Existing companies operating within sharing economypossess huge databasewith informations about their customers, along with their unique reputations achieved on the basis of a series of transactions. These data are extremely valuable and it is important to adequately guard them. In this case it will be interesting to monitor the attitude of governments towards this. Will governments, simillar to social networks on the Internet, look for special access to certain data and users?

Sharing economy continues to advance, so it is difficult to follow all the trends that affect this area. However the above challenges are something that will appear before the decision-makers, both in developed and less developed countries.

## 5. Conclusion

Sharing economy represents a global trend when it comes to consumption. This new economy relies on several business models, which have established funding schemes. Its main advantage is the use of existing resources, to achieve a competitive advantage. In order to better utilize benefits of sharing economy, there are couple of recommendations for governments and decision makers:

- Improvement of existing legislation that will enable growth and development, and the investment of sharing companies. It is necessary to create conditions for the integration of the sharing economy in the legal economic flows.
- Development of infrastructure and funds for financing and support for domestic sharing enterprises. This will boost domestic potential in this area.
- Using the sharing economy in function of reducing unemployment, especially youth unemployment. This is especially important for marginalized groups in the labor market.
- Long-term development of social capital, which is the basic prerequisite for development of sharing economy. Developing social capital is achieved by investing in education, strengthening the rule of law, and reducing to corrupt and criminal activities in the society.

Having developed sharing economy sends a positive market signals to the world about the progress achieved in a given country. It is therefore of great importance for less developed countries, but also countries of the Western Balkans to embrace these trends and to integrate into the global market.

## REFERENCES

Algar, R. (2007): *Collaborative Consumption by Ray Algar*, in: Oxygen-consulting, <http://www.oxygen-consulting.co.uk/insights/collaborative-consumption/> (accessed 20 March 2017)

Amit, R., Zott, C. (2010): *Business model innovation: Creating value in times of change*, IESE Business School - University of Navarra, Barcelona

Belk, R. (2014): *You are what you can access: Sharing and collaborative consumption online*, Journal of Business Research Volume, vol. 67, No. 8, pp. 1595–1600

Boesler, M. (2013): *The Rise Of The Renting And Sharing Economy Could Have Catastrophic Ripple Effects*, in: Business Insider, [www.businessinsider.com/rise-of-the-renting-and-sharing-economy-2013-8](http://www.businessinsider.com/rise-of-the-renting-and-sharing-economy-2013-8) (accessed 20 March 2017)

Botsman, R. (2013): *Collaborative consumption: The 7 key business models*, in: SlideShare, [www.slideshare.net/CollabLab/collaborative-consumption-the-7-key-business-models](http://www.slideshare.net/CollabLab/collaborative-consumption-the-7-key-business-models) (accessed 25 March 2017)

Buczynski, B. (2013): *Sharing is Good: How to save money, time and resources through collaborative consumption*, New society publishers, Gabriola Island

De La Calle Vaquero, A., De La CalleCalle, P. (2013): *The collaborative consumption: A form of consumption adapted to modern times*, Revista de Estudios Económicos y Empresariales, No. 25, pp. 15-30

Drucker, F.P. (2008): *The Essential Drucker*, Harper, New York



Eckhardt, G.M., Bardhi, F. (2015): *The Sharing Economy Isn't About Sharing at All*, in: Harvard Business Review, <https://hbr.org/2015/01/the-sharing-economy-isnt-about-sharing-at-all> (accessed 15 March 2017)

Evropski ekonomski i socijalni komitet (2014): *Kolaborativna potrošnja: nove mogućnosti za potrošače i preduzeća na tržištu EU*, in: Europa.rs, [europa.rs/kolaborativna-potrosnja-nove-mogucnosti-za-potrosace-i-preduzeca-na-trzistu-eu/](http://europa.rs/kolaborativna-potrosnja-nove-mogucnosti-za-potrosace-i-preduzeca-na-trzistu-eu/) (accessed 15 March 2017)

Felson, M., Spaeth, J.L. (1978): *Community Structure and Collaborative Consumption: A Routine Activity Approach*, American behavioral scientist, Vol. 21, No. 4, pp. 614 – 624

Friedman, T. (2000): *The Lexus and the Olive tree*, Anchor Books, New York

Frodesiak, A. et al. (2011): *Collaborative consumption*, in: We Share Project, [www.weshareproject.eu/attachments/article/7/Collaborative%20Consumption%20from%20Wikipedia.pdf](http://www.weshareproject.eu/attachments/article/7/Collaborative%20Consumption%20from%20Wikipedia.pdf) (accessed 28 March 2017)

Goudin, P. (2016): *The Cost of Non Europe in the Sharing Economy*, in: Euro Parl, [www.europarl.europa.eu/RegData/etudes/STUD/2016/558777/EPRS\\_STU\(2016\)558777\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/558777/EPRS_STU(2016)558777_EN.pdf) (accessed 28 March 2017)

Hakobyan, M. (2017): *How to use the sharing economy to benefit your business*, in: Business.com, <https://www.business.com/articles/how-to-use-the-sharing-economy-to-benefit-your-business/> (accessed 29 March 2017)

Harvi, D. (2012): *Kratka istorija neoliberalizma*, Medi Terran Publishing, Novi Sad

Horowitz, S. (2014): *53 million Americans are freelancing, new survey finds*, in: FreelancersUnion, <https://blog.freelancersunion.org/2014/09/04/53million/> (accessed 24 March 2017)

Husejnefendić, Š. (2011): *Suton tradicionalnih medija*, Medi Anali: međunarodni znanstveni časopis za pitanja medija, novinarstva, masovnog komuniciranja i odnosa s javnostima, Vol. 5, No. 10, pp. 49-64

Juho, H., Mimmi, S., Antti, U. (2016): *The Sharing Economy: Why People Participate in Collaborative Consumption*, Journal of the Association for Information Science and Technology, Vol. 67, No. 9, pp. 2047–2059

Klix.ba (2017): *Uber zabranjen u cijeloj Italiji zbog nelojalne konkurencije*, in: Klix, <https://www.klix.ba/vijesti/svijet/uber-zabranjen-u-cijeloj-italiji-zbog-nelojalne-konkurencije/170408013> (accessed 05 April 2017)

Kumar, S. (2015): *3 reasons to cheer Uber and the sharing economy*, in: Fortune, [fortune.com/2015/07/20/uber-and-the-sharing-economy/](http://fortune.com/2015/07/20/uber-and-the-sharing-economy/) (accessed 04 April 2017)

Letica, B. (2010): *Doba odgovornosti, Korporacijska društvena odgovornost u vrijeme svjetske finansijske krize*, Mate, Zagreb

Lombardo, C. (2015): *Pros and Cons of Sharing Economy*, in: Vision Launch, [visionlaunch.com/pros-and-cons-of-sharing-economy/](http://visionlaunch.com/pros-and-cons-of-sharing-economy/) (accessed 20 March 2017)

Martucci, B. (2015): *What Is the Sharing Economy – Example Companies, Definition, Pros & Cons*, in: Money Crashers, [www.moneycrashers.com/sharing-economy/](http://www.moneycrashers.com/sharing-economy/) (accessed 15 March 2017)



Milekić, S. (2015): *Uber's Advent Angers Croatian Taxi Drivers*, in: Balkan Insight, [www.balkaninsight.com/en/article/uber-app-outrages-zagreb-taxi-drivers](http://www.balkaninsight.com/en/article/uber-app-outrages-zagreb-taxi-drivers) (accessed 24 March 2017)

Mises, L. (2006): *The Causes of the Economic Crisis: and other Essays Before and After the Great Depression*, Ludwig von Mises Institute, Auburn

Pavlič, V. (2016): *Uber Car Burned in Attack in Zagreb*, in: Total-Croatia-News, <https://www.total-croatia-news.com/item/14228-uber-car-burned-in-attack-in-zagreb> (accessed 29 March 2017)

Sajter, D. (2014): *Ekonomija dijeljenja*, in: Domagoj-Sajter, [domagoj-sajter.from.hr/?p=605#.Wl\\_wL\\_nhDIU](http://domagoj-sajter.from.hr/?p=605#.Wl_wL_nhDIU) (accessed 25 March 2017)

SarajevoTimes (2016): *Uber interested to expand its Business in Sarajevo?*, in: Sarajevo Times, [www.sarajevotimes.com/?p=109233](http://www.sarajevotimes.com/?p=109233) (accessed 22 March 2017)

Stanić, S. (2015): *Temeljne značajke teorije potrošnje u djelima Jeana Baudrillarda, Pierrea Bourdieua i Georgea Ritzera*, Revija za sociologiju, Vol. 46, No.1, pp. 33–60

Sundararajan, A. (2013): *From Zipcarto the Sharing Economy*, in: Harvard Business Review, [oz.stern.nyu.edu/SharingEconomy2013HBR.pdf](http://oz.stern.nyu.edu/SharingEconomy2013HBR.pdf) (accessed 26 March 2017)

Tuttle, B. (2014): *Can We Stop Pretending the Sharing Economy Is All About Sharing?*, in: Time, [time.com/money/2933937/sharing-economy-airbnb-uber-monkeyparking/](http://time.com/money/2933937/sharing-economy-airbnb-uber-monkeyparking/) (accessed 28 March 2017)

Umihanić, U., Omerović, M. (2016): „*Ekonomija dijeljenja*“ –kritički osvrt na inovativne poslovne modele potpomognute informacionim tehnologijama, in: Zbornik radova sa 5. Međunarodni znanstveni simpozij Gospodarstvo Istočne Hrvatske – Vizija i Razvoj, Sveučilište Josipa Jurja Strossmayera u Osijeku, June 2-4, 2016, pp. 833-840

Zervas, G., Proserpio, D., Byers J.W. (2016): *The rise of the sharing economy: Estimating the impact of Airbnb on the Hotel industry*, in: Cs-people, <https://cs-people.bu.edu/dproserp/papers/airbnb.pdf> (accessed 24 March 2017)

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**RATIONALISM VERSUS CONSUMERISM:  
THE PHENOMEN OF SHARING ECONOMY**

**RACIONALIZAM NASPRAM KONZUMERIZMA:  
FENOMEN EKONOMIJE DIJELJENJA**

**ABSTRACT**

*The global economic and social crisis has reflected on the changing perceptions and paradigms on the model of today's economy and led to a review of a number of economic and social concepts, such as the necessity of having scarce resources. This concept is in the focus of sharing economy that is still in its development and there is no generally accepted definition. It represents a business model based on sharing, rental and exchange of goods and services whose transactions are executed on online platforms and services. It relies on the principle of openness and it influences the changes of ownership dogma according to which resources have to be own in order to use them. As such it represents a challenge for the country, especially in the field of business legal regulations and taxation because it changes the standard, classic economic model based on production, distribution, exchange and consumption. Importance of sharing economy which strongly affects certain economic sectors such as tourism and transport, is recognized by the European Union, and its largest generator are young people through the development of social entrepreneurship. This work will analyze some of the most famous representatives of this model on a global level, such as Airbnb and Uber. The main objective of this work is to provide a holistic view of the sharing economy and the possibility of its implementation (business, legal and institutional), impacting the sustainability of resources, creating opportunities that will increase employment (especially youth) and promote the practices of sharing, collaboration and cooperation on all society levels.*

**Key words:** *sharing economy, economic crisis, online platforms, sustainability of resources, business model.*

**SAŽETAK**

*Svjetska ekonomska i društvena kriza reflektirala se i na promjenu percepcije i paradigme o modelu ekonomije današnjice te navela na preispitivanje niza ekonomskih i društvenih koncepata, poput nužnosti posjedovanja sve oskudnijih resursa. Taj koncept u središtu je ekonomije dijeljenja koja je još u svom razvoju i nema općeprihvaćenu definiciju, a predstavlja model poslovanja zasnovan na dijeljenju, iznajmljivanju te razmjeni dobara i usluga čije se transakcije najčešće izvršavaju na online platformama i servisima. Ona počiva na principu otvorenosti i utječe na*

*promjenu dogme vlasništva prema kojoj se resursi moraju posjedovati kako bi se mogli koristiti. Kao takva predstavlja izazov za države, posebice u području pravne regulacije poslovanja i oporezivanja jer mijenja standardni, klasični ekonomski model proizvodnje, distribucije, razmjene i potrošnje. Važnost ekonomije dijeljenja koja snažno utječe na pojedine gospodarske sektore poput turizma i prometa, prepoznala je i Europska unija, a njezin najveći generator su mladi ljudi kroz razvoj društvenog poduzetništva. U radu će biti analizirani neki od najpoznatijih predstavnika ovog modela na globalnoj razini, kao što su Airbnb i Uber. Glavni je cilj ovog rada pružiti holistički prikaz ekonomije dijeljenja i mogućnosti njezine implementacije (poslovne, pravne i institucionalne), utječući pri tome na održivost resursa, stvaranje prilika za povećanje zaposlenosti (posebice mladih) te promociju prakse dijeljenja, kolaboriranja i suradnje na svim društvenim razinama.*

**Ključne riječi:** *ekonomija dijeljenja, ekonomska kriza, online platforme, održivost resursa, poslovni model.*

## **1. From rationalism to consumerism**

Rationalism and consumerism are two concepts, attitudes and philosophies which recently receive more and more attention. The economic crisis has affected our society and has shown that it is necessary to handle with resources in more responsible way with more rational behaviour. Rational behaviour is conducted with rational thinking about our possibilities and rationalism as a philosophy. Despite some opinions rationalism is not a new concept in economy because it is being considered since the 19th century by Descartes. Rationalism (as Lat. ratio intellect, mind) is cognitive theoretical course in philosophy which is the source of intellect and knowledge base of its logical values. It focuses on the knowledge of the real world with the character of necessity and generalities of the mathematical-geometrical truth and is the basis for the foundation of modern science and its methodological principles (Lexicographic Institute Miroslav Krleža, 2012). It also can be defined as a philosophical view which holds that reality manages rational principle and that the objective reality insights only opinion that is based essentially on reason, logos, mind.

The development of technology has led to the strengthening and expansion of industrialism and industrial modes of production in the 20th century which is the development era and the biggest advancement in technology, science, society and social system called capitalism. Capitalism is a term of disparagement coined by socialists in the mid-nineteenth century, is a misnomer for "economic individualism". Economic individualism's basic premise is that the pursuit of self-interest and the right to own private property are morally defensible and legally legitimate. There is no natural limit to the range of their efforts in terms of assets, sales, and profits (Hessen, 2008). Parallel with the development of capitalism appears culture of excessive spending of goods and services – consumerism defined as the protection of promotion of the interests of consumers (Concise Oxford English Dictionary, 2004: 307); promotion of the consumer's interests, the theory that an increasing consumption of goods is economically desirable (Merriam-Webster, 2017). The center of consumerism approach is consumption which is defined as the action of process of consuming, an amount consumed (Concise Oxford English Dictionary, 2004: 307); consumption is the fundamental purpose and ultimate meaning of every economic activity. The development of consumerism has led to an increased desire of people to possess material goods and development of new approach popularly known as materialism.

The consumer orientation commonly known as materialism, reflects the importance of a consumer who is described as a person or thing that eats or uses something or a person who buys goods and services for personal use (Concise Oxford English Dictionary, 2004: 307); possessions assume a

central place in a person's life and are believed to provide the greatest sources of satisfaction and dissatisfaction in life either directly or indirectly (Belk, 1984). Negativity of materialism and consumerism has proved during the economic crisis when consumer's awareness of high costs of today's modern life increased. High costs and price inflation encouraged development of a new direction in economy known as a sharing economy.

## **2. The principles of sharing economy**

There is no official definition of sharing (collaborative) economy but it can be described as a business model which includes providers, collaborative online platforms and customers. Sharing is a phenomenon as old as humankind, while collaborative consumption and the "sharing economy" are phenomena born in the Internet age (Belk, 2013). Sharing economy activities fall into four broad categories: recirculation of goods, increased utilization of durable assets, exchange of services, and sharing of productive assets (Schor, 2014). The sharing economy is a broad term for an emerging set of business models, platforms and exchanges. The sharing economy is about sharing the knowledge of goods and services. The distinguishing characteristics include decentralised exchange, a focus on access over ownership of resources, firms becoming the facilitator of exchange (rather than acting as a producer), and mechanisms of self-governance. It has many names: sharing economy, collaborative production, collaborative consumption, peer-to-peer, mesh, commons-based peer production and access economy (Allen and Berg, 2014).

PWC report shows that around one third of European consumers have heard of the collaborative economy; around 5% of European consumers have declared having participated in the collaborative economy in the 2015 (Vaughan and Daverio, 2016). The collaborative economy is an economic model where ownership and access are shared between corporations, start-ups, and people. This results in market efficiencies that bear new products, services, and business growth (Owyang et al., 2013). Consumption can be treated as a set of sustenance activities associated with other sustenance activities, such as social and sexual contact, food and shelter, family life and leisure, as well as travel to and from places in which such activities occur (Felson and Spaeth, 1978).

Sharing economy can be framed as a hybrid, digitally facilitated, alternative economic model. Different conceptualisations take their point of departure in human ecology, computer science and neoclassic microeconomics, anthropology, postmodern sociology, philosophy, politics and cultural theory (Dredge and Gyimóthy, 2015). The origins of the first date to 1995 with the founding of eBay and Craigslist, two marketplaces for recirculation of goods that are now firmly part of the mainstream consumer experience (Schor, 2014). Sharing economy is known as a collaborative consumption which refers to business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals (Bergenti et al., 2002); people coordinating the acquisition and distribution of a resource for a fee or other compensation (Belk, 2013). Collaborative platforms are generally characterized in terms of a set of concepts they support (Bergenti et al., 2002); provide a service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services (European Commission, 2016); can be used for a wide range of services, from renting accommodation and car sharing to small household jobs (Flash Eurobarometer 438, 2016).

According to Flash Eurobarometer 438 report (2016) younger and more highly educated respondents who live in more urban areas and who are self-employed or employees are much more likely than the average citizen to be aware of collaborative platforms (63%) and to have used the services of these platforms at least once (32%). The report shows that almost one in ten respondents in France (9%), and in Latvia, Croatia and Denmark (all 7%) say that they have been

on one or more of these platforms and paid for a service once. The highest proportions of individuals who use the services of these platforms occasionally are found in France (20%), Ireland (17%) and Croatia (13%). Men are more likely than women to use the services of collaborative platforms (21% vs. 15%) and less likely to say that they have never heard of these platforms (43% vs. 48%). The fact that collaborative platforms offer new or different services is identified as one of the main benefits by at least three in ten in Luxembourg (34%), Spain (33%), and Croatia. Sharers are typically younger (aged under 35) and are well-educated (ING, 2015).

More conveniently organized access to services is one of the main benefits of collaborative platforms for users. Today, collaborative platforms are necessary for economic activities in sharing economy and they lead to development of key sectors in area: 1. peer-to-peer accommodation-households sharing access to unused space in their home or renting out a holiday home to travellers; 2. peer-to-peer transportation-individuals sharing a ride, car or parking space with others; 3.on-demand household services-freelancer marketplaces enabling households to access on-demand support with household tasks such as food delivery and DIY; 4. on demand professional services-freelancer marketplaces enabling businesses to access on demand support with skills such as administration, consultancy and accountancy; 5. collaborative finance-individuals and businesses who invest, lend and borrow directly between each other, such as crowd-funding and peer-to-peer lending (Vaughan and Daverio, 2016).

There are two commonalities in sharing and collaborative consumption practices: 1. their use of temporary access non-ownership models of utilizing consumer goods and services and 2. their reliance on the Internet, and especially Web 2.0, to bring this about (Belk, 2013). The collaborative economy involves three categories of actors: 1. service providers who share assets, resources, time and/or skills, 2. users of these; and 3. intermediaries that connect. Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit (European Commission, 2016). The global crisis made sharing economy very popular today. The effects of the financial and economic crisis since 2008 have significantly and durably impacted household purchasing power; many people seek both to make savings on their expenditure and to find supplementary income (Goudin, 2016). The rise of the collaborative economy is driven and enabled by the market forces and following drivers: 1. societal-increasing population density, drive for sustainability, desire for community, generational altruism; 2. economic-monetize excess or idle inventory, increase financial flexibility, access over ownership, influx of VC funding; 3. technology-social networking, mobile devices and platforms, payment systems (Owyang et al., 2013). PWC report about collaborative economy in Europe shows that over 275 collaborative economy organisations have now been founded across nine major European member states. Their findings show that the UK and France have led the way with over 50 collaborative economy organisations founded (Vaughan and Daverio, 2016).

The rise of sharing economy is associated with increasing promotion of sustainable development and sustainability sciences which have knowledge and resources for deep research of connection between sharing economy and sustainable development. According to Harald Heinrichs (2013), sustainability sciences have a strength in inter-and transdisciplinary research. Existing research foci in sustainability science fit perfectly into the bigger picture of the sharing economy. Sharing economy could also represent an opportunity to get back on track towards sustainable economic, social and human development in an environmentally-friendly way (Bataller, 2014). As every economic model, sharing economy also has some principles: the sharing economy is differentiated and requires a differentiated regulatory response, the sharing economy must be daylighted, regulating the sharing economy requires the right kind of information, the sharing economy disrupts and reimagines established markets, the sharing economy establishes new markets, the sharing economy disrupts and reimagines established regulatory structures, the sharing economy requires a response beyond traditional regulation, the sharing economy implicates diverse parties

(Miller, 2016). Authors Alen and Berg (2014) in their work noticed that uniqueness and benefits of sharing economy are more sustainable use of idle and underutilised resources, self-governance through civil society institutions, decentralised exchange leading to cost reductions, alternative pricing models such as dynamic pricing and the ability to leverage market knowledge as a trial-and-error innovation process.

### **3. The most famous examples of sharing economy**

Sharing economy today is connected with tourism and transportation in most cases. The most valuable sharing economy enterprises are tourism-related, where the sharing economy constitutes about 1% of its value. At the beginning of 2015 almost 500 tourism related sharing economy platforms existed; 11% of these dealt in travel (and accommodation), 50% transport and 39% leisure (Weston et al., 2015). In the pre-Internet era, vacation rentals were a largely mom-and-pop industry. A vacation rental is an alternative lodging option, which involves the short-term rental of myriad properties, such as apartments, farm stays, private homes, cabins, beach houses, villas, cottages, or chalets to travellers and tourists. These dwelling units are offered on a nightly, weekly or a monthly basis although the dominant practice in the market is renting it out weekly (Global vacation rental market 2017-2021, 2017). Businesses advertised via classifieds or real estate agents; some mailed catalogues to mailing lists acquired from local visitors bureaus. Change came by the decade: a Colorado couple looking for a better way to rent their ski condo launched booking site VRBO in 1996. HomeAway acquired the business in 2006, becoming the dominant listings hub (LeisureLink and Skift, 2016). Then, in 2008 Airbnb was established and became the most famous representative of sharing economy in the field of tourism.

#### **3.1. The case of Airbnb**

Airbnb is a community marketplace for people to list, discover, and book accommodations around the world - online or from a mobile phone or tablet. Airbnb is an online peer-to-peer accommodation platform founded in 2008 in the US (Vaughan and Daverio, 2016). Airbnb started the project, appropriately code-named "Snow White," by creating a list of the emotional moments that comprise an Airbnb stay (Kessler, 2012). Whether an apartment for a night, a castle for a week, or a villa for a month, Airbnb connects people to travel experiences, at any price point, in more than 65,000 cities and 191 countries (Airbnb, 2017a). Airbnb's business model currently operates with minimal regulatory controls in most locations, and as a result, hosts and guests both have incentives to use signalling mechanisms to build trust and maximize the likelihood of a successful booking. To reinforce this behavior, Airbnb has built an online reputation system that enables and encourages each guest and host to leave a review upon completion of a stay. Guests use star ratings to rate features of their stay, e.g., cleanliness, location, and communication, while both guests and hosts may provide other information about aspects of the stay, including personal comments (Zervas et al., 2014).

According to Airbnb press (2017b), the top markets by active listings on Airbnb are Paris, London, New York, Rio de Janeiro, Los Angeles, Barcelona, Rome, Copenhagen, Sydney, and Amsterdam. Airbnb highlights that their community is committed to building a world where people from every background feel welcome and respected, no matter how far they have travelled from home. This commitment rests on two foundational principles that apply both to Airbnb's hosts and guests: inclusion and respect (Airbnb, 2017c). Also, Airbnb is work oriented in local communities and they are supporting a lot of social entrepreneurship ideas like devcolor, Level Playing Field Institute, Out for undergrad, The Arc San Francisco, UNCF, Year Up (Airbnb, 2017d). The motivation of Airbnb hosts is generally to generate extra income from their space and guests using Airbnb are generally looking for an authentic travel experience, the opportunity to live like a local and to save some extra money. Airbnb's analysis suggests that guests tend to stay



longer in the country they are visiting and spend more than visitors staying at hotels (Vaughan and Daverio, 2016). Not only do they help "home sharers" make ends meet or pay off their mortgages, they also bring more visitors who might not be able to afford the city's high-cost hotels (Kerr, 2014).

Airbnb earns revenues by charging both the property owner and the renter a commission on transactions conducted through their website. The property owner is charged a fee of 3% on the rental value and the renter is charged between 6-10% of the value. It is still a privately held company and does not disclose detailed financials (Mitra, 2016). Airbnb became profitable for the first time during the second half of 2016. Revenue at Airbnb increased more than 80 percent during 2016, said one of the people close to the company (Stone and Zaleski, 2017). Airbnb presents their way of providing services as a greener way of tourism. They established that Airbnb properties consume less energy by night (78% in Europe) than hotels per guest. Their properties produce lower greenhouse gas emissions compared to hotels per guest night by (89 % in Europe); properties consume less water than hotels per guest night by (48 % in Europe); Airbnb hotels are more environmentally aware; Airbnb hosts provide recycling options (Airbnb, 2017e).

### **3.2. Sharing economy in the transportation sector**

Sharing economy is very popular in transportation and as well in taxi sector where the most famous representative is Uber. Car sharing has experienced a significant boom in recent years, with estimates suggesting there are now more than 600 different car sharing providers around the globe. These firms usually offer turnkey solutions, whereby drivers do not pay for insurance, gas, maintenance, or parking in designated spaces, but are charged for the time the vehicles are used, for the distance covered, or a combination of the two (Cohen and Kietzmann, 2014). The largest collaborative economy sector by revenue is the peer-to-peer transportation sector, which includes ride-sharing, car sharing networks and driveway sharing models (Vaughan and Daverio, 2016). The innovation of ride sharing services, such as Uber and Lyft, which use internet-based mobile technology to match passengers and drivers, is providing unprecedented competition in the taxi industry (Cramer and Krueger, 2015).

Uber (originally called UberCab) was launched in San Francisco in 2010. Its original black car service uses professional drivers with chauffeur's licenses and commercial liability insurance (Feeney, 2015). Uber is now present in 559 cities worldwide and is the most used taxi app in 108 countries (Zaleski and Tartar, 2016). But, Uber has been facing many critics from different governments. Those critics refer to it as that is unfairly competing with taxi drivers by entering their market without following regulations or fare schedules; it aspires to become a monopoly; its cars or drivers are unsafe or underinsured; it may invade customers' privacy; it enables discrimination by drivers and passengers, it is undermining working standards for taxi drivers and compensating its own drivers poorly (Rogers, 2015). Uber shows growth from year to year. Uber appears to have been growing at a rate of about 40% each consecutive quarter. From the first to the second quarter of 2015, gross bookings increased from \$1.5 billion to \$2.13 billion. Gross bookings is not the same as net revenue, which came in at \$663.2 million in the first half of 2015, compared to \$495.3 million in all of 2014 (Solomon, 2016). Sharing economy firms can bring significant economic, environmental, and entrepreneurial benefits including an increase in employment and a reduction in carbon dioxide emissions (in the case of car sharing services). Regulation is often the most significant barrier to future growth for sharing economy firms (Cannon and Summers, 2014).

Models of sharing economy presented in Croatia are BlaBlaCar, Couchsurfing, „Milo za drago“, Home Exchange, Airbnb, Uber, Community supported agriculture (Laslavic, 2015). Community supported agriculture (CSA) refers to those agricultural activities that contrast with commercial



agriculture. They consist of members who pay for fresh, untreated and locally grown food directly from farmers. In this way the risk is shared and the resellers are eliminated (Sarjanovic, 2014). Community supported agriculture is present in Osijek where people can use their services and get fresh and organic products from their local environment.

#### 4. Conclusion

Sharing economy is becoming increasingly popular way of providing and buying various services. Popularity, easy access, sustainable business and cost savings have made sharing economy really a phenomenon of our time which is oriented to more rational economic behaviour. Hence if everyone in the world lived a European lifestyle, we would need over 2.5 planets (Darmanin, 2010). Currently, there is a high level of unemployment in Croatia, especially among young people. Entrepreneurial activities in the field of sharing economy could become their employment opportunities. New business methods such as the ability to use smart home, the sharing of household supplies or transportation services are getting more and more attention. The main drivers of these direct services are young people, whose potential for initiating in green business was recognized by the European Union. Given that one of the priorities of the European Commission to solve the urgent problem of youth unemployment in Europe, the Commission strongly welcomes the involvement of youth in social entrepreneurship. Croatia has a high tourism potential and exactly Airbnb presents an opportunity for small, local accommodation owners. Guests using Airbnb are generally looking for an authentic travel experience, the opportunity to live like a local and to save some extra money. Airbnb's analysis suggests that guests tend to stay longer in the country they are visiting and spend more than visitors staying at hotels (Vaughan and Daverio, 2016). Also, upcoming sectors in sharing economy are food and logistics (Weston, 2015). According to the above we can conclude that the global economy faces considerable changes and sharing economy is gaining an increasing importance. Sharing economy represents a powerful encouragement for growth and development of local communities. Since the predictions that the following sectors which would be affected with this model are food and logistics Croatia should adapt to the new trends as well as new business models and utilize opportunities arising from this new paradigm in economics.

#### REFERENCES

- Airbnb.com (2014e): *A greener way to travel: the environmental impacts of home sharing*, <http://blog.airbnb.com/environmental-impacts-of-home-sharing/>, (accessed 12 March 2017)
- Airbnb.com (2017a): *About us*, <https://www.airbnb.com/about/about-us>, (accessed 2 March 2017)
- Airbnb.com (2017c): *Airbnb's Nondiscrimination Policy: Our Commitment to Inclusion and Respect*, <https://www.airbnb.com/help/article/1405/airbnb-s-nondiscrimination-policy--our-commitment-to-inclusion-and-respect?topic=250>, (accessed 5 March 2017)
- Airbnb.com (2017b): *Fast Facts*, <https://press.atairbnb.com/fast-facts/>, (accessed 2 March)
- Airbnb.com (2017d): *Our diverse global community makes Airbnb possible*, <https://www.airbnb.com/diversity>, (accessed 2 March 2017)
- Allen, D., Berg, C. (2014): *The sharing economy: how over-regulation could destroy an economic revolution*. Institute of Public Affairs, Australia, [http://www.ipa.org.au/portal/uploads/Sharing\\_Economy\\_December\\_2014.pdf](http://www.ipa.org.au/portal/uploads/Sharing_Economy_December_2014.pdf), (accessed 28 February 2017)
- Bataller, B. (2014): *OPINION of the European Economic and Social Committee on Collaborative or participatory consumption, a sustainability model for the 21st century (own-initiative opinion)*, <http://www.eesc.europa.eu/?i=portal.en.int-opinions.21192>, (accessed 2 March 2017)
- Belk, R. (1984): *Three scales to measure constructs related to materialism: reliability, validity, and relationships to measures of happiness*, in NA - Advances in Consumer Research Volume 11, eds. Thomas C. Kinnear, Provo, UT : Association for Consumer Research, Pages: 291-297, <http://acrwebsite.org/volumes/6260/volumes/v11/NA-11>, (accessed 27 February 2017)

- Belk, R. (2013): *You are what you can access: Sharing and collaborative consumption online*. *Journal of Business Research*, 67(8), 1595-1600, <http://collaborativeeconomy.com/wp-content/uploads/2015/05/Belk-R.2014.-You-are-what-you-can-access-Sharing-and-collaborative-consumption-online.Journal-of-Business-Research.pdf>, (accessed 7 March 2017)
- Bergenti, F. et al. (2002): *A collaborative platform for fixed and mobile networks*. *Communications of the ACM*, 45(11), 39-44, [https://www.researchgate.net/profile/Federico-Bergenti/publication/220424173\\_A\\_collaborative\\_platform\\_for\\_fixed\\_and\\_mobile\\_networks/links/5559d9b208ae980ca610efc7.pdf](https://www.researchgate.net/profile/Federico-Bergenti/publication/220424173_A_collaborative_platform_for_fixed_and_mobile_networks/links/5559d9b208ae980ca610efc7.pdf), (accessed 1 March 2017)
- Cannon, S., Summers H. (2014): *How Uber and the sharing economy can win over regulators*, [http://wpressutexas.net/cs378h/images/4/48/How\\_Uber\\_and\\_the\\_Sharing\\_Economy\\_Can\\_Win\\_Over\\_Regulators.pdf](http://wpressutexas.net/cs378h/images/4/48/How_Uber_and_the_Sharing_Economy_Can_Win_Over_Regulators.pdf), (accessed 4 March 2017)
- Cohen, B., Kietzmann, J. (2014): *Ride On! Mobility business models for the sharing economy*, [https://www.researchgate.net/profile/Jan\\_Kietzmann/publication/267757539\\_Ride\\_On\\_Mobility\\_Business\\_Models\\_for\\_the\\_Sharing\\_Economy/links/5459dd990cf26d5090ad21bc.pdf](https://www.researchgate.net/profile/Jan_Kietzmann/publication/267757539_Ride_On_Mobility_Business_Models_for_the_Sharing_Economy/links/5459dd990cf26d5090ad21bc.pdf), (accessed 4 March 2017)
- Cramer, J., Krueger, A.B. (2015): *Disruptive change in the taxi business: The case of Uber*, <https://www.aeaweb.org/conference/2016/retrieve.php?pdfid=1380>, (accessed 4 March)
- Darmanin, A. M. (2010): *OPINION of the European Economic and Social Committee on building a sustainable economy by transforming our model of consumption (own initiative opinion)*, <http://www.eesc.europa.eu/?i=portal.en.int-opinions.21192>, (accessed 3 March 2017)
- Dredge, D., Gyimóthy, S. (2015): *The collaborative Economy and Tourism: Critical perspectives, questionable claims and silenced voices*. *Tourism Recreation Research*, 40(3), 286-302. DOI: 10.1080/02508281.2015.1086076, [http://vbn.aau.dk/ws/files/218999422/Dredge\\_Gyimothy\\_Ver10\\_preprint\\_upload.pdf](http://vbn.aau.dk/ws/files/218999422/Dredge_Gyimothy_Ver10_preprint_upload.pdf), (accessed 28 February 2017)
- European Commission (2016): *The use of collaborative platforms*, <https://ec.europa.eu/COMMFrontOffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/72886>, (accessed 1 March 2017)
- European Commission (2016): *A European agenda for the collaborative economy*, <http://ec.europa.eu/DocsRoom/documents/16881/attachments/2/translations>, (accessed 1 March 2017)
- Feeney, M. (2015): *Is ridesharing safe?*, <https://object.cato.org/sites/cato.org/files/pubs/pdf/pa767.pdf>, (accessed 4 March 2017)
- Felson, M., Spaeth, J. L. (1978): *Community structure and collaborative consumption: A routine activity approach*. *American Behavioral Scientist*, 21(4), 614-624, <https://pdfs.semanticscholar.org/123e/db48da84387b411ec24c0845479e3bf2b7a1.pdf>, (accessed 28 February 2017)
- Goudin, P. (2016): *The cost of non Europe in the sharing economy*. *Economic, Social and Legal Challenges and Opportunities*. European Parliamentary Research Service, [http://www.europarl.europa.eu/RegData/etudes/STUD/2016/558777/EPRS\\_STU\(2016\)558777\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/558777/EPRS_STU(2016)558777_EN.pdf), (accessed 1 March 2017)
- Heinrichs, H. (2013): *Sharing economy: a potential new pathway to sustainability*. *Gaia*, 22(4), 228, <http://n.ereserve.fiu.edu/GLRESF274.46.pdf>, (accessed 2 March 2017)
- Hessen, R. (2008): *Capitalism: The concise encyclopedia of economics*. Library of Economics and Liberty, <http://www.econlib.org/library/Enc/Capitalism.html>, (accessed 1 March 2017)
- ING International Survey (2015): *European sharing economy to grow by a third in the next 12 months*, <https://www.ing.com/Newsroom/All-news/European-sharing-economy-to-grow-by-a-third-in-the-next-12-months.htm>, (accessed 1 March 2017)
- Kerr D. (2014): *Vexed in the city: The 'sharing' economy's hidden toll on San Francisco*, <https://www.cnet.com/news/vexed-in-the-city-the-sharing-economys-hidden-toll-on-san-francisco/>, (accessed 3 March 2017)
- Kessler, S. (2012): *How Snow White helped Airbnb's mobile mission*, <https://www.fastcompany.com/3002813/how-snow-white-helped-airbnbs-mobile-mission>, (accessed 2 March 2017)
- Laslavić, Ž. (2015): *Models of sharing economy present in Croatia*, <https://lider.media/aktualno/tvrtke-i-trzista/poslovna-scena/modeli-ekonomije-dijeljenja-prisutni-u-hrvatskoj/>, (accessed 5 March 2017)
- LeisureLink and Skift (2016): *Why the Vacation Rental Industry Is Blowing Up Right Now*, <https://skift.com/2016/05/25/why-the-vacation-rental-industry-is-blowing-up-right-now/>, (accessed 2 March 2017)

- Lexicographic Institute Miroslav Krleža (2012): *Rationalism*, <http://proleksis.lzmk.hr/43134/>, (accessed 27 February 2017)
- Merriam-Webster.com (2017): *Consumerism*, <https://www.merriam-webster.com/dictionary/consumerism>, (accessed 27 February 2017)
- Miller, S. R. (2016): *First principles for regulating the sharing economy*, [http://harvardjoi.com/wp-content/uploads/2016/02/HLL107\\_crop.pdf](http://harvardjoi.com/wp-content/uploads/2016/02/HLL107_crop.pdf), (accessed 2 March 2017)
- Mitra, S. (2016): *2016 IPO Prospects: Airbnb Sees Skyrocketing Valuations*, <http://www.sramanamitra.com/2016/01/04/2016-ipo-prospects-airbnb-sees-skyrocketing-valuations/>, (accessed 3 March 2017)
- Owyang, J. et al. (2013): *The Collaborative Economy: Products, services, and market relationships have changed as sharing startups impact business models. To avoid disruption, companies must adopt the Collaborative Economy Value Chain*. Altimeter Research Theme: Digital Economies, <http://www.collaboriamo.org/media/2014/04/collabecon-draft16-130531132802-phpapp02-2.pdf>, (accessed 1 March 2017)
- Global Vacation Rental Market (2017): *Global Vacation Rental Market 2017-2021*, <http://www.reportsreports.com/reports/857443-global-vacation-rental-market-2017-2021.html>, (accessed 2 March)
- Rogers, B. (2015): *The Social Costs of Uber*, <http://lawreview.uchicago.edu/page/social-costs-uber#25N>, (accessed 4 March 2017)
- Sarjanovic, I. (2014): *The role of community supported agriculture in the development of organic agriculture in Croatia*, [http://hrcak.srce.hr/search/?show=results&stype=1&c%5B0%5D=article\\_search&t%5B0%5D=ULOGA+GRUPA+SOLIDARNE+RAZMJENE+U+RAZVOJU+EKOLO%C5%A0KE+POLJOPRIVREDE+U+HRVATSKOJ](http://hrcak.srce.hr/search/?show=results&stype=1&c%5B0%5D=article_search&t%5B0%5D=ULOGA+GRUPA+SOLIDARNE+RAZMJENE+U+RAZVOJU+EKOLO%C5%A0KE+POLJOPRIVREDE+U+HRVATSKOJ), (accessed 5 March 2017)
- Schor, J. (2016): *Debating the sharing economy*. *Journal of Self-Governance and Management Economics*, 4(3), 7-22, [http://www.msaudcolumbia.org/summer/wp-content/uploads/2016/05/Schor\\_Debating\\_the\\_Sharing\\_Economy.pdf](http://www.msaudcolumbia.org/summer/wp-content/uploads/2016/05/Schor_Debating_the_Sharing_Economy.pdf), (accessed 28 February 2017)
- Soanes C., Stevenson A. (2004): *Concise Oxford english dictionary*, 11 th edition, Oxford University Press, pp 307
- Solomon, B. (2016): *Leaked: Uber's financials show huge growth, even bigger losses*, <https://www.forbes.com/sites/briansolomon/2016/01/12/leaked-ubers-financials-show-huge-growth-even-bigger-losses/#6594225136ba>, (accessed 4 March)
- Stone, B., Zaleski, O. (2017): *Airbnb Enters the Land of Profitability*, in: <https://www.bloomberg.com/news/articles/2017-01-26/airbnb-enters-the-land-of-profitability>, (accessed 4 March 2017)
- Vaughan, R., Daverio, R. (2016): *Assessing the size and presence of the collaborative economy in Europe*. London: PwC UK, <http://ec.europa.eu/DocsRoom/documents/16952/attachments/1/translations/en/renditions/native>, (accessed 28 February 2017)
- Weston, R. et al. (2015): *Research for Tran Committee – tourism and the sharing economy: challenges and opportunities for the EU*, [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563411/IPOL\\_STU\(2015\)563411\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563411/IPOL_STU(2015)563411_EN.pdf), (accessed 2 March 2017)
- Zaleski, O., Tartar, A. (2016): *Uber is now the most popular taxi app in 108 countries, data show*, <https://www.bloomberg.com/news/articles/2016-08-23/uber-is-the-most-popular-ride-hailing-app-in-108-countries>, (accessed 4 March 2017)
- Zervas et al. (2014): *The rise of the sharing economy: estimating the impact of Airbnb on the hotel industry*, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.644.7793&rep=rep1&type=pdf>, (accessed 3 March 2017)

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## **SOCIOLOGICAL ASPECTS OF INTERNAL TRANSPORT IN BUILDINGS WITH FOUR+ FLOORS**

### **SOCIOLOŠKI ASPEKTI UNUTRAŠNJEG TRANSPORTA U ZGRADAMA SA ČETIRI I VIŠE ETAŽA**

#### **ABSTRACT**

*There exist more than 16 thousand staircases without lift in buildings with four and more floors in Croatia. With 511.000 disabled people and around 650.000 households in collective residence, a solution is searched to the situation of higher mobility for retirees and less movable persons that are forced to use internal transport in buildings. Part of the enhancement of their quality of life is expected to be found in EU regional funds in accordance with the policy of using structural and investment funds for the development of an alternative to the institutionalized care for elderly and disabled persons until 2020. Technical aspects of the solution are including the integration of internal transport in the building security, IT, and energetic system favouring more cost effective and adaptable lift solutions by solving technical and legislative issues and developing relevant industrial production of lifts, engaging civil engineering sector, lift engineering and design, mounting and servicing. The expected increase in employment is about 2000 new workplaces and 300 more in maintenance sector. The impact on better servicing and renovation of old building transport systems is expected as well. Investigation goal is identification of project obstacles.*

**Key words:** building renovation, internal transport, quality of life, elderly people, invalids.

#### **SAŽETAK**

*U Republici Hrvatskoj postoji preko 16.000 stubišta bez dizala u zgradama s četiri i više etaža. Uz 511.000 teže pokretljivih te oko 650.000 domaćinstava u građevinama s kolektivnim stanovanjem postavlja se pitanje rješenja situacije veće pokretljivosti za umirovljenike i teže pokretljive osobe koje trebaju koristiti unutrašnji transport u zgradama. Dio poboljšanja njihove kvalitete života vidi se u regionalnim fondovima EU koji su suglasni da se sredstva iz strukturnih i investicijskih fondova koriste u skladu s razvojem alternativa institucionalizirane skrbi starijih i nemoćnih osoba do 2020. godine. Tehnički aspekti rješenja uključivale bi integraciju unutrašnjeg transporta u opći sigurnosni, informacijski i energetske sustav zgrade, jeftinija i gabaritno praktičnija dizala, rješavanje tehničke i pravne legislative te razvoj popratne industrijske proizvodnje dizala, građevinarstva kao i projektiranja, montaže i održavanja ovih transportnih sredstava. Očekivano povećanje zaposlenosti odnosilo bi se na oko 2000 novih*

radnih mjesta u izgradnji te oko 300 samo u održavanju. Ovime bi se poboljšala usluga u održavanju i obnavljanju unutrašnjeg transporta u zgradama gdje on već postoji. Cilj istraživanja je identifikacija projektnih prepreka.

**Ključne riječi:** obnova zgrada, unutrašnji transport, kvaliteta života, starije osobe, invalidi.

## 1. The state of internal transport in Croatian buildings

### 1.1. Social state of Croatian families considering internal transport in buildings

As evidenced in Eurostat there were approximately 30% of one person and around 30% of two persons per EU household in 2011. The same almost applies for Croatian families as well. The situation is with elderly, sick and invalid people only worst. Considering the situation in Croatian elderly, sick and invalid population there were about 511 thousands of them in 2015. Croatian initiative “Flat accessibility in the Republic Croatia” has established that approximately 650 thousand households live in so called collective buildings that are dominantly buildings with four and more floors without lifts for internal transport. Table 1 illustrates the number of buildings without lifts and with four and more storeys in major cities and counties in Croatia.

**Table 1** Distribution of buildings without lift in Croatia

|                             | B+3 floors | B+4 floors | Total |
|-----------------------------|------------|------------|-------|
| Zagreb center               | 27         | 10         | 39    |
| New Zagreb                  | 15         | 10         | 27    |
| Split - Dalmatian county    | 5          | 4          | 11    |
| Osijek - Baranja county     | 7          | 1          | 9     |
| Primorsko - goranska county | 8          | 8          | 20    |
| Istrian county              | 6          | 4          | 11    |
| Zadar county                | 5          | 3          | 8     |
| Croatia                     | 105        | 52         | 168   |

Source: Hrvatska pošta, 2017

### 1.2. EU policy concerning social aspects of transportation in buildings

European Union has formed a strong expert group for the implementation of the transition from institutional to community based care named EEG.

The EEG is a broad coalition gathering stakeholders representing people with care or support needs including children, people with disabilities, people experiencing mental health problems, families; as well as service providers, public authorities and intergovernmental organisations. The EEG consists of the following organisations: COFACE (Confederation of Family Organisations in the EU), EASPD (European Association of Service Providers for People with Disabilities), EDF (European Disability Forum), ENIL/ECCL (European Network on Independent Living/European Coalition for Community Living), ESN (European Social Network), Eurochild, FEANTSA (European Federation of National Organisations Working with the Homeless), Inclusion Europe, Lumos, Mental Health Europe, OHCHR Regional Office for Europe and UNICEF (EU, EEG, 2012).

EU policy is thus oriented toward social aspect of personal life that has been commonly recognized as the most influencing factor in life quality and life duration (Blackburn 2017, 255-293).

### 1.3. Techno-economical and legal aspects of the task

#### 1.3.1. Social relations in collective buildings

Speaking from personal experience authors warn the endeavour reality on collective consensus among building tenants concerning maintenance and renovation expenses including these for lift installation. Relations among building tenants and owners are based on several laws with the overall rule that the 51% majority of owners decides about expenses on maintenance and renovations in building. Actual economical and social circumstances in Croatian society result in rather low interest for common solution to the task of internal transportation, especially without organized open support from the outside.

#### 1.3.2. Social and political initiatives

Croatian representative in EU Parliament Dr. Biljana Borzan put the question on possibilities of EU financial aid to the solution of internal transportation in building specially regarding elderly people and mechanically disabled persons on 31 August 2016. The response, under the reference HRP-006636/2016, came from the relevant EU representative Ms Corina Crețu, commissioner for regional policy, where she stated that the responsibility of each EU state should be to implement the common accepted measures such as infrastructural investments and their adaptations as care for socialization of elderly people, especially by using those initiatives financially supported from the EU funds for regional development.

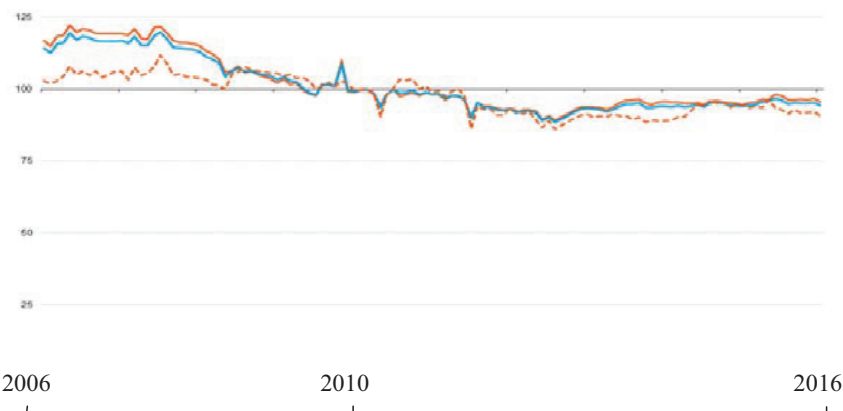
The initiative for internal building transportation was led by Mr. Želimir Manenica and supported by Mr. Silvano Hrelja member of the Croatian Parliament, who put the question on responsibility for blocking the initiative at the Ministry for EU funding at the Croatian parliament session on 20. March 2017.

The initiative is widely supported by Croatian Chamber of Economy and by Croatian Association for lift technology.

## 2. Technical improvements and project benefits

Construction works and building sector in EU are showing slow recession recovery, Fig 1. Croatia is among states with very slow recovery rate.

**Figure 1** Building, construction and civil engineering works decline 2006-2016 in EU  
dotted: civil engineering works, blue: construction, red: buildings



Source: Eurostat 2017



## 2.1. Technology of internal transport

### 2.1.1 Advancements in lift and escalator technology

New standard EN 81-20 for lifts will be binding from September 1<sup>st</sup> 2017 (EN Standard, 2014).

Major changes to previous standards include: Passenger safety and comfort – Brighter car lighting – Improved clearance of light curtain to avoid smaller objects being trapped – Improved strength and durability of car walls, car roof, car doors and landing doors – Safety glass for mirrors – Higher requirements for fire resistance of car interiors – Wider emergency exit in the car roof - Service personnel safety – Larger permanent safety spaces in hoist way headroom and pit – Brighter shaft illumination – Mandatory elevator control panel with stop button in the hoist way pit – Improved strength and increased height of balustrade on car roof – Improved strength of counterweight screen in hoist way pit.

Thus the standard will increase safety requirements for passengers and service personnel.

There are about 150 firms in Croatia that work in lift production, mounting and servicing. They are expected to qualify as main lift contractors in Croatia.

## 2.2. State of the art in relevant Croatian engineering sectors and expected new jobs in internal building transport

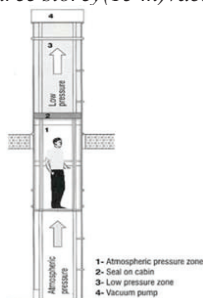
Relevant Croatian engineering sectors for the implementation of project are civil engineering sector, lift producers, lift mounting and installation and servicing sector. Overall number of workers in civil engineering in Croatia was about 32.000 in 2016. There was a prolonged decline since 2010 when there were about 43.000 workers with some recovery in 2016 (Eurostat 2016). Due to sector crisis many well equipped crews left the country and returned mainly for Germany. Thus there is a lack of qualified workers as well. The project is hoped to increase new jobs in internal building transportation works and maintenance.

## 2.3. Possible socio-technical improvements in building transportation

It is expected that EU supported internal building transportation can be managed in Croatia by: smaller, lighter and more compact lift solutions, less civil work adaptation on external lift constructions, more adaptable solutions to different state of the floor mechanics. This includes provision for additional IT service on lift installation, connection to fast optical communication, alarm and fire indicators and security cameras as well as guarded entrance where necessary, integrating energy and IT services for the whole building as well. Modular design and construction of lift installation and mechanics as well as lightweight construction can assure affordable pricing of the internal transport in buildings.

Such solution can improve better social service to the tenants as well as their higher social mobility and satisfaction. An example of a three storey vacuum lift is given in Fig. 2

**Figure 2** A simple three storey(15 m)vacuum operated lift



Source: <http://www.vacuumelevators.com/>



### 3. Project benefit estimates

Cost benefit analysis is based on some estimations and suppositions. Croatian association of lift producers and professional association of Croatian Chamber estimate that extra 2000 workers and 300 servicers will be employed on the programme.

According to data from a Split based building maintenance firm there were 460 new lifts installed in Croatia in 2016 and only in Split about 450 to 500 lift shafts are technically feasible for implementation. People are more inclined to stay at their home on informal care than to change this favourable position with so called organized care. This solution was recognized and favoured in EU as well.

### 4. Discussion and conclusion

There exists an inertial opposition toward the solution to the internal transportation in buildings in the Croatian society. It is caused mainly by lack of lobby in political circles and lack of social understanding of the situation. The situation needs fast initiative and energetic public engagement.

Affordable building transportation in Croatia thus depends on many factors: socio-political forces that are promoting it, necessity of life in collective residences, efficiency of EU support usage, elasticity of industrial sector of lift and civil engineering and construction. Calculating with 25 thousand euro for each installation and with about 5000 installations as a 1,25 billion euro with EU support up to 1 billion euro that will significantly enhance life of up to 100.000 elderly and less movable and invalid people in Croatia and give additional job for more than 2000 workers in civil engineering and construction sector is a worthwhile effort.

The enhancement in this industrial sector is expected to improve the quality life to the majority of about 650.000 households that live in collective buildings by better and safer lift construction and less costly servicing. It will enhance social life of all tenants and the real estate value of the buildings as well.

## REFERENCES

Blackburn E, Epel E. (2017): *The Telomere effect*, Grand Central Publishing, New York Boston

EN Standards, 2014 Liftinstitut: Standards EN 81-20/50

[https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/lifts\\_en](https://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/lifts_en)

EU, EEG 2012; [www.deinstitutionalisation.com](http://www.deinstitutionalisation.com)

Eurostat, online data code sts\_copr\_in, 2017

Eurostat,2016

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=teis520&plugin=1>

Hrvatska pošta – internal information, 2017

<http://www.vacuumelevators.com/>, 2017

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**COMMUNICATION SPECTRUM OF CORPORATE SOCIAL  
RESPONSIBILITY REPORTING**

**KOMUNIKACIJSKI SPEKTAR IZVJEŠTAVANJA O DRUŠTVENOJ  
ODGOVORNOSTI PODUZEĆA**

**ABSTRACT**

*The prevalent application of reports on Corporate Social Responsibility (CSR) significantly changed the way companies communicate with their stakeholders. Contents of these reports focus on the company's Triple Bottom Line (TBL) as a model that obtains the balance between financial, environmental and social performances of business. By achieving this balance, companies successfully respond to striving demands of sustainable development. Significant governmental and non-governmental initiatives and organizations around the world have already recognized the importance of mandatory CSR reporting, and therefore advocate its standardization process. This is a proper response to the growing demands of managers and stakeholders for prompt and transparent information's regarding the company triple bottom line. The contents and the process of creating and publishing a CSR report require development of such databases that can provide integral analysis of company financial, environmental and social impacts. Adequate reporting process can be implemented only thru continuous communication of a company with its internal and external stakeholders. In this paper, authors determine the scientific aspects of CSR communication spectrum between a company and its stakeholders. Therefore, the aim of their research is to promote CSR reporting as a relevant mean of stakeholder management and evaluation of business sustainability.*

**Key words:** Corporate Social Responsibility, Reporting, Triple Bottom Line, Management, Stakeholders.

**SAŽETAK**

*Sve zastupljenija primjena izvještaja o društvenoj odgovornosti poduzeća značajno mijenja oblike komuniciranja poduzeća s njegovim dionicima. Sadržaj ovih izvještaja usmjeren je na aspekte trostrukog rezultata poduzeća kao modela kojim se održava ravnoteža između poslovnih učinaka financijske, okolišne i društvene prirode. Ravnoteža koju poduzeća nastoje postići između ova tri aspekta poslovnog rezultata predstavlja njihov odgovor na sveprisutne zahtjeve održivog razvoja. U svijetu su značajne inicijative te organizacije vladinog i nevladinog sektora*

*prepoznale važnost primjene izvještaja o društvenoj odgovornosti zagovarajući pritom proces njihove standardizacije. Taj proces predstavlja odgovor na rastuće potrebe menadžera i dionika za pravovremenim i transparentnim informacijama o trostrukom rezultatu poduzeća. Sadržaj i proces izrade te objave izvještaja o društvenoj odgovornosti poduzeća zahtijeva razvoj baza podataka koje omogućuju integralnu analizu financijskih, društvenih i okolišnih učinaka poslovanja. Prikladan proces izvještavanja može se ostvariti samo kroz kontinuiranu komunikaciju poduzeća s njegovim internim i eksternim dionicima. U ovom radu autori definiraju znanstvene aspekte komunikacijskog spektra izvještavanja o društvenoj odgovornosti, a koji se javljaju između poduzeća i njegovih dionika. Temeljem toga cilj njihova istraživanja jest inaugurirati izvještavanje o društvenoj odgovornosti poduzeća kao sredstvo upravljanja odnosa s dionicima i procjene održivosti poslovanja.*

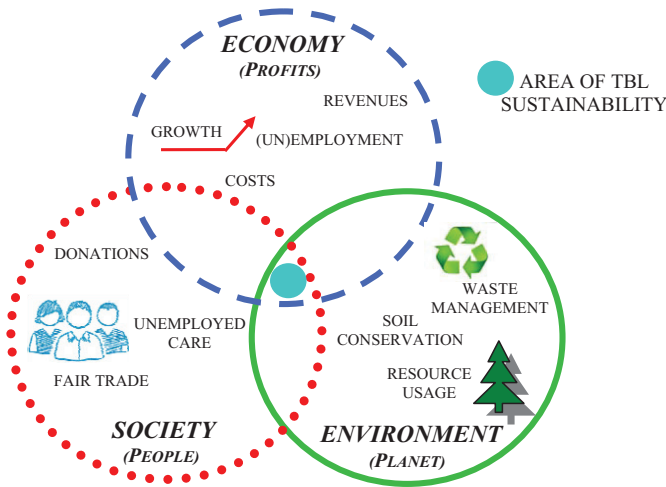
**Ključne riječi:** Društvena odgovornost poduzeća, Izvještavanje, Trostruki rezultat, Menadžment, Dionici.

## 1. Introduction

Efforts of companies to achieve accountability for wider social groups, beyond explicitly their shareholders, aim at developing strategies for regular monitoring and managing financial, environmental and social aspects of business result. Companies usually form socially responsible policies that are in accordance with the model of the Triple Bottom Line. The term Triple Bottom Line (abbreviated TBL or 3BL) was coined and first used in 1994 by John Elkington, an English activist and expert on sustainable development. The intention of promoting TBL was to imply the problem of insufficient coverage and inadequate analytical approach to the overall business results beside financial ones, particularly in the domain of environment and society. TBL approach was basically relevant for developing much wider concept of Corporate Social Responsibility (CSR). Although developed since 1960's CSR emerged as a relevant management paradigm, especially during the last two decades, mostly due to increasing ethical scandals and ecological breaches caused by multinational corporations. In terms of business practice TBL model can provide appropriate foundation for CSR implementation, no matter if it is a case of private or public sector. Implementation of CSR business policies is reasonably associated with the objectives of sustainable growth and social development, demanding balance with financial objectives of the company.

TBL derived from management intention to be more transparent and responsible to different social groups, i.e. the stakeholders. This means diversification of responsibility to those business effects that are not exclusively financial. Therefore, company management has to take into account various interests of internal and external stakeholders. Internal or primary stakeholders operate within the company and include groups such as owners, employees, suppliers and investors. External or secondary stakeholders achieve their interests related to company environment. Their influences are, therefore, external. External stakeholders include local community, activist organizations and different types of non-governmental organizations, the media and government bodies or institutions. Each of these stakeholder groups develops specific interests and influences depending on the legal type of relationship they have with the company. For example, the owners and employees are interested in the financial aspect of the business result, while other stakeholder groups, such as environmental or social activist groups and the local community, are more interested in environmental or social business impacts. Because of this these groups are very interested in conducting the analysis of business impacts represented in the TBL model (as shown by Scheme 1).

**Scheme 1** Triple Bottom Line required for company's sustainable growth and development



Source: Authors illustration based on Elkington, J. (1997): *Cannibals with Forks: The Triple Bottom Line of 21<sup>st</sup> Century Business*, Capstone Publishing Limited, Oxford

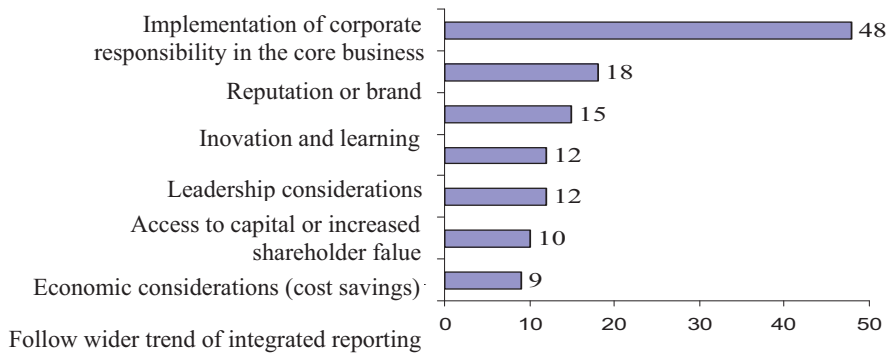
The TBL business model highlights the relevance of linking social and environmental business aspects along with responsibly generated revenues. Purpose of this is to achieve financial sustainability that, in modern business environment, leads to improving competitiveness. Global business environment during the last two decades also has increasing potential of prevalent geopolitical turbulences and symptoms of permanent economic, ecological and social crisis. In such conditions, business success on the world markets depends on company ability to simultaneously achieve profitability, ecological quantity and social justice within its business operations. Developing higher understanding and improved knowledge of business success based on the TBL is crucial for the future genesis of the CSR paradigm. This genesis should lead to generally accepted concept of balanced achieving financial, environmental and social business result. It is worth of noticing that it would be wrong to look at the TBL model and CSR concept as separate, independent elements of sustainable development. These two are explicitly intertwined, which is based on their development context and their scientific and practical content as will be demonstrated further in this paper.

## 2. Drivers of CSR reporting

Regarding the nature and content of annual financial statements, where social and environmental business results regularly omit, responsibility of a company in terms of such non-financial business aspects cannot be appropriately communicated. However, the demand for a separate, continuous creation and publication of CSR reports that elaborate the company's TBL has significant practical and scientific strongholds. Research conducted by Alexander and Buchholz (1978), Aupperle, Carroll and Hatfield (1985), Blackburn, Doran and Shrader (1994), Orlitzky, Schmidt, and Rynes (2003), Pelozo (2009), Kapoor and Sandhu (2010) confirm that CSR has a significant impact on business success. In these terms, analysis within the spectrum of TBL impacts becomes highly relevant. As a ground for analysis of such impacts Miljenović, Kutnjak and Stilin (2015) advocate the application of non-financial reporting guidelines. This type of

analysis can be conducted only by overviewing annual CSR reports (also called sustainability reports). Only these types of reports integrate financial, environmental and social business impacts. It is argued that even the basic forms of such reporting can provide relevant information's for interpretation of company sustainability contributions. This is due to a fact that environmental and social aspects of business are completely omitted in regular form of financial statements (Miljenović, Kutnjak, Stilin, 2015, 127-128). Except analytic and informational reasons of CSR reporting there are also others represented by Graph 1.

**Graph 1** *Reasons for integrated/CSR reporting of 250 biggest companies from the Fortune Global 500 list (%)*



*Source: KPMG (2011): International Survey of Corporate Responsibility Reporting, KPMG International, Amstelveen, pp. 25*

Afore mentioned reasons or drivers for CSR reporting directly relate to successful achievement of company crucial operational objectives. Socially responsible activities can consequently contribute to easier access to capital, higher customer loyalty and improved company reputation. CSR can also be a significant driver of sales increase, attracting the best employees and a model for reducing key business risks, especially environmental ones. Therefore, managing the aspects of CSR may become of the utmost importance, demanding the development of transparent reporting practices.

Eliminating deficiencies of mandatory financial reporting is also stated as a very important reason for annual CSR reporting (KPMG, 2011, 24-28). This is because financial statements do not represent information that clearly explains the efficiency of managing the natural resources or social investments. Only transparent and complete environmental information regarding the company usage of natural resources, treatment and disposal of its wastewater, releasing greenhouse gas emissions and generating material waste can provide an objective analysis of production process efficiency.

Stakeholder approach strongly supports the inclusion of stakeholders in various business activities, at different hierarchical levels. Such stakeholder inclusion requires regular communication between the company and its stakeholders. Fundamental prerequisite of such communication is the usage of the CSR reports. These reports assure data diversification regarding internal and external stakeholders' areas of interest, integrated at one place – the CSR report. This is highly relevant for multinational corporations that have a large number of stakeholders and that operate in global business environment. However, the purposes of CSR reporting are not classic public relations (P&R). Its purpose is managing simultaneously

common sustainability aspects between the company and its stakeholders. Herzig and Schaltegger (2006, 302) cite the following benefits of CSR reporting:

- gaining legitimacy (social acceptance) of business activities, products and services that have environmental and social impacts,
- improving the reputation and increasing brand value,
- the acquisition/development of competitive advantages,
- highlighting the company advantages in relation to its competitors by using CSR report as a set of indicators for the overall business success,
- comparison with other competitors in the industry,
- increasing transparency and accountability within the company,
- implementing and promoting models for employee motivation based on internal informations and process control.

In CSR reporting stakeholders have a central place. This is because the company purpose is usually determined by interests and actions of the stakeholders (like the shareholders i.e. owners, employees and customers), which are driven by different types of financial, environmental or social interests and/or objectives. Stakeholders of one company represent its environmental and social construction, especially in the sense of internal and external business impacts that are being absorb by the stakeholders within or outside the company. Business strategies therefore have to give emphasis to stakeholder management because these stakeholder groups are final "recipients" of the impacts within the TBL spectrum. Due to that, stakeholders require business information's based on which they can identify processes and measure the sustainability levels of company's impacts in their areas of interest. Management is therefore required to provide informations about CSR policies and qualitative and quantitative TBL impacts. For this purpose, management should design reporting processes and control mechanisms to ensure positive contributions and effects for the overall viability of the company and its stakeholders. To make this possible the information flow of information must have a specific communication frame, enabling the dialogue between managers and all the key stakeholders.

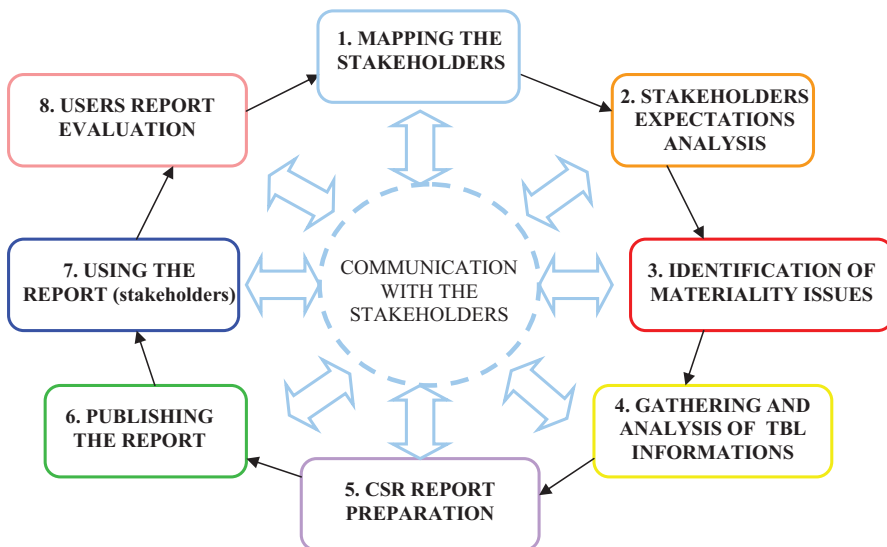
Managers are additionally attracted to CSR strategies because their implementation can improve previously damaged company reputation. Effective CSR strategies can achieve this by moving the company from the area where it is perceived as a "source of a problem" to the area where it has an opportunity to become a "problem solver". This is additionally pronounced withing companies whose main activities significantly impinge the questions of responsibility for social health and those which operations significantly affect the environment (e.g. tobacco and oil industries). It is relevant to point out, repeatedly and clearly, that CSR cannot be identified as a simple concept of marketing or public relations. Such notion would be completely wrong and misunderstood. When using the CSR strategy as a short-term policy for exclusively improving the company reputation it can not bring long-term benefits in terms of integrated financial, environmental and social sustainability. CSR can only be used and implemented as a broader strategic concept of managing sustainability issues of one company, its stakeholders and their social surroundings.

### **3. Process of CSR reporting**

Some companies are guided by intuition when preparing reports that engage the topics of social responsibility. Members of management can also have a "hunch" regarding topics or issues that a CSR report should cover or even regarding stakeholder groups that will use the report. However, the process of presenting the CSR information's on begins by collecting relevant TBL data. These data generates as a result of previously implemented CSR strategies. This should be a

basic stage, common for all processes of information analysis. However, this stage is somewhat more complicated when reporting on CSR, with regard to the structural nature of the TBL. It is a common understanding that financial effects are exclusively internally subjected, while social and environmental effects subject to externalization. TBL always observes financial, environmental and social business aspects as interconnected. However, social and environmental aspects are not always included in the internal communication channels of the company. Therefore, this information has to be collected from the environment. Crucial part is the information network, which has to be at the disposal to the stakeholders, implying their involvement in the process of CSR reporting from the beginning.

*Scheme 2 Stages of CSR reporting*



*Source: Miljenović, D. (2016a): Development of the Standardised Reporting Model on Corporate Social Responsibility, doctoral thesis, University of Rijeka, Faculty of Economics, Rijeka, pp. 95*

Mapping or identifying the key stakeholders' implies the analysis of their expectations regarding the company accountability. In this stage of the reporting process, it is certainly desirable to meet the representatives of the key stakeholders (eg. trade unions, local communities, environmental organizations and the media). Discussion with these groups is useful because it generates precise stakeholder expectations. This discussion can also narrow extent of the report to topics that are of common interest to the company and its stakeholders. These topics contain material interests of the stakeholders, the so cold materiality issues. Defined materiality issues imply the type, the form and the scope of the information that will enter the final CSR report. Some stakeholders' are more interested in quantitative information's, as environmental groups, which will insist on publication of quantities of the greenhouse gas emissions or water used/discharged. This means that available absolute data needs to be processed by using relatively pronounced forms.

For a higher quality of the CSR report, it is desirable to assign a professional person within the management who will be responsible for CSR communication and analysis. Due to financial, technical and social contents of the CSR report it is usual to form a project group consisted of



management members, engineers, employees and even sociologists. This ensures that the final CSR report has a professional coverage of relevant material issues.

However, publication of the CSR report doesn't represent the end of the CSR reporting process. The publication of a CSR report is only the next stage of the revolving CSR reporting cycle. In this stage, stakeholders become CSR report users and start to evaluate relevant TBL data within the report. CSR reporting is also not a fixed process because the relations between the company and its internal and external stakeholders are highly dynamic. Information and communication links between the company and the stakeholders are constantly changing. The entire reporting process requires feedback information from the stakeholders because they as the report users evaluate its quality and appropriateness. Feedback information can be obtained only from the stakeholders as the report users. Based on such feedback, adjustments of the report should be made, consisting of modifications, so that the report for the upcoming period can be improved and address stakeholders aspects that were previously possibly omitted.

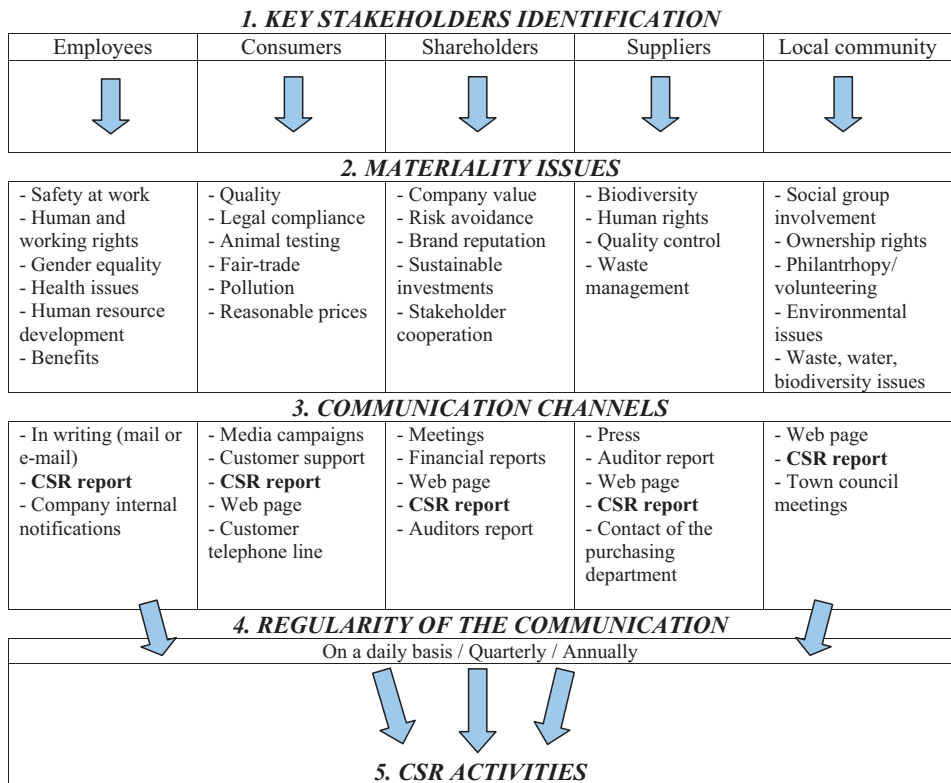
Reports on corporate social responsibility have to confirm that implemented CSR activities were relevant for generating positive TBL effects. It is important to include topics that explain direct and indirect impacts regarding creation and preservation of financial, environmental and social values, as well as potentially eroding impacts, or risks, that have significant importance to the company and the stakeholders. Financial and non-financial composition of the TBL conditions to delineate the influences that may act more slowly and cumulatively on sustainability issues from those who are current and actual. In any case, stakeholders are link between the positive and negative business effects and regular communication with them is the premise of effective CSR reporting.

#### **4. Importance of CSR reporting in stakeholder management**

Socially responsible operations during the last decade become a significant factor of business competitiveness (Kutnjak, 2014) defining company ability to address its stakeholders successfully and appropriately. CSR reports represent unique communication tool that enables companies to communicate with groups that have completely different (financial and non-financial) interests. Such reports serve as a universal translator, allowing the management to simultaneously communicate different TBL aspects with different stakeholders. By using a CSR report company has an opportunity to address non-governmental organizations, employees, the media, activists, creditors or potential investors – all in one report and all at once. This understanding in recent years also gave a massive incentive for developing and implementing the guidelines and standards of non-financial reporting (Global Reporting Initiative, 2011, Global Reporting Initiative, 2013, Miljenović, 2016b). Some of these guidelines and standards have already been implemented in national laws, which is the case in some of the EU countries. For example, in France, based on the NRE Act (Nouvelles Regulations Economiques, 2001) and later passed acts of Grenelle I and Grenelle II (2009 and 2010) all the companies listed on the stock exchange have to include social and environmental information in their annual reports. The same commitment of mandatory CSR reporting is adopted for companies in Great Britain based on Climate Change Act (UK Parliament, 2008). To achieve higher transparency of Danish private and publicly owned companies the Danish Parliament introduced mandatory annual reporting for information's regarding CSR policies. The aim of the Danish government was not only higher transparency of TBL information but also creating a desirable environment for CSR investments. Although above listed acts represent different national incentives Perrini (2005, 622), based on his analysis, confirmed that companies across Europe are in line on that how should responsibility codes of conduct work in business practice.

Relationship between a company and its stakeholders doesn't start in the stage of publishing CSR report but long before, in the stage of determining materiality issues and with selection of sustainability relevant business data. Published CSR report is, therefore, a result of continuous management-to-stakeholder's cooperation. Final CSR report will significantly be under the influence of stakeholder's characteristics because they define the type of information's involved, methods and processes implemented in the preparation of the CSR report. It is important that management experience CSR reporting as a process of responding to informational demands of the stakeholders. Companies that do not issue a standard CSR report can also have established relations with their stakeholders. However, in this case it is more difficult to form an objective context of stakeholder management that is a prerequisite of efficient stakeholder engagement. Stakeholder engagement, on the other, enables more diversified communication between stakeholder groups and the company, which is more extensive than in the case of annual financial reports. CSR reports also provide management with the data on non-financial risks that usually doesn't generate within the organization but from its environment. Therefore, stakeholder management requires an appropriate stakeholder communication context presented in the Scheme 3.

*Scheme 3 Communication context for stakeholder management*



Source: Adaptation of authors based on Grupo Herdez (2012): Annual Report: We set the things on the table, Grupo Herdez, Monte Pelvoux, pp. 44

After detecting key stakeholders, it is reasonable to start managing their expectations. This requires appointing a person that will manage CSR issues, sort of a CSR manager that will be in charge for sustainability strategies and regular communication with the stakeholders. In order for this process to become effective management has to implement appropriate communication channels and determine their regularity (daily, monthly, quarterly, annually). CSR activities that will then take place have to be directly related to the stakeholders' area of interest and determined materiality issues.

Programs that encourage joint activities of stakeholders and the company are always of the highest benefit for the development of socially acceptable forms of business conduct. Different types of joint activity enable the management to continuously contact with internal and external groups and to determine stakeholder's interests. For a company, CSR report is therefore a source of key information in the stakeholder management process. Various communication forms like joined working groups, financial and non-financial reports, Internet campaigns or community-volunteering programs enables managers to partially master external business effects, both at local and national level (e.g. projects with local communities and cooperation with representatives of the government). This strengthens the control of the management, which is normally retained exclusively within the organization and broadens it to external groups. At the same time CSR reports provide an insight to administrative and physical structure of a company, which is very important for stakeholder understanding of business processes.

## **5. Conclusion**

CSR report is a specific form of presenting achieved financial, environmental and social values as a direct result of business operations. CSR report represents a tool for successful TBL management. Only a decade ago, integrated analysis of financial, environmental and social business results was hardly feasible. Reports that promote the paradigm of corporate social responsibility opened the doors to measuring results of sustainable development on multi-curricular levels, which was not available before, nor for the managers nor for the stakeholders. By using CSR reports, managers and stakeholders also developed highly transparent and more direct communication, which certainly contributed to better mutual understanding, especially in terms of achieving sustainable financial, environmental and social impacts. This implies developing measurement models and applying indicators intended for CSR and TBL analysis. Aim of these models is to improve the function of management and control of created sustainable value across the aspects of TBL, which are evenly important for the company and the stakeholders.

In CSR reports, companies should present the results of their socially responsible policies and models of managing environmental and social business impacts. Above all CSR report is used to explain to the stakeholders how business operations affect their aspects of interests in a sustainable manner. This way companies open a path to recognizing opportunities and threats related to sustainable development. CSR reporting enables significant breakthrough when it comes to measuring, analyzing and understanding added value of a company that is integrated within the TBL (no matter they are of financial or of non-financial nature). The determination of those values, especially in the area of sustainable development, requires creation and publication of reports that meaningfully link financial, environmental and social impacts of business operations. The structure of such reports should provide a rational and balanced account of company contributions to sustainable development containing transparent data on positive and negative business effects on environment and society. The reporting process should involve all relevant stakeholders in time to ensure inclusion of their materiality issues and their equal share

of informations in the CSR report. Topics being imposed in the process of preparing the CSR report always relate to material effects and benefits of internal and external stakeholders and balance with financial business aspects.

Properly structured and third-party verified CSR reports should reliably reflect the long-term profitability, coupled with the company concern for the environment and achieving social equality. Sustainability reports enable management in making business activities improvements because environmental and social data can be measured, monitored and managed in a sustainable and socially responsible manner. It is important that reports in all components reflect relevant financial, environmental and social impacts that may significantly affect the assessment and decisions of management and the stakeholders. The aim of the company is that its CSR report informs stakeholders reliably, accurately and in time regarding all the topics relevant for mutual sustainable development.

## REFERENCES

- Alexander, G.J., Buchholz R.A. (1978): *Corporate social performance and stock market performance*, Academy of Management Journal, Vol. 21, No. 3, pp. 479–486
- Aupperle, K.E., Carroll, A.B., Hatfield, J.D. (1985): *An empirical investigation of the relationship between corporate social responsibility and profitability*, Academy of Management Journal, Vol. 28, No. 2, pp. 46–463
- Blackburn, V.L., Doran, M., Shrader, C.B. (1994): *Investigating the dimensions of social responsibility and the consequences for corporate financial performance*, Journal of Managerial Issues, Vol. 1, No. 2, pp. 195–212
- Directive 2004/35/EZ of the European parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage
- Elkington, J. (1997): *Cannibals with Forks: The Triple Bottom Line of 21<sup>st</sup> Century Business*, Capstone Publishing Limited, Oxford
- Global Reporting Initiative – GRI (2011): *G3/G3.1: Sustainability Reporting Guidelines*, GRI, Amsterdam
- Global Reporting Initiative – GRI (2013) *G4: Sustainability Reporting Guidelines*, GRI, Amsterdam
- Grenelle I (2009): *Loi de programmation relative a la mise en oeuvre du Grenelle de l'environnement*, French Parliament, Paris
- Grenelle II (2010): *Loi n° 2010-788 du 12 juillet 2010 portant engagement national our l'environnement (loi ENE)*, French Parliament, Paris
- Grupo Herdez (2012): *Annual Report: We set the things on the table*, Grupo Herdez, Monte Pelvoux

Herzig, H., Schaltegger, S. (2006): *Corporate Sustainability Reporting - An Overview*, in Schaltegger, S., Bennett, M., Burritt, R., ed.: *Sustainability Accounting and Reporting*, Dordrecht Springer, pp. 301-324

Kapoor, S., Sandhu, H.S. (2010): *Does it Pay to be Socially Responsible? An Empirical Examination of Impact of Corporate Social Responsibility on Financial Performance*, *Global Business Review*, Vol. 11, No 2, pp. 185-208

KPMG (2011): *International Survey of Corporate Responsibility Reporting*, KPMG International, Amstelveen

Kutnjak, G. (2014): *Reflection of socially responsible operations on the increase in competitiveness*, *Journal of International Scientific Publication; Economy & Business*, Vol. 8., No 1., pp. 413-423

Miljenović, D. (2016a): *Development of the Standardised Reporting Model on Corporate Social Responsibility*, doctoral thesis, University of Rijeka, Faculty of Economics, Rijeka

Miljenović, D. (2016b): *Smjernice i standardi nefinancijskog izvještavanja*, *Računovodstvo, revizija i financije*, Vol. 26, No. 5, pp. 42-48

Miljenović, D., Kutnjak, G., Stilin, Z. (2015): *Application Possibilities of Non-Financial Reporting Guidelines*, *Journal of International Scientific Publication: Economy & Business*, Vol. 9, No. 1, pp. 127-134

Nouvelles Regulations Economiques – NRE (2001): *Law on New Economic Regulations*, French Parliament, Paris

Orlitzky, M., Schmidt, F.L., Rynes, S.L. (2003): *Corporate Social and Financial Performance: A Meta Analysis*, *Organization Studies*, Vol. 24, No. 3, pp. 403-441

Peloza, J. (2009): *The Challenge of Measuring Financial Impacts From Investments in Corporate Social Performance*, *Journal of Management*, Vol. 35, No. 6, pp. 1518-1541

Perrini, F. (2005): *Building a European Portrait of Corporate Social Responsibility Reporting*, *European Management Journal*, Vol. 23, No. 6, pp. 611–627

UK Parliament (2008): *Climate Change Act* The Stationery Office Limited, London

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**SOCIALLY RESPONSIBLE MANAGEMENT OF COMPANY  
DEVELOPMENT**

**DRUŠTVENO ODGOVORNO UPRAVLJANJE RAZVOJEM PODUZEĆA**

**ABSTRACT**

*The level of social development is the highest in the history of humankind. There is also a noteworthy level of awareness and responsibility of society members (including companies) because of their sensitivity on many changes in the environment. Such changes emerge from different behavioural conditions of social groups; demanding that companies fulfil their accountability for the owners and the whole society. For this reason, it is necessary to redefine the current economic model of business activities by changing it globally; through socially responsible actions that an individual company can undertake in its local community. Company's sustainable development is impossible without implementing three pillars of Corporate Social Responsibility: financial, environmental and social sustainability. By achieving balance between these three aspects, company aligns its business goals with development goals of society. Such compliance ensures sustainability that refers to long-term sustainability of a company and its social and natural environment. Therefore, company has a commitment to be widely responsible because it has resources, systems and powers to influence on a wide range of society groups and their standard of living. The aim of this paper is to scientifically determine the necessity of creating socially responsible business strategies by the management which regular application should provide contributions in achieving business development and success.*

**Key words:** Social responsibility, Management, Sustainable development, Company

## SAŽETAK

*Stupanj društvenog razvoja najviši je u povijesti čovječanstva. Visoka razina svijesti i odgovornosti članova društva (uključujući poduzeća) posljedica je osjetljivosti na brojne promjene u okruženju, koje proizlaze iz drugačijih uvjeta ponašanja društvenih skupina; zahtijevajući da poduzeća budu istovremeno odgovorna i prema vlasnicima i prema cijelom društvu. Poradi toga, potrebno je redefinirati trenutni ekonomski model djelovanja poduzeća, mijenjajući ga globalno, putem društveno odgovornih aktivnosti koje svako poduzeće može provesti u njegovoj lokalnoj zajednici. Održivi razvoj poduzeća nemoguće je zamisliti bez implementacije tri stupa društvene odgovornosti: financijske, okolišne i društvene održivosti. Uspostavljanjem ravnoteže između ta tri aspekta poslovanja poduzeće usklađuje vlastite ciljeve sa razvojnim ciljevima društva. Ta usklađenost osigurava održivost koja se odnosi na dugoročni opstanak poslovanja, društva i prirodnog okruženja. Pritom poduzeće snosi značajnu odgovornost jer ima resurse, organizaciju i moć da utječe na brojne društvene skupine i njihov životni standard. Cilj ovog rada je na znanstveno utemeljenim osnovama ukazati na potrebu kreiranja društveno odgovornih poslovnih strategija od strane menadžmenta, a čija redovita primjena treba osigurati doprinos u ostvarenju poslovnog razvoja i uspjeha.*

**Ključne riječi:** Društvena odgovornost, Upravljanje, Održivi razvoj, Poduzeće

This paper has been supported by the University of Rijeka, Croatia, under the project *Management development in the function of integration of the Croatian economy in the EU*, no. 13.02.1.3.06.

### 1. Introduction

The global crisis has resulted in the fact that all social subjects (companies, individuals-consumers, financial and government institutions) at the same time are faced with four kinds of crises: 1) financial, 2) energy, 3) environmental and 4) moral crisis. Accordingly, the essential question is how to ensure sustainability and achieve development in the changing economic, political, energy, and in more frequent global crisis conditions? It is obvious that the current insistence of each individual social entity, regardless of whether they are an individual, company or country, does not lead to solving the crucial problem of unsustainability. This requires a strong connection and productive interaction between all society members. Thus the companies as the basis of socio-economic life are directed on solving problems, which in the economy, as a social science, do not only have economic but wider social significance. Their sensitivity to financial, environmental, moral and wider social issues, as well as active participation in solving them, is the foundation of corporate social responsibility (CSR). Consideration of ecological and social elements of the environment in which the company operates and to which those activities leaves effects is crucial for achieving sustainability. This does not apply only on sustainability of the companies. The overall community to which it affects; employees, suppliers, local residents, customers and partners, also have requirements of sustainability. In order that companies successfully respond to these demands is not enough only occasionally to engage in charitable activities, marketing, sponsorship and public relations initiatives. The development of social responsibility implies its implementation in the vision, mission and strategy of the company, production and distribution processes and functions of management and leadership at all levels. Thus implemented the concept of social responsibility is a prerequisite for better planning, management and realization of company's sustainable development. In accordance with the abovementioned it can be concluded that the concept of corporate social responsibility is



unknown and insufficiently applied in order to manage the company's sustainable development. Also, the ways in which social responsibility can contribute to the growth, development and sustainability of companies are still not fully understood. Similarly, there is an urgent need to explore the characteristics of social responsibility, to determine the elements of sustainable growth and development of the company, to analyze the social responsibility as an essential factor in the management of sustainable development of companies, and to make suggestions on the possible implementation of the concept of social responsibility in company's politics and functions.

## 2. The concept and social role of the company

The company observed in the macro-economic systems makes fundamental economic unit with different functions (production, distribution, technology). At the same time it represents a sociological unit, "networked" in society on the basis of its socio-economic functions. The social role of the company can be explained by etymological definition of the English concept of "company." According to Ryan (2007, 3), this notion is derived from Latin *cum panis* which means "to share bread". In the terms of co-ownership of the company it is about sharing of mutual interests on the basis of the legal framework. In our language, this term appears frequently using the word "kompanija" as a synonym for the company.<sup>1</sup> According to Zelenika (2010, 528), "the company is an essential economic entity in which the entrepreneurship is realized. Companies specialize in certain activity in which they combine many factors and elements of value added production. At the same time trying to create, design, operationalize, service, manage and control all functions, activities, tasks, processes ... on a more rational, economical, profitable way than the end users". In this way, companies can be determined as systems of economizing aimed at achieving greater efficiency, ie. effectiveness of the distribution of limited resources, and the production of goods and provision of services. Mencer (2003, 107) in accordance with the principle of durability and business continuity as a determinants of sustainability claims that company by ensuring the sustainability of its business and development at the same time assures reproduction of production relations. Thus creating the conditions for the security of the country to which it belongs as a specific long-lasting, sustainable system of institutional relations. This implies its indispensable role in supporting economic activity of a country, that is society. In doing so, the tendency of every community is that through the sustainability of the various forms of economic activities achieves long-term, that is regular prosperity and developmental aspects of living standard. In order to understand the social role of company it is necessary to consider the general purpose of economics as a practical social science, and that is to improve the quality of people's lives by providing the material basis ie. resources for the production to those who expressed a need for them. Economics as a social system is based on satisfying the social needs of people, which are numerous: physiological, safety, the need for acceptance, respect, self-affirmation. The management of the company is formed within the general systems theory, according to which all living organisms and systems interact and are influenced by other forces from their environment (Frederick, Post, Davis, 1992, p. 5). For the social organization such as company systematic thinking is an important management concept because it recognizes networking and interaction of effects and activities of the company towards all members of society, and vice versa. The company as a social unit through its activities contribute, changes, develops, material and immaterial enriches or otherwise affect other members of society. Some scholars emphasize that the companies should not be included in broader social issues, not because they do not have the required level of responsibility, but because "they can not act in that

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<sup>1</sup> As synonyms of the same concept in the Croatian language most commonly used are words „tvrtka“ and „firma“.

direction in the concentrated and continuous manner"(Tich et al., 1997, 7, according to Omazić, 2007, 422). For the sustainability of the society it is necessary to achieve homogeneous growth and development of all its components. It is impossible to develop the economic component while simultaneously ignoring the cultural, political or environmental component. Its development should be balanced. To determine the development level of a society throughout history, economic growth rates or the level of industrialization of each country as indicators that reflect economic development were frequently used. However, these measures do not take into account the social growth. Economic functioning of company is highly of social character. Previously stated demonstrates the fact that the currently best known measure of the development of a country is a human development index (HDI), which in addition to the economic aspect, also values social aspects of development. This is important contribution to the definition of the social role of company, which as a component of the national economy generates the basis of sustainability of the entire society. Therefore, it is impossible to separately consider the financial and environmental sustainability, ie. individually analyze the financial, social or any other form of sustainability. It is important to comprehensively consider the interrelated aspects of sustainable development, as a system that consists of the elements of economic, social and environmental nature.

The social role of the company doesn't stop with the delivery of products to the consumer, she is just starting here. The activities that the company undertakes to produce a product or provide a service to the consumer/user does not reflect only to him, but to all members of the community. Macan (2007, 103) defines the society "as a permanent and effective relationship among people in achieving a common goal or value.... The common goal of some social formations stands in front of them as a certain good that is worth to realize, and that promises to enrich the members of such a community". The company, as part of that community, has a responsibility to develop its activities so as to be consistent with sustainable community development. World Commission on Environment and Development (WCED) defines sustainable development as a "meeting between the needs of the present without compromising in order that future generations are able to catch up with its needs" (Črnjar, Črnjar, 2009, 80). The company is founded with the aim of creating goods for society (for consumers, institutions, country) but also for themselves in order to meet their own needs (in the form of earnings, ie. values for owners-shareholders, management, employees). For these reasons the company can not be viewed as a one-dimensional "*set of function of economics*." It becomes three-dimensional, like the body, the living organ of society. Its three-dimensional character is the result of economic, environmental and social interactions that company channels between social and business groups and its own business effects. The company thus participates in cohesion of economic and social roles, activities and goals. Fayolle and Riot (2015, 16) state that consideration and determination of responsibility that entrepreneurs have in such socio-economic cohesion is constantly present.

Three-dimensional understanding starts from the fact that the society is a set of mutually interlaced channels of communication, group movements and coexistence between members (individuals) of society. It can be concluded that their relationships correlates more or less depending on the strength of of the connection that exists between individuals of the society. According to Debeljak (2007, 201) these relations include operations that represent "a complex network of human relationships - the relationship between producers and consumers, employers and employees, managers and shareholders, members of corporations and members of the communities in which these corporations operate. These are economic relations, which are created by the exchange of goods and services, but also by moral relations". Companies are social institutions created for the production, sale and

delivery of goods and services necessary to meet a number of different needs. Economic activity is therefore a social activity.

### **3. Business ethics - the basis of corporate social responsibility**

Corporate social responsibility starts with the ethics and morality of the individual or individuals (owners, management, employees) that manage the company. They realize their views, ideas and intentions through business activities. In "*Lexicon of sustainable development*" authors Bačun, Matešić and Omazić explain the general concept of responsibility and state (2012, 60): "*Responsibility is also used as a recognition of the situation in which, if we want to achieve some purpose, we have to take responsibility instead of expecting others to do something, and in this sense she is very similar to initiative*". The company as a an economic entity that owns production, market, financial, development, and sometimes political power, is able to impact on other members of society in various ways. Due to the large range of impact on technological development, manufacture, sale, distribution and willingness to implement the financial power in realization of its goals, the influences that the company has will be stronger than the influence of individual or some activist association. Thereby all impacts may not be entirely positive but can also have a strong negative characteristics. Activities carried out by a company inevitably leave their mark on the environment, energy resources and sources of drinking water, biomass, etc. Companies must be responsible in using these resources. Also, the health of consumers depends on the quality and safety of production processes and the company's products and services. In the case of negative impacts on consumer the company should be responsible. Therefore the question arises: whether and in what manner can companies be ethical and moral in making profit? The issue of business ethics is based on the nature of neoliberal economics that favors only the profit or earnings that can be realized in an unethical manner that is environmentally and socially irresponsible. The reason is that the market laws are based on the material production on the basis of exploitation of natural resources and increasing profits. This raises an important question: does the market recognize the biological features of ethics and morality? Considering that the market is economic mechanism, it can not achieved this. However, market consists of and is driven by people that realize their economic activities on it, and they have all the characteristics of ethical and moral beings. This implies that the market activity is ethical, when the individuals that act on it are also ethical. In order that companies which consist of a set of individuals could acquire a reputation for socially responsible companies, they must have awareness of ethical and moral correctness of their decisions. However, the company produces some damage by its activities. Still, if it does not act it can not even create effects that society demands of him. Thereby, the damage that is to some extent acceptable for the environment, society and the economic activity generally is respected because it can be repaired or rehabilitated. But, permanent damage that causes negative long-term impacts is not desirable. Therefore, moral responsibility in business ethics primarily relates to the responsibility for the impacts of business activities on environmental and social elements and the relations between them. It can refer to the harmful consequences caused to an individual, group or whole society if some action hasn't been taken. Just by undertaking such actions these consequences could be avoided. Mladić (2007, 44) states that "ethics deals with human action and the character, so it is the science of moral which sees the relationship between good and evil, right and wrong. The subject of ethics is morality as a set of basic rules or modes of behavior that a given society considers permissible and sound". Since the individuals, ie. owners, management, employees, are organized in the company then their ethical qualities are transferred to the activities of the company. This is the best description of the concept of business ethics. According to Debeljak (2007,

202) business ethics "examines specifics of corporate social responsibility, and the appropriate role or obligations of corporations in society", while Krkač (2007, 223) defines business ethics as "the totality of the acceptable forms of action in business organizations or the totality of principles and standards that define acceptable activity in business organizations and the promotion of social responsibility". Business ethics implies moral correct or incorrect characteristics of decisions made by individuals (owners or management) and which will ultimately contribute to the shaping of social responsibility. In this way, the social responsibility represent the totality of ethical correctly made and implemented decisions and ethically generated effects for the company and society. Thereby, business ethics is an integral part of corporate social responsibility, which is a broader concept. Many companies make their own or accept codes of ethics of market and economic institutions. Still it should be noted that business ethics can not be bought neither "adopt" in the company in the form of a code, which will be immediately implemented successfully. It must be developed and harmonized with the interests of companies by giving them the correct ethical and moral dimension through the acts of individuals. Accordingly, the term "moral companies" is often mentioned. It is grounded in the fact that companies have to face the demands of moral responsibility, although their activities are carried out by individuals acting on their behalf. Companies do not have an organic awareness in this regard, ie. awareness of the living being. It is created by means of organic structure of the company (the owners, management and employees). They transfer to the company reaction of environment and so it come to life. The responsibility remains on the employees as individuals, but it could not be argued that the company is ethically responsible person. There is also a different view. French (1979, according to Ballet, de Bry, 2003, 62) supporting organizational theories, does not consider the activities of its members as their own but imposed by the company objectives. These objectives of the company are "its" reasons for action that is realized by employees and associates of the company.

In order for companies to be socially responsible they must be socially conscious. This implies that they have to follow and analyze the reactions of other members of society that are affected. The basic ethical question of modern business and management, which refers to the management as a leadership structure is: how to achieve a balance in meeting the interests of all stakeholders? Directing and managing the company means that it should be done ethically and responsibly. If the company can truly "come to life" through its employees as a moral entity, it will be able to accept and develop responsibility for the effects that creates. The concept of socially responsible companies means managing according to ethical principles, formalized in the rules, regulations, laws or codes, but realized respecting the rules by employees and their efforts to be responsible in performing their jobs.

#### **4. The concept and development of corporate social responsibility**

The term "responsibility" has etymological basis in the word of Latin origin "respondere", which means to account for your own actions and/or commit yourself to take action. In this regard it is necessary to consider corporate social responsibility. Different authors simultaneously as a synonyms for social responsibility are using different terms such as corporate governance, social entrepreneurship, responsible and sustainable business, ethical and civil organization etc. However, the most commonly used terms are corporate responsibility and the awareness or responsibility of the company as a citizen of society (corporate citizenship). These are all synonyms of corporate social responsibility. For a long time in describing the social activities of the company the terms "charity" or "philanthropy" were used. Philanthropy formed the basis of the social contribution of the company during the 20th century in the form of foundations for student scholarships, funding of socially

beneficial research or assistance to vulnerable social groups. Philanthropy is an incentive to charity, which is opposed to the individual interest and egoism. Philanthropy and donations should not be confused with social responsibility because these are only partial forms of assistance to the society, often realized because of the tax and marketing interests and can not be considered sufficient for the purpose of responsibility towards society. Occasional good deeds does not make a company socially responsible because social responsibility implies a continuous commitment and cooperation with the rest of society in improving the quality of business, products, environmental and energy conditions and life in general. This is a strategic, permanent initiative that is an integral part of the business. It is present in all the processes, relations and activities of the company that affect society and itself.

There are different definitions, concepts and approaches to issues of social responsibility. According to Minniti (2013, 13) social responsibility is ensured by the very dynamic action of entrepreneurs in society. World Business Forum for Sustainable Development defines social responsibility as "a permanent commitment for the company to behaves ethically in business and contributes to economic development, improving the quality of life of the workforce and their families, local community and society in general" (WBCSD, 1999, 3). Organisation for Economic Co-operation and Development defines corporate responsibility as "the search for effective harmony between the company and societies in which they operate". Such a "harmony" recognizes interdependence between the business world and the society because the economy progresses only when society progresses. Carroll and Buchholtz (2003, 36) defines social responsibility as "economic, legal, ethical and insidious expectations of society towards organizations at a certain point". Above all, the definitions are numerous and they all have in common certain elements: a) the responsible action of the company is "permanent commitment towards society", b) it is voluntary action of the company aimed to "create a balance" between its and social objectives and activities, c) respecting the interdependent relations with "interest-influential groups" (stakeholders) and d) the fulfillment of "social expectations".

There is no doubt that globalization is largely responsible for the modernization of the work process, but also the entire process of social responsibility, as the overall social awareness of the importance of caring for the environment and society in which we live has increased (Kutnjak, Radović, 2011). The concept of corporate social responsibility is trying to galvanize public action beyond basic legal requirements and obligations in order to build and maintain relationships with the rest of the society. At the same time they are trying to prove that they are able to solve problems of the community in which they operate. The aim is to develop an understanding between the company and the society in order to create preconditions for long-term cooperation essential for mutual sustainability. In doing so, the financial viability of the company is necessary for environmental, energy and social sustainability. The company that is not able to solve its internal problems (production, management and financial) will not be able to contribute to solving social problems. Corporate social responsibility means not only their willingness to resolve the problems that exist in society, and that it is not caused directly by them, but also the development of sensitivity to meet the expectations of the local or wider community.

Corporate social responsibility is not a concept driven by modern business trends, but due to a reaction to the consequences that result from economic growth and development. However, at any time of the historical economic and social development, there was a certain "tension" between economic and social goals. Recently responsibility of company develops based on the reaction of society to more intensive economic exploitation of the environment. Relations between the company and society, the impact of the company on the growth and development of society (and vice versa)

does not represent a new dimension, which in the past thirty years occurs because of rising power of multinational corporations, discontent with globalization or more intensive activities and demands of interest groups. It can not be argued that the initiative for the stronger development of corporate responsibility towards society is caused only by the appearance of increasingly complex business challenges. It also stems from the needs of companies for using this concept in order to overcome difficulties (economic, environmental and social) faced in modern business more easily. To do that, companies must establish good and enduring relationships, communication, and based on that understanding with the rest of society. This concept should allow companies easier identification of key elements of sustainability. Thus, the concept of social responsibility can be placed in the function of sustainable development of the company associated with social development. Accordingly, the Republic of Croatia, taking into account global trends identified, and generally begins to accept the concept of corporate social responsibility, at the same time respecting the importance that it has on the economy (entrepreneurship) as well as on the sustainable development of the country. The range of corporate social responsibility in theory, but also in practice of highly developed countries, relates to the overall scope of action of enterprises and all the interactions and trade-offs in relations that company achieves in that (Kutnjak, 2011).

## **5. Sustainable business growth and development – respecting of natural limitations**

Companies usually use natural resources that need to be processed or they can purchase them from other companies. Thereby, companies often only care about sales growth, cost, revenue and profit without wondering which is the real basis of such growth. Finally, all companies as the basis of its production and its growth use a certain natural resources. According to Črnjar and Črnjar (2009, 96-97) "the fact is that Earth has limited resources and that consumption based on economic growth can not last forever. Sooner or later the Earth will reach its own capacity limits because it has three restrictions: a) non-renewable natural resources that can be exhausted, b) environmental problems that are manifested by pollution and the ability to absorb pollution without major consequences and c) renewable resources that may not be reproduced or provide lower yields due to uncontrolled exploitation". The biggest problem in achieving growth and development is limited resources and the aggressiveness of the economy in an effort to use them. Lay (2007, 20) states that such growth at any cost is greedy, insatiable and thoughtless. Growth and profit go "hand in hand" because growth keeps profit. But growth does not necessarily mean existence and development. The current economic model has just proved it, because in the current economic crisis, profit-oriented entities remain without financial value and do not get anything in return. It is even harder to accept the fact that they engaged, spent and irreversibly destroyed many natural resources to create this value. Finally, the effect is zero, because the economic and environmental damage was made, and new financial value, due to that damage occurred, is completely lost. This is because such growth is not based on the elements of social sustainability but business viability which depends on the market conditions that tend to be volatile. Therefore, the fundamental question in achieving the growth and development of enterprises and society is: how to achieve growth and development capable for the future, ie. how to achieve sustainable growth and development? This question is generally and requires a set of responses in the field of socio-economics. According to Lay (2007, 21), "sustainability" is an internal tendency and ability of biological and social entities to long-term self-renew through self-creation". In addition to sources of sustainability in economic life, the company will have to look for them in other areas also. Specifically, at the same time it will have to look for the factors of its growth and development in three areas: a) economic, b) environmental and c) social area.

Scarcity of resources, which is higher than ever requires responsibility in achieving the growth and development. This responsibility is the foundation of sustainability. Companies can not be separated from the rest of the society and observe only its production and financial size and acting for themselves, because they depend on the interaction with society. Prices, demand and capital of the company come from the society and the company therefore has to respect the society. In this regard companies must consider the goals of ecological and sociological efficiency because they disperse its effects on those elements of the environment. In order for companies to freely disperse their effects on such broad elements, they must be exclusively positive. Otherwise, they are not acceptable for the environment and society, and as such are neither sustainable. This shows that the issue of sustainability is not just a matter of company but the entire society. Achieving sustainability requires "the willingness of society to influence the economy and each individual in terms of behavior change, and changes in consumption and production life style" (Črnjar, Črnjar, 2009, 100). In doing so, companies may understand sustainability and responsibility as marketing propaganda in order to increase their own reputation. They must realize that their survival depends on the ability to be viable, to behave and act on that way. It is their ethical obligation towards society, because the sustainable development should be the overall objective of any society, whether it is about the local community or the whole country.

## **6. Activities for improvement of social responsibility as a fundamental factor of company development**

Activities to improve corporate social responsibility as a fundamental factor for company's sustainable development can be explained from the perspective of:

*1) improvement activities in the field of management* - management is the most responsible for the implementation of social responsibility in the company. His awareness of sustainable development of the company and its stakeholders will be crucial for the implementation of activities to improve social responsibility at all hierarchical levels. It is therefore necessary to consider: a) the establishment of strategic guidelines of social responsibility, b) activities aimed at stakeholders, and c) the activities of corporate social responsibility reporting. Kutnjak (2014, 414-418) explains how each of these guidelines of corporate responsibility is critical in achievement of its competitiveness.

*2) Possibilities and recommendations for the development of social responsibility at the level of society and economy* - although corporate social responsibility is presented as a company liability when it is not practiced, influential interest groups have a particular obligation to encourage them to act responsibly. There are a whole series of measures and initiatives that lead to the implementation of social responsibility and strengthening of social cohesion between economic and social entities. As the most important ones can be highlighted:

- a) raising knowledge and awareness of corporate social responsibility in all sectors of society. It is necessary to familiarize stakeholders with the features and benefits of the concept of social responsibility because they have to accept it. In this regard research results of the effects of social responsibility and the role of the media, which can result in greater information knowledge of numerous groups about social responsibility are important.
- b) The active participation of non-governmental organizations should be crucial in defining the problem of social responsibility. With its activities they draw attention to the examples of



irresponsible behavior. At the same time they use influence to strengthen the implementation of corporate social responsibility.

- c) It is necessary to organize professional associations which are aimed at research, promotion of implementation, development and education on social responsibility. Thus, in the Republic of Croatia already operates the Croatian Business Council for Sustainable Development, which along with Croatian Chamber of Commerce plays an important role in promoting the practice of social responsibility. For example, the Croatian Business Council for Sustainable Development regularly measures and analyzes the annual index of corporate social responsibility, which is used for evaluation of socially responsible practices of domestic companies (Indeks DOP-a, 2015). These and similar organizations deal with education of managers and members of interest groups in order to faster the implementation and acceptance of elements of responsibility in business.
- d) With the development of codes of business ethics and corporate governance business transparency is improved and contributes to better relations with key groups within and outside the company. Although companies do not have such codes and laws are not binding on their application, they should independently develop such documents that prove their ethical commitment in decision making and implementation of business activities.
- e) Standardization of reporting on social responsibility as a primary mode of communication with a number of groups. Particular progress would be to bound companies to produce such reports because in most countries their creation has voluntary character.
- f) Provide support for companies that are trying to be socially responsible and also include companies that do not yet apply the principles of responsibility. Stimulating activities may come from the government, business organizations and activist groups and their goal is that companies recognize the benefits in the form of sustainable development and relations with society.
- g) Organized education on the implementation and practice of social responsibility at the highest levels of education (universities and business schools). This would contribute to the direct implementation of responsibility. Managers educated according to the rules of social responsibility will begin to apply such rules at the first employment.

These initiatives relate to society because it ultimately comes to social responsibility. If society has no awareness of the concept of corporate social responsibility it will avoid this issue. The level of this awareness will depend on the development of society. It is certain that in the underdeveloped and developing countries primary objective will not be responsible business at the highest level, because these companies are only struggling for financial success and sustainability. Yet it should not be so. The sooner companies embrace elements of social responsibility, their development will be more sustainable. Development, elaboration and application of the proposed initiatives would give a significant impetus to increase the awareness, knowledge and development of socially responsible business. It is not just a problem of the company and management, but the whole society. Therefore, they must work together on the further development of mutual responsibility. This will be possible only when it is recognized as a key factor for business and social sustainable development.

## **7. Conclusion**

The concept of corporate social responsibility is not only based, but also depends on the quality of the implemented processes of ethical, moral, responsible, and thus sustainable management and leadership. Social responsibility largely relates to the issue of business ethics and moral that occur at the level where the owner and management shape interests and objectives in the field of business

economics. Declarative reference to social responsibility without its incorporation into systems of management, leadership, that is, decision making, does not ensure long-term effects for society and company as a social system. Social responsibility is not a current company project where managers are engaged in the short term but it is its strategic determination. Managers as persons who manage the various processes are responsible for the implementation of social responsibility aspects in these processes. They define the measures and activities that are considered crucial for relations with interest and influential groups. It is therefore necessary to establish management and leadership systems, that will not treat responsibility as an additional component in decision making and implementation of activities, but they will be based on the strategic guidelines of responsibility. The realization of such responsibility proves that company is moral, ethical and socially-oriented entity, social "being" equal with other social individuals. Such a position allows him to better understand the rest of society. Therefore, it is necessary to apply a management system where it will be outlined to individuals (such as owners, employees, suppliers and others) that without the contribution to other groups, their sustainability is questionable. If the sustainability is set as a strategic goal, then the activities of social responsibility will be the subject of strategic management. Design, development and implementation of strategic guidelines of responsibility will be the task of all levels of management because it is about holistic concept. Such an approach is required so that socially responsible activities will be beneficial in the long run for the company. In this way, they help create new value for all stakeholders. Strategic vision and mission statements of most companies highlight the emphasis on long-term sustainability and creation of new value for all groups, ie. society as a whole. In doing so, the responsibility of the owner will be based on the alignment of his interests and the interests of the community, as well as all levels of management to the community. The biggest threat to the sustainability is current inappropriate neo-liberal model, based on the viability of a single element, the capital. The purpose of any economic model should be improvement of people's quality of life by providing resources for production and then distributing them in an environmentally sound and socially sustainable manner. The current economic model in which businesses operate is not entirely successful in creating such effects. The best way to get him change on a global (macro) level is individually (microeconomic) socially responsible activities of each company in its local community.

## REFERENCES

Bačun, D., Matešić, M., Omazić, M.A. (2012): *Leksikon održivog razvoja*, Hrvatski poslovni savjet za održivi razvoj – HRPSOR, Zagreb

Ballet, J., de Bry, F. (2003): *Corporate Social Responsibility and the Firm as a Person*, in Šimurina, J., ed.: Zagreb International Review of Economics & Business, Vol. 6, No. 1-2, Ekonomski fakultet Zagreb, Zagreb, pp. 57-69.

Carroll, A.B., Buchholtz, A.K. (2003): *Business and Society - Ethics and Stakeholder Management*, 5<sup>th</sup> ed., Thomson South-Western, Mason, Ohio.

Črnjar, M., Črnjar, K. (2009): *Menadžment održivog razvoja*, Sveučilište u Rijeci, Fakultet za menadžment u turizmu i ugostiteljstvu u Opatiji, Opatija.

Debeljak, J. (2007): *Temeljna pitanja poslovne etike*, in Krkač, K., ed.: Uvod u poslovnu etiku i korporacijsku društvenu odgovornost, MATE/Zagrebačka škola ekonomije i managementa, Zagreb, pp. 201-217.

Fayolle, A., Riot, P. (2015): *Rethinking Entrepreneurship: Debating Research Orientations*, Routledge, London & New York.

Frederick, W. C., Post, J. E., Davis, K. (1992): *Business and society: corporate strategy, public policy, ethics*, 7<sup>th</sup> ed, McGraw Hill, New York.

French, P. (1979): *The Corporation as a Moral Person*, American Philosophical Quarterly, Vol. 16, No. 3, pp. 207-215.

Indeks DOP-a (2015): *Nagrade indeks DOP-a 2016.*:  
<http://www.hrpsor.hr/indeks-dop-a-1-102.html>, (accessed April 2016)

Krkač, K. (2007): *Temeljna pitanja korporacijske društvene odgovornosti*, in Krkač, K., ed.: Uvod u poslovnu etiku i korporacijsku društvenu odgovornost, MATE/Zagrebačka škola ekonomije i managementa, Zagreb, pp. 219-257.

Kutnjak, G. (2011): *Društveno odgovorno poslovanje kao determinanta razvoja poduzetništva u Republici Hrvatskoj*, Zbornik radova Ekonomskog fakulteta u Mostaru, Vol. 17, Sveučilište u Mostaru, Mostar, pp. 151.-168.

Kutnjak, G. (2014): *Reflection of socially responsible operations on the increase in competitiveness*, Journal of International Scientific Publication «Economy & Business», Vol. 8., No. 1., pp. 413-423.

Kutnjak, G., Radović, M. (2011): *Development reciprocity of entrepreneurship and corporate social responsibility*, in: 10th International Symposium: «Economy & Business», Sunny Beach (Bulgaria), September 3-7, 2011, Journal of International Scientific Publication «Economy & Business», Vol. 5, No. 2, pp. 4.-16.

Lay, V. (2007): *Pitanja vezana za polazišta i pristup viziji održivog razvoja*, in Lay, V. ed.: Razvoj sposoban za budućnost, Institut društvenih znanosti Ivo Pilar, Zagreb.

Macan, I. (2007): *Zajedničko dobro, socijalni principi i privatno vlasništvo* in Krkač, K. ed.: Uvod u poslovnu etiku i korporacijsku društvenu odgovornost, MATE/Zagrebačka škola ekonomije i managementa, Zagreb, pp. 123-124.

Mencer, I. (2003): *Strateški menadžment i poslovna politika*, Naklada Vitagraf, Rijeka.

Minniti, M. (2013): *The Dynamics of Entrepreneurship: Evidence from Global Entrepreneurship Monitor Data*, Oxford University Press, Oxford.

Mladić, D. (2007): *Uvod u središnje etičke teorije* in Krkač, K. ed.: Uvod u poslovnu etiku i korporacijsku društvenu odgovornost, MATE/Zagrebačka škola ekonomije i managementa, Zagreb, pp. 43-69.

Omazić, M.A. (2007): *Društvena odgovornost i strategije hrvatskih poduzeća*, Ph.D. diss., Ekonomski fakultet Zagreb, Zagreb.

Ryan, B. (2007): *Corporate Finance and Valuation*, Cengage Learning EMEA, Hampshire.

Tichy, N.M., McGill, A.R., St. Clair, L. (1997): *Corporate Global Citizenship: Doing Business in the Public Eye*, The New Lexington Press, San Francisco.

WBCSD (1999): *Corporate Social Responsibility – Meeting Changing Expectations*, World Business Council for Sustainable Development, London.

Zelenika, R. (2010): *Ekonomika prometne industrije*, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka.

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**GENDER-SENSITIVE BUDGET IN SLAVONIA**

**RODNO OSJETLJIVI PRORAČUN U SLAVONIJI**

**ABSTRACT**

*Despite the fact that women in Croatia presently constitute a substantial share of highly skilled labour force, gender inequality is still present in the labour market and reflects in lower activity of female labour force, lower employment rates and lower earnings of women in relation to men. This is the result of different roles of men and women in the society due to the fact that women are still disproportionately burdened with unpaid work which makes it difficult for them to balance paid and unpaid work. Due to the fact that the problem of gender inequality has a number of negative economic effects, it is often placed in the focus of macroeconomic policies, among which the fiscal policy, due to its allocation and redistribution effect, particularly the budget as its most important instrument, which should be used for achieving the objective of gender equality. Therefore, the authors point out the importance of implementing gender-sensitive budgeting which, by taking into account the differences between men and women in the budget decision-making process, contributes to greater gender equality. A gender-sensitive budget is used for financing measures designed to facilitate the reconciliation of women's family and professional life, which allows more intensive involvement of women in the labour market. One of these measures is childcare. In the Republic of Croatia childcare is in direct jurisdiction of local governments; thus, public spending on childcare can be a good indicator of gender sensitivity of local budgets. The level of satisfaction of needs, and the absolute and relative level of public spending on childcare in the towns and municipalities of the Slavonian region are analysed in the paper in order to determine gender sensitivity of local budgets in the region of Slavonia.*

**Key words:** gender equality, gender-sensitive budget, unpaid work, childcare

## SAŽETAK

*Unatoč tome što žene danas u Republici Hrvatskoj čine veći udio visokoobrazovane radne snage, na tržištu rada još uvijek je prisutna rodna nejednakost koja se očituje kroz nižu aktivnost ženske radne snage, niže stope zaposlenosti i niže dohotke žena u odnosu na dohotke muškaraca. Navedeno je posljedica društveno oblikovanih uloga muškaraca i žena zbog kojih žene snose veći teret neplaćenog rada što joj otežava usklađivanje profesionalnog i obiteljskog života. Budući da problem rodne nejednakosti sa sobom nosi niz negativnih ekonomskih učinaka, sve češće ga se stavlja u središte makroekonomskih politika, među kojima se zbog funkcija alokacije i redistribucije fiskalna politika, točnije proračun kao njezin najvažniji instrument, ističe kao dobar alat za rješavanje istoga. Stoga autori u radu naglašavaju potrebu implementacije rodno osjetljiva proračuna koji uvažavanjem različitosti muškog i ženskog stanovništva pri donošenju odluka o prikupljanju i trošenju javnog novca doprinosi većoj rodnoj jednakosti. Rodno osjetljivim proračunom se financiraju mjere koje ženama olakšavaju usklađivanje obiteljskog i profesionalnog života te na taj način omogućuju intenzivnije uključivanje žena na tržište rada. Jedna od takvih mjera su usluge predškolskog odgoja i obrazovanja. S obzirom da se usluge predškolskog odgoja i obrazovanja u Republici Hrvatskoj nalaze u izravnoj nadležnosti lokalnih samouprava, javni izdaci za iste mogu biti dobar indikator rodne osjetljivosti lokalnih proračuna. S ciljem utvrđivanja rodne osjetljivosti lokalnih proračuna Slavonije u radu je analizirana razina zadovoljenja potreba te apsolutna i relativna razina javne potrošnje za predškolski odgoj i obrazovanje djece u gradovima i općinama Slavonije.*

**Ključne riječi:** *rodna jednakost, rodno osjetljivi proračun, neplaćeni rad, usluge predškolskog odgoja i obrazovanja*

### 1. Introduction

Women in the Republic of Croatia (hereinafter: RC) presently account for nearly 60% of university graduates, but their status in the labour market does not fully reflect their educational achievements. There is still gender inequality in the labour market which is reflected in lower activity of female labour force, lower employment rate and lower earnings of women in relation to men<sup>1</sup>. The problem of gender inequality in the labour market arises due to different roles of men and women in the society, according to which women take care of the household and raise children, while men „feed“ the entire family. Such a division of roles results in uneven distribution of unpaid work<sup>2</sup> between women and men, which makes it harder for women to reconcile their professional and family life and puts them at a disadvantage in terms of paid work.

Since the problem of gender inequality is closely associated with inadequate redistribution of resources and opportunities and unequal degree of satisfying the needs of men and women, fiscal policy is considered an excellent government tool for increasing gender equality, especially the budget as its most important instrument. Although budget, as a numerical representation of

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<sup>1</sup>In 2014, activity rate of women over the age of 15 in the Republic of Croatia was by 12,5 percentage points lower than the activity rate of male labour force. The average employment rate of women over the age of 15 is by 11,2 percentage points lower than the employment rate of male labour force and gross wages of women are, on average, by 12,3 percentage points lower than gross wages of men (NBS, 2016a, 36-41).

<sup>2</sup> Unpaid work implies all production activities that take place outside of the labour market that an individual performs in the scope of household work, such as household chores, childcare, caring for the elderly and the ill, volunteer work, transport services, major and minor repairs, working in family business, etc. (Swiebel, 1999, 1).

public revenues and expenditures, might seem gender-neutral, based on the premise that women and men have different gender roles, it is very likely that public needs of men and women also differ; therefore, the decisions made in the budgeting process certainly have a different impact on men and women, and thus also on gender equality. Taking into consideration that by public spending, the government should equally meet the needs of all its citizens, men and women alike, the focus in the past 20 years has been shifted to the need to take into account gender equality, among other things, when making decisions on collecting and spending public funds, and to form a more gender-sensitive budget that would contribute to greater gender equality by taking into account the differences between men and women. In literature, such a budget is called gender-sensitive budget or gender budget.

## **2. The Concept of a Gender-Sensitive Budget**

Gender-sensitive budget is a new, interdisciplinary and underexplored area that emerges as a reflection of a modern, very high level of democracy and human rights development. The authors define the concept of gender-sensitive budget in different ways. It is possible to single out several of the most important features of a gender-based budget (Sikirić and Čičak, 2016, 99; Elson, 2002, 25):

- Gender-sensitive budget takes into account different social roles of men and women in society,
- Gender-sensitive budget implies the analysis of the entire budgeting process from a gender perspective, which determines the effects of public revenues and expenditures on male and female population,
- Gender-sensitive budget implies a modification of public revenues and expenditures so that they contribute to greater gender equality in society,
- Gender-sensitive budget as a result of application of gender mainstreaming in the budgetary process directs the collection of public revenues and public spending to achieve the objectives of gender awareness policy, i.e. greater gender equality.

Except for gender equality, gender-sensitive budget also contributes to greater effectiveness of government policies and activities, greater efficiency and transparency in public spending, corruption decline, stronger involvement of the civil society in the decision-making process, especially the female population, and increase in the citizens' understanding of the budget system (Budlender *et al.*, 2002, 55; Himmelwelt, 2002, 51). The implementation of a gender budget requires a longer period of time, expressed political will, opening of the budget-adoption process to a broader group of participants, a high level of gender awareness and understanding of the causes and effects of the problem of gender inequality and change in the way both national and local budgets are planned and executed.

Assuming that a budget not only affects the distribution of material and financial resources, but also intangible resources, especially time, in addition to paid work, gender-sensitive budget also takes into account unpaid work. Unpaid work includes a variety of activities; therefore, it is hard to precisely measure and identify its comprehensive impact. However, through statistical data, certain social phenomena resulting from some activities included in unpaid work can be identified. Data from the Eurostat labour force database indicate that the increase in the volume of unpaid work caused by parenting reduces the female employment rates. Specifically, in the EU countries, employment rates of women with children younger than six are, on average, by



more than ten percentage points lower than the employment rates of women without children<sup>3</sup>. By contrast, the employment rates of men with children younger than six are considerably higher (by about 8 percentage points) than the employment rates of men without children (European Union Labour Force Survey (EU-LFS), [lfst\_hheredch]).

Parenting increases the amount of unpaid work, which makes it more difficult for women to reconcile their family and professional life. By increasing the number of children, female employment rates in the RC decline in all observed age groups and women with a preschool child are more likely (1,5 times) to be inactive in comparison with women who do not have a preschool child (Gelo, Smolić and Strmota, 2010, 84). Exclusion of women from the labour market results in the fact that women are financially dependent on men, which creates a hierarchical relationship of subordination between two equally valuable social groups and deepens the problem of gender inequality. By employment, a woman achieves financial independence that allows her to control her own life and provides her the possibility of choice; thus, more intensive inclusion of women in the labour market is the basic precondition for greater gender equality in the society. Since women will become involved in the labour market if they are able to reconcile their professional obligations with their family life, the government facilitates the balance of professional and family life and contributes to greater gender equality by financing measures that reduce the volume of unpaid work. One of such measures is childcare. Childcare is one of the key public policy areas whose development is considered an investment with multiple positive effects. In addition to its contribution to the development of cognitive skills and socialisation of children, childcare also reduces the volume of unpaid work and in this way allows both parents to participate in the labour market. Availability of childcare has been recognised by the scientists and public policy holders as a very important precondition for female employment, especially for women with children younger than six. Current empirical studies confirm the theory that the availability of childcare increases the likelihood of female employment (De Henau, Meulders & O'Dorchai, 2010; Gornick, Meyers & Ross, 1998; pansenoska & Fetahu-Vehapi, 2011; Mikucka, 2008 and Misra, Budig and Boeckmann 2010). Consequently, by financing childcare from the budget, the government contributes to a more equal position of women in the labour market, and providing adequate role of childcare may be one of the key steps towards a more gender-sensitive budget.

### **3. Childcare as an Indicator of Gender Sensitivity of Local Budgets in Slavonia**

Since in the RC childcare is under direct jurisdiction of towns and municipalities (Preschool Education Act, *Official Gazette* 10/97, 107/07, 14/13), spending on childcare will be considered in the paper as an indicator of gender sensitivity of local budgets. Towns and municipalities represent levels of government in direct contact with the citizens and are directly responsible for the establishment of gender equality in daily lives of their citizens. Financing of childcare by reducing unpaid female work can have a positive impact on the position of women in the labour market and in this way make the local budget more gender-sensitive.

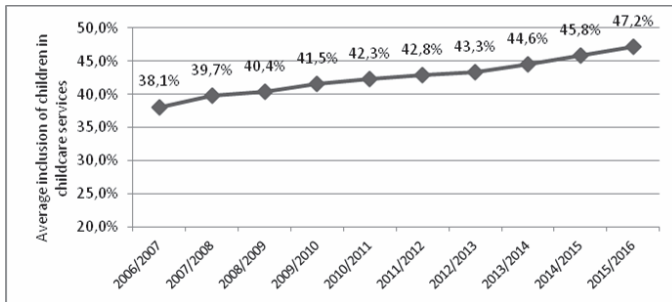
On average, availability of childcare in the RC is at a very low level in comparison with other EU countries and parents mostly rely on informal forms of childcare, especially in case of children younger than three (Eurostat SILC, [ilc\_caindformal]). Figure 1 shows availability of childcare measured by the inclusion of children younger than seven in childcare in the RC from

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<sup>3</sup>In the EU countries in 2014, the average employment rate of women aged 20 to 49 with a child younger than 6 was 89,6% of the employment rate of women without children, the employment rate of women with 2 children younger than six 84,5%, and the employment rate with three or more children younger than six, 62,4% of the employment rate of women without children (European Union Labour Force Survey (EU-LFS), [lfst\_hheredch]).

2007 to 2016. Although the figure shows that the inclusion of children in childcare has an upward trend, multiple benefits and importance of availability of childcare has still not been recognised in the RC, and its development is left to the initiatives and possibilities of local communities, which results in great differences in the inclusion of children in childcare in different local governments. Thus, in some local governments, the inclusion is 100%, while in some, 0%. The differences are a consequence of a different volume of public financing of childcare.

**Figure 1** Availability of Childcare in the RC, 2007-2016



Source: Development and calculation of the authors based on the data by the CBS (2011, 2015, 2016b.) and Eurostat SILC [ilc\_caindformal]

It is interesting that, despite low inclusion of children in childcare, women with children in the RC are not, on average, much less active in the labour market. This can lead to the wrong conclusion that unpaid work and its increase caused by motherhood is not the main cause of the current underrepresentation of women in the labour market. However, considering the increase in differences in female and male employment rates with the increase in the number of children<sup>4</sup>, for proper interpretation and understanding of the existing gender inequality in the Croatian labour market, it is necessary to consider a broader context. Since a child increases household costs, women and men will opt for offspring only if they have support of the society and if their life with children allows room for work and leisure. Therefore, low inclusion of children in childcare does not only result in lower female employment rates, but also lower fertility rates, because parents are aware that without the possibility of reconciliation of family and professional life, they will not be able to finance the child's education. According to the data of the Croatian Bureau of Statistics, Slavonian counties, i.e. Virovitica-Podravina, Požega-Slavonia, Brod-Posavina, Osijek-Baranja, and Vukovar-Srijem County are counties with the lowest inclusion of children in childcare in the RC (Table 1).

<sup>4</sup> In the RC, the difference in employment rates of men and women aged 20-49 without children in 2014 was 1,7 percentage points, in case of a single child younger than six 17,2 percentage points, in the case of two children 12,1, and in the case of three or more children younger than six 23,6 percentage points (European Union Labour Force Survey (EU-LFS), [lfst\_hheredch]).

**Table 1** Availability of Childcare and Relative and Absolute Public Expenditures for Childcare in 2011 in Slavonian Counties<sup>5</sup>

| County               | Inclusion of children in childcare in 2011 |       |       | Share of childcare in total expenditures |       |      | Expenditures per child (in HRK) |          |        |
|----------------------|--|-------|-------|--|-------|------|---------------------------------|----------|--------|
|                      | Average                                    | Max   | Min   | Average                                  | Max   | Min  | Average                         | Max      | Min    |
| Osijek-Baranja       | 28,3%                                      | 39,3% | 2,6%  | 6,3%                                     | 14,9% | 1%   | 2.623,02                        | 4.406,74 | 165,40 |
| Požega-Slavonia      | 26,6%                                      | 50,0% | 4,8%  | 9,2%                                     | 14,4% | 1,9% | 2.727,76                        | 5.142,51 | 240,61 |
| Vukovar-Srijem       | 24,4%                                      | 43,5% | 7,6%  | 6,9%                                     | 12,0% | 0,8% | 2.279,92                        | 5.298,96 | 120,49 |
| Brod-Posavina        | 19,5%                                      | 32,4% | 9,2%  | 9,6%                                     | 13,9% | 0,1% | 2.066,35                        | 4.529,49 | 46,68  |
| Virovitica-Podravina | 18,2%                                      | 43,5% | 10,3% | 9,5%                                     | 15,5% | 0,2% | 3.050,21                        | 6.355,81 | 35,34  |

Source: Authors' calculation based on the data from the CBS and the Ministry of Finance

Table 1 shows that the average inclusion of children in childcare in the above-mentioned counties is below the Croatian average. Also, there are significant differences in the availability of childcare at the national level, as well as the Slavonian region. They range from 50% in the town of Požega to the low 2,6% in the municipality of Erdut. Also, the average inclusion of children in childcare is almost twice as high in Slavonian towns (33%) than in municipalities (18,9%).

Although local governments use public funds not only to finance a larger number of vacancies in preschool institutions, but also a part of the accommodation cost, different availability of childcare is associated with a different level of funding. Thus, the share of public expenditures for childcare in total public expenditures in local governments that finance childcare services ranges from 0,1% to 15,5%, and the amount of public expenditures for childcare for preschool children from 35,34 HRK to 6,355,81 HRK.

The link between public spending and availability of childcare is tested by calculation of Pearson's correlation coefficients<sup>6</sup> as a measure of statistical linear correlation between the following pairs of variables on the sample of 75 local governments from the Slavonian region with organised childcare:

- Inclusion of children of up to 6 years of age in childcare in the school year 2011/2012 (FCC<sup>7</sup>) and the share of public expenditures for childcare in total public expenditures in 2011 (PFCC<sup>8</sup>)
- Inclusion of children of up to 6 years of age in childcare in the school year 2011/2012 (FCC) and the amount of public expenditures for childcare per child up to 6 years of age (FCCc<sup>9</sup>)

<sup>5</sup> Local governments that do not allocate funds for childcare in their budget were excluded from the calculation of minimum values.

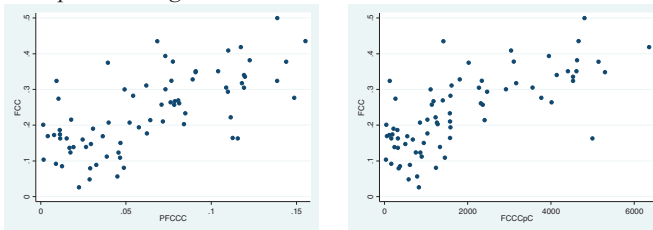
<sup>6</sup> The value of Pearson's correlation coefficient indicates the strength of the correlation between two variables, i.e. to what extent are changes in the values of one variable associated with changes in the values of other variables. The values range from -1 to 1 (Udovičić *et al.*, 2007).

<sup>7</sup> Source: Calculation based on the data from the CBS (2012.b) *Dječji vrtići i druge pravne osobe koje ostvaruju programe predškolskog odgoja-početak ped.g. 2011./2012.*, Croatian Bureau of Statistics, [http://www.dzs.hr/Hrv\\_Eng/publication/2012/08-01-08\\_01\\_2012.htm](http://www.dzs.hr/Hrv_Eng/publication/2012/08-01-08_01_2012.htm) and *Kontingenti stanovništva po gradovima/općinama*, THE CENSUS 2011, <http://www.dzs.hr/>

<sup>8</sup> Source: Calculation based on the data: *Ostvarenje proračuna JLP(R)S za period od 2010.-2014.*, <http://www.mfin.hr/hr/lokalni-proracun-arhiva>

Dispersion diagrams (Figure 2 and 3) were used to test the linearity of the correlation between the above-mentioned pairs of variables and the values of the correlation coefficient are presented in Table 2.

**Figure 2 and 3** Dispersion diagrams between variables FCC and PFCCC, and FCC/FCCCpC



Source: Authors

The values of correlation coefficients (Table 2) confirm the statistically significant medium-strong correlation between availability of childcare and the related public expenditures. Local governments with a greater amount of public expenditures for childcare make them more available to a greater number of preschool children and the share of public expenditures for preschool education in total expenditures gives an idea of the real importance of financing of childcare for local governments with various fiscal capacities in relation to other public functions. For example, the Town of Slatina with the largest share of public expenditures for childcare in total expenditures among local governments in Slavonia provides childcare for 43,5% children, and the Town of Virovitica with the highest amount of public expenditures for childcare per child up to the age of 6 (6,355,81 HRK) for 41,8% children, which is significantly higher than the average of the Virovitica-Podravina County.

**Table 2** Pearson's correlation coefficients between pairs of variables

|     |           |           |
|-----|-----------|-----------|
|     | PFCCC     | FCCCpC    |
| FCC | 0,6797*** | 0,7191*** |

\*, \*\*, \*\*\* marks statistical significance at the level of 10%, 5% and 1%

Source: Author, according to the calculations of STATE/SE 13.0

Compared to the rest of Croatia, the availability of childcare in towns and municipalities in Slavonia is extremely low. In order to improve the position and include women more effectively in the labour market, it is necessary to increase the amount of public expenditures for childcare so that they could be more available to a greater number of citizens. This will contribute to increased gender equality and, consequently, make the local budget more gender-sensitive.

#### 4. Conclusion

By analysing and taking into consideration different social and biologically conditioned roles, needs and preferences of male and female population, and by evaluating unpaid work, it is possible to consider additional criteria for the allocation and distribution of budget revenues in a

<sup>9</sup> Source: Calculation based on the data from *Ostvarenje proračuna JLP(R)S za period od 2010.-2014.*, <http://www.mfin.hr/hr/lokalni-proracun-arhiva> and *Kontingenti stanovništva po gradovima/općinama*, THE CENSUS 2011, <http://www.dzs.hr/>

way that will contribute to a better redistribution of income and equal satisfaction of public needs of all citizens, and ultimately, achievement of stabilisation goals. The very implementation of gender budgeting requires a change in the way of thinking, a high level of gender awareness and understanding of different gender roles in order to understand the possibilities of how the government can use public spending to contribute to greater gender equality.

Since childcare releases parents of day-long care of their children and thus reduces the volume of unpaid work, its availability increases the likelihood of employment of women with preschool children. Croatia is characterised by a low level of childcare availability, which not only negatively affects the position of women with children in the labour market, but also the fertility rate. There are also significant differences among towns and municipalities in Croatia in terms of childcare availability, that are mostly associated with different levels of public funding. Through public funding of childcare, local governments increase availability and financial accessibility of childcare, by which they also have a positive impact on the position of women in the labour market and, indirectly, on gender equality.

Local governments from the Slavonian region stand out in particular with their very low level of inclusion of children in childcare. Taking into account the availability and expenditures for childcare as an indicator of a gender-sensitive budget, it is concluded that local budgets in Slavonia are not gender-sensitive enough and that local governments should become more gender-aware in order to gain an insight in how they can use the available public funds to contribute to the improvement of the position of women, and, consequently, greater gender equality and the efficiency of public spending.

## REFERENCES

- Budlender, D. & Sharp, R. & Allen, K. (1998): *How to do gender-sensitive budget analysis: Contemporary research and practice*, Commonwealth Secretariat, London, <http://www.undp.mn/publications/GenderBudgets/Budgets%20CD%20section%205/5b%20how%20to%20do%20a%20gender%20sensitive%20analysis.pdf>, (accessed on 1 September 2013)
- De Henau, J., Meulders, D. & O'Dorchai, S. (2010): *Maybe Baby: Comparing Partnered Women's Employment and Child Policies in the EU-15*, Feminist Economics, Vol. 16 No. 1, pp.43-77, [https://www.researchgate.net/publication/241768349\\_Maybe\\_baby\\_comparing\\_mothers%27\\_e\\_mployment\\_and\\_child\\_policies\\_in\\_the\\_EU15](https://www.researchgate.net/publication/241768349_Maybe_baby_comparing_mothers%27_e_mployment_and_child_policies_in_the_EU15), (accessed on 3 December 2014)
- DZS (2016a): *Žene i muškarci u Hrvatskoj 2016*, Croatian Bureau of Statistics, Zagreb, [http://www.dzs.hr/Hrv\\_Eng/menandwomen/men\\_and\\_women\\_2016.pdf](http://www.dzs.hr/Hrv_Eng/menandwomen/men_and_women_2016.pdf), (accessed on 2 March 2017)
- DZS (2016b): *Dječji vrtići i druge pravne osobe koje ostvaruju programe predškolskog odgoja-početak ped.g. 2015./2016.*, Croatian Bureau of Statistics, [http://www.dzs.hr/Hrv\\_Eng/publication/2016/08-01-08\\_01\\_2016.htm](http://www.dzs.hr/Hrv_Eng/publication/2016/08-01-08_01_2016.htm), (accessed on 10 October 2016)
- DZS (2015) *Osnovne škole i dječji vrtići i druge pravne osobe koje ostvaruju programe predškolskog odgoja kraj šk. g. 2013./2014. i početak šk./ped. g. 2014./2015.*, Croatian Bureau

of Statistics, Zagreb, [http://www.dzs.hr/Hrv\\_Eng/publication/2015/SI-1543.pdf](http://www.dzs.hr/Hrv_Eng/publication/2015/SI-1543.pdf), (accessed on 25 October 2016)

DZS (2011) *Osnovne škole i dječji vrtići i druge pravne osobe koje ostvaruju programe predškolskog odgoja kraj šk. g. 2009./2010. i početak šk./ped. g. 2010./2011.*, Croatian Bureau of Statistics, Zagreb, [http://www.dzs.hr/Hrv\\_Eng/publication/2011/SI-1442.pdf](http://www.dzs.hr/Hrv_Eng/publication/2011/SI-1442.pdf), (accessed on 25 October 2016)

Elson, D. (2002): *Gender Responsive Budget Initiatives: Key Dimensions and Practical Examples*, in: High Level International Conference „Strengthening Economic and Financial Governance Through Responsive Budgeting“, UNIFEM, New York, Brussels 16-18 October 2001, pp. 15-29

European Union statistics on income and living conditions (EU-SILC), [ilc\_caindformal], <http://appsso.eurostat.ec.europa.eu>, (accessed on 1 March 2017)

European Union Labour Force Survey (EU-LFS), [lfst\_hheredch], [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst\\_hheredch](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_hheredch), (accessed on 1 March 2017)

Gelo, J., Smolić, Š. & Strmota, M. (2010): *Sociodemografske odrednice zaposlenosti žena u Hrvatskoj*, Društvena istraživanja, Vol. 20 No. 1, pp. 69-88, <http://hrcak.srce.hr/65352>, (accessed on 15 December 2014)

Gornick, J., Meyers, M. & Ross, K. (1998): *Public Policies and the Employment of Mothers: A Cross-National Study*, Social Science Quarterly, Vol. 79 No. 1, pp. 35-54, [https://www.baruch.cuny.edu/wsas/academics/political\\_science/documents/SSQarticle1998.pdf](https://www.baruch.cuny.edu/wsas/academics/political_science/documents/SSQarticle1998.pdf), (accessed on 10 November 2014)

Himmelweit, S. (2002): *Making Visible the Hidden Economy: The Case for Gender Impact Analysis of Economic Policy*, Feminist Economics, Vo. 8 No. 1, pp. 49-71, <http://www.bridge.ids.ac.uk/docs/himmelweit.pdf>, (accessed on 1 September 2014)

Swiebel, J. (1999): *Unpaid Work and Policy-Making Towards a Broader Perspective of Work and Employment*, United Nations Department of Economic and Social Affairs, New York, <http://www.un.org/esa/desa/papers/1999/esa99dp4.pdf>, (accessed on 1 December 2014)

*Kontingenti stanovništva po gradovima/općinama*, THE CENSUS 2011, Croatian Bureau of Statistics, Zagreb, <http://www.dzs.hr/>, (accessed on 1 October 2016.)

Mikucka, M. (2008) *Variation in Women's Employment Across European Countries-The Impact of Child Care Policy Solutions*, International Journal of Sociology, Vol. 38 No. 1, pp. 12-37, [https://www.researchgate.net/publication/215644620\\_Variation\\_in\\_Womens\\_Employment\\_Across\\_European\\_Countries\\_The\\_Impact\\_of\\_Child\\_Care\\_Policy\\_Solutions](https://www.researchgate.net/publication/215644620_Variation_in_Womens_Employment_Across_European_Countries_The_Impact_of_Child_Care_Policy_Solutions), (accessed on 3 December 2014)

Misra, J., Budig, M. & Boeckmann, I. (2010) *Work-family policies and the effects of children on women's employment hours and wages*, Community, Work & Family, Vol. 14 No. 2, pp. 139-157, <https://www.econbiz.de/Record/work-family-policies-and-the-effects-of-children-on-women-s-employment-and-earnings-misra-joya/10008669195>, (accessed on 3 December 2014)

*Ostvarenje proračuna JLP(R)S za period od 2010.-2014.*, Ministry of Finance, <http://www.mfin.hr/hr/lokalni-proracun-arhiva>, (accessed on 1 October 2016.)

Sikirić, A. M. & Čičak, J. (2016): *Public spending on childcare as an indicator of gender sensitivity of a budget*, *Mednarodna revija za javno upravo*, Vol. 14 No. 2-3, pp. 95-120

Spansenoska, I. & Fetahu-Vehapi, M. (2011): *Determinants of Female Employment Rate in the European Union*, *Chinese Business Review*, Vol. 10 No. 11, pp. 1076-1090, <http://www.davidpublishing.com/davidpublishing/Upfile/12/8/2011/2011120882618649.pdf>, (accessed on 15 November 2014)

Udovičić, M., Baždarić, K., Bilić-Zulle, Z., Petrovečki, M. (2007): *Što treba znati kada izračunavamo koeficijent korelacije?*, *Biochemia Medica*, Vol. 17 No. 1, pp. 10-5, <http://www.biochemia-medica.com/content/s-treba-znati-kada-izracunavamo-koeficijent-korelacije>, (accessed on 10 November 2016)

Preschool Education Act, *Official Gazette* 10/97, 107/07, 14/13

DZS (2012.b) *Dječji vrtići i druge pravne osobe koje ostvaruju programe predškolskog odgoja-početak ped.g. 2011./2012.*, Croatian Bureau of Statistics, available at: [http://www.dzs.hr/Hrv\\_Eng/publication/2012/08-01-08\\_01\\_2012.htm](http://www.dzs.hr/Hrv_Eng/publication/2012/08-01-08_01_2012.htm) and *Kontingenti stanovništva po gradovima/općinama*, THE CENSUS 2011, available at: <http://www.dzs.hr/>

*Ostvarenje proračuna JLP(R)S za period od 2010.-2014.*, available at: <http://www.mfin.hr/hr/lokalni-proracun-arhiva>





**Značaj civilnog  
društva za  
razvoj regije**

**Significance of  
civil society for  
development of the  
region**

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**ECONOMIC AND FINANCIAL ASPECTS OF THE OPERATION OF NON-  
GOVERNMENTAL ORGANIZATIONS IN CROATIA**

**EKONOMSKI I FINANCIJSKI ASPEKTI DJELOVANJA NEPROFITNIH  
NEVLADINIH ORGANIZACIJA U HRVATSKOJ**

***ABSTRACT***

*The objectives of non-profit organizations are other than acquisition of profit for its owner and consequently increase of invested equity. By delivering goods and services non-profit organizations provide services of general interest which result in satisfying common needs of the wider community. The focus of this paper is non-governmental organizations that constitute the institutional infrastructure of civil society.*

*Economic and financial component of its operations is neglected in scientific analyses and research. The paper, based on current data and information from the consolidated financial statements of Croatian non-profit sector, presents and analyses indicators of the financial position and financial performance of non-profit organizations according to their legal form, regional origin and types of activities. In particular we analyse the level of development of the non-profit sector in the region of Slavonia and Baranja in comparison with other regions in Croatia.*

*The research results can serve as indicators and guidelines for the assessment of their tax burden and potential financing needs, the level of development of social entrepreneurship, as well as the overall economic potential of Croatian non-profit sector as a whole.*

**Key words:** *civil society, non-profit organizations, revenues, expenses, assets, employment*

## SAŽETAK

*Ciljevi poslovanja neprofitnih organizacija nisu usmjereni prema ostvarivanju profita, a posljedično niti povećanju uloženog vlasničkog kapitala. Djelatnošću neprofitnih organizacija osigurava se zadovoljenje općih interesa i zajedničkih potreba šire zajednice isporukom dobara i usluga. U fokusu ovoga rada su nevladine organizacije koje čine i institucionalnu infrastrukturu civilnog društva.*

*Ekonomsko financijska komponenta djelovanja neprofitnog sektora zapostavljena je u stručnim analizama i istraživanjima. U radu se na temelju aktualnih podataka i informacija iz financijskih izvještaja hrvatskog neprofitnog sektora prezentiraju i analiziraju neki pokazatelji financijskog položaja i financijske uspješnosti neprofitnih organizacija prema njihovom pravnom obliku i regionalnoj pripadnosti. Posebice se analizira stupanj razvoja neprofitnog sektora u Slavoniji i Baranji u usporedbi s Hrvatskom u cjelini.*

*Rezultati istraživanja mogu poslužiti kao pokazatelji i smjernice za sagledavanje potreba za financiranjem neprofitnog sektora, stupnja razvijenosti socijalnog poduzetništva, kao i ukupnog ekonomskog potencijala hrvatskog neprofitnog sektora u cjelini.*

***Ključne riječi:*** *civilno društvo, neprofitne organizacije, prihodi, rashodi, imovina, zaposlenost*

### 1. Introduction

Non-profit organizations, civil society organizations in particular, are closely associated with the modern welfare state and democratic countries based on the rule of law, with developed market economies. During the transition and post transition period, civil society is often seen only as an opposition to the current government, but the awareness of its important social and economic role is growing daily, especially in crisis situations. For this reason, there are efforts of governments in the countries of young democracy, as it is the Republic of Croatia, to facilitate and intensify the development of civil society through financial and organizational support. The support is reflected in the provision of financial resources and the establishment of special organizations (national treasuries, sectors, government agencies...) whose primary task is the financial, legal and organizational support for the development and operational activities of civil society organizations.

The state and the perception of non-profit sector in terms of financial discipline are still not satisfactory. Some recent financial affairs in large non-profit entities (sports clubs, associations, political parties) have further aggravated the negative perception, and encouraged the authorities to significantly improve the legal framework of financial operations and transparency of operations of non-profit sector in Croatia. Furthermore, the supporting activities of non-profit sector fall under taxation systems to a significant extent. Therefore, under the guise of constitutional equality, the development of social entrepreneurship as an important source of funding of non-profit sector is discouraged in competition. In such circumstances in the Republic of Croatia today, there is no a systematic analysis of the economic, financial and tax importance and potential of non-profit sector. Besides, numerous legal forms of non-profit organizations result in a variety of mutually unrelated civil registries, which gives an unreliable picture of the entire sector. The only common and comprehensive record is provided on the basis of accounting rules and the Register of Non-Profit

Organizations, which in addition to basic general data contains individual financial statements of every non-profit organization. These financial statements are a relevant basis for the consideration of economic strength, financial position and financial performance of the sector and its individual segments. With that aim, the necessary reclassification, systematization and consolidation has been carried out of individual financial statements for 2016 (balance sheets and revenues and expenses statements) in order to determine the aggregate value of basic economic and financial categories in Croatia and Slavonia and Baranja. The research results can serve as a stimulus for further research and also as indicators and guidelines for the consideration of the contribution to employment, the level of development of social entrepreneurship, as well as the overall economic potential of non-profit sector.

## 2. The Non-Profit Sector in the Republic of Croatia

Croatian legislation does not provide an explicit legal definition of non-profit organizations. In determining a non-profit organization, the legal form is not a decisive factor, unlike the purpose and objectives of its foundation. Thus, a non-profit organization can be defined as a legal entity whose purpose and objectives of establishment and functioning are not directed towards profit generation, but towards satisfying general interests and common needs of the wider community. The activities of non-profit organizations are to some extent financed through social entrepreneurship and by selling products and services. However, the main financing sources are donations, membership fees, budget financing and similar. In accordance with the method of financing and ownership control, there are two main categories of non-profit organizations in Croatia:

- a) Governmental non-profit organizations (budget users), and
- b) Non-governmental or private non-profit organizations.

Governmental non-profit organizations are founded by a local or central authority which has management control over them and from whose budgets these organizations are directly funded. In statistical terms, these organizations as budget users are, according to prescribed criteria, part of the general government sector or the public sector. Non-governmental (private) non-profit organizations are founded on the basis of private initiatives with non-profit motives and they are predominantly funded through donations, supports, membership fees and other similar sources. In statistical terms, in accordance with the International Statistical Classification<sup>1</sup>, non-profit sector, which basically constitutes the civil society, includes entities that provide non-market goods and services to households. This primarily includes<sup>2</sup>:

1. trade unions, professional or school associations, consumer associations, political parties, churches or religious associations (including those financed but not controlled by the state), and social, cultural, recreational and sports clubs;
2. Charitable organizations, aid providing organizations that are financed through voluntary transfers in cash or noncash transfers from other institutional units.

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<sup>1</sup> More information at: "DZS: Sektorska klasifikacija institucionalnih jedinica, (p.13) i izvanproračunskih korisnika državnog proračuna i proračunskih i izvanproračunskih korisnika proračuna jedinica lokalne i područne (regionalne) samouprave te o načinu vođenja registra proračunskih i izvanproračunskih korisnika, NN 128/09, 142/14

<sup>2</sup> DZS, *Sektorska klasifikacija institucionalnih jedinica*, (p.15), <http://www.dzs.hr/app/sektorizacija/Documentation/SektorskaKlasifikacija.pdf>

In terms of application of the accounting and financial and tax legislation, non-profit sector in Croatia has a significantly wider scope than statistical criteria, and in addition to civil society entities, it includes other entities as well by the criteria of non-profit foundation and activity. Thus, according to the Act on Financial Operations and Accounting of Non-Profit Organizations (Official Gazette 121/14), non-profit sector in Croatia comprises of civil society organizations (non-governmental domestic and foreign organizations and their associations, trusts, foundations, arts organizations, trade unions, employers' associations), as well as all other legal entities that are non-profit by nature, although they are founded and financed under special regulations (institutions, chambers, ...). In addition to proclaimed non-profit activity, the common denominator of these entities is a unified system of accounting and financial reporting that allows monitoring and transparency of their economic and financial operations.

The mentioned Act, through the Register of Non-Profit Organizations (RNO) kept by the Ministry of Finance, supervises the obligation of submitting financial reports for all non-profit organizations. The reporting and accounting system is rationalized in proportion to economic importance of individual non-profit organizations based on income and asset values<sup>3</sup>. So-called *small* non-profit organizations are enabled to apply the simplified cash basis accounting, while others apply accrual accounting and the system of integrated financial reporting. To some extent, this fact complicates an integrated overview and the analysis of the non-profit sector, because it requires the reclassification of data expressed on different methodological bases.

According to current data from RNO, the non-profit sector in Croatia comprises of a total of 35,780 non-profit organizations of very different legal forms<sup>4</sup>. As many as 55.2% of them base their accounting on the accrual concept and are required to submit complete financial statements, while the remaining 44.4% belong to so-called small non-profit organizations that use cash basis accounting and submit the annual financial report of receipts and expenditures at the end of the year only. In Slavonia and Baranja<sup>5</sup>, there are 6,156 non-profit organizations lodged in the Register, 56% of which are small non-profit organizations. Table 1 shows the non-profit organizations by the legal form and reporting obligation by applying simple and double-entry bookkeeping in the territory of Croatia and Slavonia and Baranja.

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<sup>3</sup> A non-profit organization can apply cash basis accounting if the value of its assets and the annual turnover in the past three consecutive years does not exceed 230,000.00 kunas. For more details about the accounting system see: Vašiček, V. & Vašiček, D. „Računovodstvo proračunskih i neprofitnih organizacija“, EFRI, Rijeka, 2016.

<sup>4</sup> The organizations included are those which have fulfilled their legal obligation to join the Register.

<sup>5</sup> Slavonia and Baranja consists of five counties—Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem.

**Table 1** Non-profit organizations classification by the legal form and size

| Organizational form                | Croatia |       |        | Slavonia and Baranja |       |
|------------------------------------|---------|-------|--------|----------------------|-------|
|                                    | Total   | Small | Other  | Total                | Small |
| Association of citizens            | 32.542  | 46,4% | 53,6%  | 5.761                | 57,2% |
| Union of associations              | 612     | 27,5% | 72,5%  | 83                   | 45,8% |
| Union                              | 331     | 27,2% | 72,8%  | 50                   | 38,0% |
| Tourist Board                      | 306     | 2,0%  | 98,0%  | 34                   | 5,9%  |
| Arts organization                  | 293     | 19,1% | 80,9%  | 11                   | 9,1%  |
| Natural person <sup>6</sup>        | 242     | 43,4% | 0,0%   | 21                   | 38,1% |
| Institution                        | 239     | 1,7%  | 98,3%  | 31                   | 3,2%  |
| Trust                              | 174     | 11,5% | 88,5%  | 11                   | 0,0%  |
| Religious communities <sup>7</sup> | 201     | 43,8% | 56,2%  | 48                   | 68,8% |
| Employers' Association             | 146     | 22,6% | 77,4%  | 14                   | 0,0%  |
| Political party                    | 125     | 18,4% | 81,6%  | 12                   | 16,7% |
| Chamber                            | 65      | 0,0%  | 100,0% | 9                    | 0,0%  |
| Foreign organization               | 37      | 21,6% | 78,4%  | 2                    | 0,0%  |
| Cooperative society                | 20      | 20,0% | 80,0%  | 0                    |       |
| Foundation                         | 4       | 25,0% | 75,0%  | 0                    |       |
| TOTAL                              | 35.780  | 44,4% | 55,2%  | 6.156                | 55,9% |

Source: Authors' calculation based on RNO data<sup>8</sup>

The above table shows that more than 90% of non-profit organizations are associations of citizens both at the national level and at the level of Slavonia and Baranja.

### 3. The Economic and Financial Potential of the Non-Profit Sector

The following section brings the economic and financial analysis of the non-profit sector based on data from financial statements submitted for the year 2016. Thereby, 75% of entities using double-entry bookkeeping and 63% of entities using simple bookkeeping, i.e. the total of 69.3% of non-profit organizations at the national level have fulfilled their legal obligation to submit financial statements for the year 2016 to the Register of Non-Profit Organizations. At the level of Slavonia and Baranja, 71.8% of non-profit organizations have submitted their reports (75.8% of entities using double-entry bookkeeping and 69% of entities using simple bookkeeping). Although the legal obligation of financial reporting was fulfilled by almost 30% of non-profit organizations more than the year before<sup>9</sup>, it is still a proof of the low level of transparency of financial operations and financial discipline of Croatian non-profit sector. This fact significantly complicates the review of the overall situation and the financial performance of the sector, however the available data represent a valuable source of information that is not given real importance at the macro level.

Non-profit organizations of RC that need to provide a comprehensive financial report have reported in the Summary report on income and expenses for the year 2016 the total revenue of more than 10.6 billion HRK (7.2% more than the previous year) and expenses in the amount of 10.08 billion HRK (15.2% more than the previous year). Non-profit organizations in the area of Slavonia and

<sup>6</sup> Individuals such as the representatives of national minorities and similar, that participate in the public resources and operate on non-profit basis.

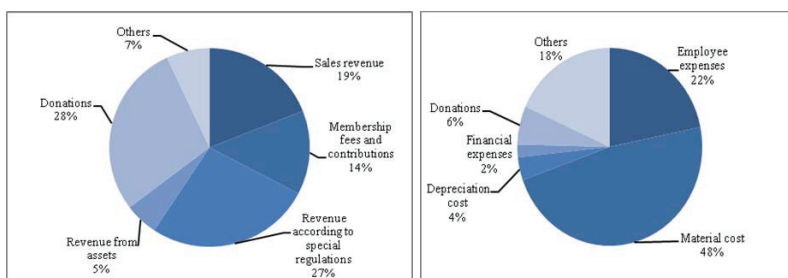
<sup>7</sup> Including legal persons established by religious communities.

<sup>8</sup> The Ministry of Finance, RC, <http://www.mfin.hr/hr/registar-npf>, 27.03.2017.

<sup>9</sup> The reporting obligation for 2015 was fulfilled by only 50% of subjects (Vašiček&Sikirić, 2016)

Baranja have reported 644 million HRK of revenues (5.1% more than the previous year), and expenses in the amount of 625 million HRK (4.5% more than the previous year). The following charts (1 and 2) show the structure of income and expenses of non-profit organizations in 2016 on the territory of Croatia.

**Figure 1 and 2** Revenue and expense structure of non-profit organizations RC (in %)



Source: Authors' calculation based on RNO data

Donations make up the largest proportion of revenue (28%), about 60% of which are donations from the budget, followed by revenues under special regulations (27%). Membership fee account for only 14% of income, while on the basis of social entrepreneurship 19% of revenue is generated.

Material expenses prevail with 48% in the expense structure, followed by the employee expenses that make up 22% of the total expenses of non-profit organizations in Croatia. Employee expenses mainly refer to salaries for regular work.

Employment data (based on hours worked) show that non-profit organizations in Croatia employ a total of 20,772 workers, which is 5.1% more than the year before and accounts for more than 1.4% of the total number of employees in Croatia<sup>10</sup>. In addition to employees, nearly 31,000 volunteers were included in the work of non-profit sector in 2016, with more than 2.2 million hours volunteered, which an increase of 25% is compared to the year before.

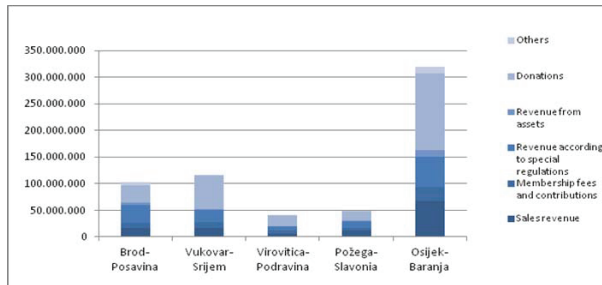
The average amount of revenue of non-profit organizations in RC amounted to 2.845<sup>11</sup> HRK per capita. At the same time, in the region of Slavonia and Baranja revenues of these organizations range from as low as 244 HRK in Virovitica Podravina to 4.339 HRK in Osijek-Baranja county, which gives the average of only 818 HRK per capita. This indicates a significantly lower economic and financial potential of the non-profit sector in Slavonia and Baranja in relation to Croatian average. Chart 3 shows the range and structure of the revenue of non-profit organizations in Slavonia and Baranja counties.

<sup>10</sup> Calculation based on the data of the Central Bureau of Statistics Census-2011.

<sup>11</sup> Source: Authors' calculation based on RNO data and Croatian Employment Service data



**Figure 3** Revenue structure of non-profit organizations in Slavonia and Baranja counties (in HRK)



Source: Authors' calculation based on RNO data

It should be added that almost 65% of revenues from donations and more than 40% of the total revenues of non-profit organizations in the area of Slavonia and Baranja are accounted for by donations from the budget. This is especially noticeable in Virovitica Podravina where donations from the budget account for nearly 80% of the total income from donations and 47.4% of total revenues. In the area of Slavonia and Baranja, non-profit organizations employed 2,521 persons (2.6% more than the year before), accounting for about 1.1% of employees in this region. Particularly low is the proportion of employees in Virovitica Podravina, 0.81% of the total number of employees in Virovitica Podravina. In Slavonia and Baranja, there were 4,288 volunteers who volunteered 240,000 hours approximately, which is about 7% more than the previous year.

Non-profit organizations in RC delivered in 2017 the total surplus from 2016 and the previous years in the amount of 9.6 billion HRK, while in Slavonia and Baranja the total surplus amounted to only 173 million.

According to the comprehensive aggregate balance sheet, the carrying amount of the assets of non-profit organizations in RC at the end of 2016 amounted to 27.6 billion HRK (5.9% more than the year before), while in Slavonia and Baranja the asset value amounted to only 1.64 billion HRK (3.8% more than the year before). At the national level, out of the stated 27.6 billion HRK, non-financial assets were worth 11.38 billion HRK, while the value of financial assets amounted to 16.27 billion HRK. In accounts with banks there was 3.25 billion HRK of the total reported financial assets and 1.65 billion HRK in bank deposits. Non-profit organizations at the national level reported 8.7 billion HRK in liabilities (12.9% more than the year before), of which HRK 3.3 billion in credits and loans.

The aggregate report for 2016 shows that the aggregate employment data and the elements of performance of Croatian non-profit sector have a constant growth rate, which suggests that, in economic terms, the non-profit sector is, due to its non-market orientation, almost inelastic to recessionary conditions which are still significantly present in economic sector. Among the counties of Slavonia and Baranja, a considerable economic potential of non-profit sector is seen in the Osijek-Baranja County, while it is extremely low in Virovitica Podravina and Požega Slavonia.

#### 4. Operating Results of Civil Society Organizations

Due to the heterogeneity and the broad scope of the non-profit sector in RC, the focus of the analysis is on the economic and financial potential of non-profit organizations of the "third sector" or civil society. Civil society organizations (hereafter: CSOs) play an important role in encouraging diversity and problem-solving at the local level to which the state is not able to react in time. Today, the Croatian legal system recognizes the following types of CSOs: civil associations, foundations, trade unions, employers' organizations and religious communities (Bežovan & Ivanovic, n.g., 17-18).

Each of the organizational forms is governed by specific regulations that determine the manner of its establishment, operation and termination. Out of the total of 35,780 of non-profit organizations registered in the Register of Non-Profit Organizations, there are 33,883 of CSOs. Among them, the most common organizational form is the association of citizens. Before the new Associations Act came into force, there were 51,435 of associations registered at the Register of Associations, but after the obligation of alignment with the new Act, their number is substantially reduced, because a large number of associations were not active<sup>12</sup>. Since the entry in the Register of Non-Profit Organizations is a precondition for participation in legal transactions and funding from the budget, the number of organizations in the Register of Non-Profit Organizations (32,542) more accurately reflects the number of active organizations today. In terms of financial discipline, 23,845 of OCDs (70.3%) of a total of 33,883 in Croatia fulfilled their legal obligation to submit financial statements for 2016.

The following table presents the aggregated data on revenues, expenses and employment in this group of non-profit organizations for 2016.

**Table 2** Revenue, expenses and employment in civil society organizations in 2016

| Legal form |                        | Number of report submitters |          | Revenue in 2016 |             | Expenses in 2016 |             | Number of employees in 2016 |
|------------|------------------------|-----------------------------|----------|-----------------|-------------|------------------|-------------|-----------------------------|
|            |                        | RC                          | Slavonia | RC              | Slavonia    | RC               | Slavonia    | RC                          |
| 1          | POLITICAL PARTY        | 87                          | 11       | 136.852.624     | 4.670.804   | 126.009.384      | 3.229.229   | 201                         |
| 2          | UNION                  | 256                         | 35       | 306.203.676     | 5.107.710   | 287.515.142      | 5.108.796   | 308                         |
| 3          | UNION OF ASSOCIATIONS  | 536                         | 75       | 952.339.661     | 29.112.916  | 925.503.284      | 28.576.343  | 870                         |
| 4          | FOREIGN ASSOCIATION    | 28                          | 1        | 41.167.317      | 3.433.520   | 41.532.761       | 3.312.359   | 136                         |
| 5          | ASSOCIATION            | 22.649                      | 4.183    | 5.065.524.442   | 498.477.129 | 4.813.333.171    | 487.296.831 | 11.794                      |
| 6          | EMPLOYERS' ASSOCIATION | 106                         | 14       | 59.423.944      | 3.214.005   | 57.631.552       | 3.303.469   | 173                         |
| 7          | RELIGIOUS COMMUNITIES  | 28                          | 4        | 25.301.756      | 2.237.231   | 24.392.480       | 1.607.492   | 45                          |
| 8          | TRUST                  | 155                         | 11       | 232.160.670     | 8.218.357   | 248.657.897      | 5.839.999   | 133                         |
|            | TOTAL                  | 23.845                      | 4.334    | 6.818.974.090   | 554.471.672 | 6.524.575.671    | 538.274.518 | 13.660                      |

Source: Authors' calculation based on RNO data, Ministry of Finance Croatia, March 2017.

12 Jakir-Bajo, I.: A Review of the Law on Financial Operations and Accounting of Non-Profit Organizations, TIM4PIN Magazin, 11/2014. p. 92.

According to comprehensive reports, CSOs in Croatia have expressed the total revenue and income of over 6.8 billion HRK and total expenditures and expenses of over 6.5 billion HRK for 2016.

In the balance sheets, CSOs in RC have expressed 7.38 billion HRK worth of assets, and in Slavonia and Baranja, only 507.84 million HRK for 2016. The total number of employees in CSOs is 13,660, which is 0.91% of the total employed population in RC. Since the economic power of the non-profit sector in Slavonia is lower than the RC average, employees of the CSOs account for only 0.74% of the total employed population of Slavonia.

## 5. Conclusion

A large number of non-profit organizations as well as the economic potential of the non-profit sector expressed in the number of employees, the level of revenue and available assets point to the growing socio-economic importance of the non-profit sector in Croatia. The data also show the growth and development of civil society organizations, which supports the continued democratic progress of Croatian society. The aggregate financial statements for the year 2016 show that the aggregate employment data and the elements of performance of Croatian non-profit sector have a constant growth rate, which suggests that, in economic terms, the non-profit sector is, due to its non-market orientation, almost inelastic to recessionary conditions which are still significantly present in the economic sector. The financing of the non-profit sector is mostly obtained through donations, primarily from local and the state budget. It is noticeable that the revenues of social entrepreneurship are relatively poorly represented, which leads to the conclusion that this form of action needs to be stimulated through the legal and tax system. Uneven economic development and population density, and a high degree of fiscal and financial centralization in RC are directly reflected in the regional development of non-profit sector. This is evidenced by indicators of development of this sector in Slavonia and Baranja that correspond to the level of economic development of the region and its counties.

A comprehensive analysis of the non-profit sector is more difficult to carry out due to a still low level of financial discipline and financial transparency. Although since 2015 there has been an obligation of financial reporting for all non-profit entities, a large number of non-profit organizations still does not meet its obligation of registering in the Register of Non-Profit Organizations and financial reporting, which prevents the creation of the overall picture of economic strength of the non-profit sector.

## REFERENCES

Bežovan, G. & Ivanović, M. (n.g.) *Razvoj civilnog društva u Hrvatskoj*, UNDP Croatia, Zagreb, [http://programjako.info/wp-content/uploads/2009/01/UNDP\\_RazvojCivilnogDrustvaUHrvatskoj.pdf](http://programjako.info/wp-content/uploads/2009/01/UNDP_RazvojCivilnogDrustvaUHrvatskoj.pdf), (accessed 15 March 2017)

DZS (n.g.) *Sektorska klasifikacija institucionalnih jedinica*, (S.13), <http://www.dzs.hr/app/sektORIZACIJA/Documentation/SektorskaKlasifikacija.pdf>, (accessed 15 March 2017)

DZS (n.g.) *Popis stanovništva 2011.- 21. ZAPOSLENI PREMA ZANIMANJU, STAROSTI I SPOLU*, <http://www.dzs.hr/Hrv/censuses/census2011/results/censustabsxls.htm>, (accessed: 27 March 2017)

EK, EUROSTAT (2013) *European system of accounts - ESA 2010, Classification of the purposes of non-profit institutions serving households (COPNI)*, <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-02-13-269>, (accessed 15 march 2017)

Jakir-Bajo, I.: Osvrt na Zakon o financijskom poslovanju i računovodstvu neprofitnih organizacija, TIM4PIN Magazin, 11/2014

HZZ-a (2016.) *Mjesečni statistički bilten*, Hrvatski zavod za zapošljavanje, Zagreb, Vol. 29 No. 12, [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2016.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2016.pdf), (accessed 02. April 2017)

Ministarstvo financija RH, <http://www.mfin.hr/hr/registar-npf>, podaci na dan 27.03.2017.

Pravilnik o utvrđivanju proračunskih i izvanproračunskih korisnika državnog proračuna i proračunskih i izvanproračunskih korisnika proračuna jedinica lokalne i područne (regionalne) samouprave te o načinu vođenja registra proračunskih i izvanproračunskih korisnika, NN br. 128/09, 142/14

Vašiček, V. & Vašiček, D.(2016) „Računovodstvo proračunskih i neprofitnih organizacija“, Ekonomski fakultet Sveučilišta u Rijeci & TIM4PIN, Rijeka/Zagreb

Vašiček & Sikirić (2016) *Obračunsko računovodstveno načelo u neprofitnim organizacijama – izazovi i prednosti*, Proceedings the 5<sup>th</sup> International Conference "Vallis Aurea: Focus on Research and Innovation" 22-24 September 2016, Požega -Vienna : DAAM International Vienna/ Polytecnic in Pozega, pp. 549-556

Zakon o financijskom poslovanju i računovodstvu neprofitnih organizacija, NN br.121/14





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## **RIVER CRUISING: THE ROLE AND MARKETING MIX OF DESTINATION PORTS OF CALL**

### **RIJEČNA KRSTARENJA: ULOGA I MARKETING MIKS DESTINACIJSKIH LUKA TICANJA**

#### **ABSTRACT**

*Market of international river cruising is one of the fastest growing segments of tourism with an annual growth rate of 10 to 15%. Europe has the largest share in world on the market of river cruising where the most frequent cruises are on the Danube River and its tributaries and the canal of Rhein - Main - Danube. Considering the aforementioned and the fact that the Croatian tourism product of river cruising is almost exclusively related to the Danube River, an opportunity is opened up for river cruises to be a significant contributor to the economic development of eastern Croatia. This is also supported by the current forecasts of ship and passenger traffic on cruises on the Danube in Croatia, which indicate a likely continued and accelerated increase in demand. Thus arises the problem of how to appropriately prepare to make the positive effects of this type of tourism for the region as large as possible. When considering the tourist product of river cruises and its specificities it is necessary to highlight the role of destination ports of call for shipping companies whose attractiveness plays a decisive role in the selection of destinations that will be included in companies itineraries. Ports or destinations with authentic and generally more attractive offers with greater availability of themed itineraries tailored to specific interests of tourists generate greater benefits from river cruising. By intensifying marketing activities towards the shipping companies and with the usage of marketing concept an increase can be achieved in the number of dockings of river ships in Croatian ports and harbors or the representation of Croatian destination ports of call in the itineraries of shipping companies. The aim of this paper is to determine the role played by the destination ports of call as part of the tourism product of river cruising and to suggest a marketing mix for destination ports of call that they have to effectively manage if they are to survive in the competitive environment on the dynamic international market of river cruising. For the purposes of collecting the primary data, the method of critical analysis was used on collected documents and interviewing method with key stakeholders of river cruising.*

**Key words:** river cruising, destination ports of call, marketing mix, Danube, east Croatia

#### **SAŽETAK**

*Tržište međunarodnih krstarenja rijekama je jedno od najbrže rastućih segmenta turizma s godišnjom stopom rasta 10 -15%. Najveći udio svjetskog tržišta krstarenja rijekama ima Europa u kojoj su najzastupljenija krstarenja na rijeci Dunavu i pritocima te kanalu Rajna -*



*Majna - Dunav. S obzirom na navedeno i činjenicu da je u Hrvatskoj turistički proizvod riječnih krstarenja gotovo isključivo vezan uz rijeku Dunav, otvara se šansa za značajniji doprinos riječnih krstarenja gospodarskom razvoju istočne Hrvatske. Tome u prilog idu i trenutne prognoze prometa brodova i putnika na krstarenjima Dunavom u Hrvatskoj koje ukazuju na vjerojatni daljnji ubrzani rast potražnje. Stoga se nameće problematika kako se odgovarajuće pripremiti da bi pozitivni učinci ove vrste turizma za regiju bili što veći. Pri promišljanju o turističkom proizvodu riječnih krstarenja i njegovim specifičnostima neophodno je istaknuti ulogu destinacijskih luka ticanja čija atraktivnost za brodare ima presudnu ulogu pri odabiru destinacija koje će uvrstiti u svoje itinerare. Luke odnosno destinacije s autentičnom i općenito atraktivnijom ponudom u kojoj je veća raspoloživost tematskih itinerara prilagođenih posebnim interesima turista ostvaruju veće koristi od riječnih krstarenja. Također, intenziviranjem marketinških aktivnosti prema brodarskim kompanijama i upotrebnom marketinškog koncepta moguće je utjecati na povećanje broja pristajanja riječnih brodova u hrvatskim lukama i pristaništima, odnosno na veću zastupljenost hrvatskih destinacijskih luka ticanja u itinerarima brodarskim kompanija. Stoga je cilj ovog rada odrediti ulogu koju imaju destinacijske luke ticanja kao dio turističkog proizvoda riječnih krstarenja te predložiti marketinški miks destinacijskih luka ticanja kojim one moraju učinkovito upravljati ukoliko žele opstati u konkurentnom okruženju na dinamičnom međunarodnom tržištu riječnih krstarenja. Za potrebe prikupljanja primarnih podataka korištena je metoda kritičke analize prikupljenih dokumenta te metoda intervjuiranja s ključnim dionicima riječnih krstarenja.*

**Ključne riječi:** riječna krstarenja, destinacijske luke ticanja, marketing miks, Dunav, istočna Hrvatska

## 1. Introduction

In the last few years there is a continuous rapid growth in demand for river cruises, especially on the European continent. In Croatia, the product of river cruising is almost exclusively related to the Danube River and current forecasts of transport ships and passengers on cruises on the Danube in Croatia indicate the likely continued rapid growth in demand. This requires a strategic approach to the development of river cruises in order to maximize the existing potential and comparative advantages of the Croatian Danube region. Also, considering that the destinations/ports /cities that are visited by the river cruises are becoming part of the basic product and experience of river cruises, it is necessary to use marketing thinking on how to increase the competitiveness of Croatian destination ports of call and to position Croatia as an attractive destination for river cruises.

## 2. Key characteristics of river cruises

Cruising the rivers is part of the "industry" of cruising and the dominant form of cruising on inland waterways (Ban, 1996) which include river cruising on natural, artificial channels and lakes that are associated with a particular river, cruises along the sea coast and at the estuaries of rivers or the junction of channels with the sea (Bosnić, 2015, 69). River cruising is a highly developed form of tourism, and the cruiser companies and crew provide all the comfort and entertainment aboard the cruiser during the voyage and organize excursions to elite and high quality destinations (Gržetić, et.al,2013,149). In relation to maritime cruises, river cruises have certain peculiarities arising from the characteristics of the means of transport or ships, characteristics of transport paths, content on a ship and the tour program. Ships intended for

river cruising are considerably smaller than ships that are intended for cruising the sea due to the limited depth of river flows which significantly affect the offer of a ship or the content and other services offered to the passengers on a ship for the purpose of rest, recreation and entertainment during their travels. Offer of services on cruise ships for river cruising is lesser by scope and structure and the very voyage to predetermined goals (ports, cities, natural attractions) is more pronounced (Ban, 1998, 252) and passengers on river cruises can see the attractive sites along the rivers (cities, national parks ...) from the comfort of the ship which is especially attractive to older travelers who are the main market segment for river cruises (Goeldner, Brent Ritchie, 2009, 147).

On the river cruise market, large companies have a major role as well as specialized inland ship operators (shipping companies) and tour operators (Ban 1998, 263). Offers of river cruising and shipping capacity are mainly related to a particular river and its tributaries and are spread on all continents. In the last few years there is a continuous rapid growth in demand for river cruises, especially on the European rivers. Demand for river cruises in the world and Europe, looking individually by country of origin of passengers, is mostly generated by Germany, followed by travelers from the US, UK, France and Australia while travelers from other countries make significantly smaller share (Grammerstorf, 2013).

Taking into account the mentioned specifics of river cruises, especially the fact that sailing to certain ports/cities/destinations that are visited during the river cruise is more pronounced, it can be concluded that ports/cities/destinations are also part of the basic product and experience of river cruises. Companies for river cruises with an emphasis on the benefits of their vessels and their luxurious accommodation, are putting an increasing emphasis on destinations included in the itinerary of cruises and include them in the creation of a river cruise products (Bosnić, 2015; Ružić et.al, 2016). In this context, an emphasis is put on the importance of destination management and management at destination ports of call in order to strengthen the competitive position on the river cruise market and the generation of a higher income from this branch of tourism.

### **3. River cruising in Croatia**

In Croatia the river cruises are mostly located on the Danube River that runs through the eastern Croatia and is the backbone of river cruising in the area of the European continent. Together with the Rhine and its tributaries, and the river Main (channel Rhine-Main-Danube) is one of the most popular itineraries for river cruising in the Europe. Besides Danube, river cruises in Croatia also take place on the river Drava, and the section of the Drava confluence in the Danube to the city of Osijek. The cruising offer on the Danube in Croatia mainly includes port/dock of Vukovar, followed by port in Batina, county port/dock in Ilok and port Gaul in Osijek on the Drava River. The maximum capacity of port/dock in Vukovar is three, up to four ships simultaneously, and there are two international anchorages. Other ports can simultaneously accept two ships (on the same pontoon) which is for the time being estimated sufficient when the demand is considered. Also, Croatian river ports are extremely competitive if you take into account the duration of the input-output audit and cost of port operations<sup>1</sup>(Horak et.al., 2014, 67).

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<sup>1</sup> Of the eight ports included in the analysis (Vukovar, Passau (Germany), Vienna (Austria), Belgrade (Serbia), Novi Sad (Serbia), Rouse (Bulgaria), Constanta (Romania) and Giurgiu (Romania)), Vukovar and other Croatian river ports, according to the prices of port services, are on a par with the Romanian port of Giurgiu and, to some extent, Novi Sad. All other analyzed ports charged several times higher fees from Croatian ports.

Furthermore, a key element of success, next to the port and / or dock, is the attractiveness of the destination that is for shipping companies one of the most important factors with a decisive role in choosing a destination that will be included in their itineraries. Current Croatian offer of destinations and ports of call was evaluated relatively high by the visitors on the river cruises (table 1).

**Table 1** Satisfaction with stay in Vukovar/Croatia

| ELEMENTS OF OFFER   | Travelers (%) |
|---|---------------|
| Expertise of tourist guides   | 98,5          |
| Kindness of staff in restaurants, shops and tourist information centers | 96,8          |
| Organized excursions to the countryside                                 | 90,8          |
| Organized tours of the city   | 89,0          |
| Hospitality of local residents  | 89,2          |
| Gastronomic offer   | 86,2          |
| Personal safety   | 88,0          |
| The total experience of the destination                                 | 84,3          |
| Arrangement (cleanliness, green and public spaces)                      | 63,5          |
| The quality of tourist signs  | 59,7          |
| The availability of tourist brochures                                   | 37,5          |
| Souvenirs   | 35,6          |
| Possibilities for shopping  | 34,4          |

\* Note: table shows the percentage of respondents who have evaluated elements of offer with rating 4 (very good) or 5 (excellent)

Level of satisfaction:

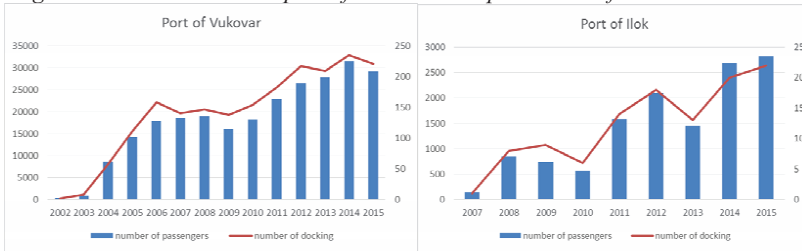
|           |      |         |     |          |
|-----------|------|---------|-----|----------|
| Very high | High | Average | Low | Very low |
|-----------|------|---------|-----|----------|

Source: Marušić, Z., Horak, S., Sever, I., *Istraživanje stavova i potrošnje posjetitelja s međunarodnih krstarenja Dunavom u Hrvatskoj u 2013.godini*, Institut za turizam, Zagreb, 2013., p. 25

Travelers on organized tours are especially impressed by a visit to a family farm, and expressed a desire to re-visit the area of Eastern Slavonia as well as other parts of the Croatia. Majority pointed out that prices are reasonable and because of the numerous police patrols in the city and accessible people they felt very safe. As negative sides guests stressed the particular dissatisfaction with inability to pay in their own currency (reason they spend less), followed by consideration that offers of local souvenirs and products at the dock should be better as well as that stay on the land should be extended so that they have enough time for sight seeing. Guests also consider that there are not enough different possibilities for touring and are dissatisfied with the quality of roads especially with excessive distance of attractions for a quality one day trip (Marušić, Z., et.al, 2013, 28). Although relatively pleased with the stay at Croatian tourist destinations, 34% of passengers were more satisfied with the visit to other destinations on the cruise, mainly capital cities (Budapest, Vienna and Belgrade) (Horak et.al, 2014, 68).

Demand at ports/docks on the Danube and Drava in Croatia has increased in the period from 2003 to 2015 by about 30 times, suggesting increasing growth in the number of ships docking at Croatian ports and the number of passengers from these ships visiting the destinations and attractions in their surroundings. In the period from 2002 to 2015, with the exception of 2009, 2010, 2013 and 2015, the number of passengers on international river cruises on the Danube that are visiting Vukovar or Ilok is steadily increasing (figure 1). In 2015 have docked a total of 36 river ships at dock in Batina with a total of 4485 passengers (In the first year of docks opening). In the same year at the Gaul dock in Osijek, docked 34 ships with 3,293 passengers (Port Authority of Vukovar, Port Authority of Osijek, 2017.).

**Figure 1** Number of docking ships and the number of passengers on international cruises along the Danube river in the port of Vukovar and port od Ilok from the 2002 to 2015



Source: according to the data from the Port Authority of Vukovar (17.3.2017.)

With regard to the country of origin of passengers on international cruises along the Danube in Vukovar, Ilok and Batina in 2015, most of the passengers were from the USA (44%), followed by the UK (9.2%), Canada (6.5 %), Germany (5.4%), as well as Australia, France, Switzerland and other countries (Port Authority of Vukovar, 2017). In the coming years a further increase in demand is expected, especially if one takes into account the highly graded attractiveness of the Croatian coast and destinations on the Danube as well as strengthening of the market position of Croatian ports.

#### 4. Marketing mix of destination ports of call

To obtain the necessary knowledge about the characteristics of the destination ports of call and their role in the creation of products of river cruising as well as key elements of the marketing mix which should be managed, in addition to the analysis of secondary data, it was necessary to conduct a survey in order to collect the primary data. Primary data used in this paper is an integral part of the author's primary research within the framework of the doctoral thesis: Marketing of river tourism, which was conducted in the period from 1.7.2015 - 30.9.2015. A total of nine individual interviews were conducted with the key stakeholders in river cruising, representatives of receptive tourism agencies, destination management companies, directors of port authorities, representatives of relevant ministries and Croatian waters as well as shipping companies agents for river cruising with years of experience. Topics of the interview included, among other things, key features of river cruising market, characteristics of individual elements of the marketing mix of river cruising and general issues of development of river cruising and future trends. Data obtained from the interviews has been used in the further elaboration and development of the proposals of the marketing mix for destination ports of call.

Omnipresent trend of tourism demand seeks new, unique experiences and when selecting destinations it insists on diversity, uniqueness and authenticity. Diversity of offers of tourist experiences in the destination, especially theme-oriented, make offer richer and provide a greater range of choices. This is especially important due to the fact that there is an increase of thematic cruising which are looking for an offer that fits into the themed itineraries in destinations of a particular cruise. This emphasized the flexibility of offer in the destination and its rapid adjustment to changes and requirements of the shipping companies which makes the destination more desirable to shippers and their passengers. (Horak, et.al.2013). In this

sense, the destination ports of call or port authorities<sup>2</sup> as holders of marketing activities must be governed by the following elements of the marketing mix (Bosnić, 2015,):

1. product,
2. price,
3. promotion,
4. partnership,
5. physical evidence.

#### **4.1. Tourist product of destination ports of call**

Destination ports of call are one of optional elements of the total product of river cruising, consisting of partial elements of the material form (eg, ports, docks, food and drink) and partial elements of the intangible form (service representative of port authorities, waiter service). Given the importance of the attractiveness of individual destinations when selecting ports of call, it can be concluded that an important component of the tourism product of destination ports consists of a partial quasi product or macro and micro location of ports as well as other spatial elements that contribute to the attractiveness and appeal of destination ports of call making them eligible for their admission to the river cruising itineraries. In this sense, one can speak of an integrated tourist product of a destination port of call whose key elements are (adapted from Ružić, 2007): location of docks/ports, construction elements, technical requirements and capacity of ports/docks, a mix of internal content and attractiveness of the destination.

It is in passengers interest to see as much content on the land during a river cruise. Therefore, the location of ports/docks must be viewed in relation to the attractiveness of the entire destination where the port is located, while respecting the selection range of tourism products and services that are offered on land, availability of thematic itineraries tailored towards specific interests of tourists, local gastronomy, presentation of culture, life and work, good tour guides, etc. On the other hand, location of ports/docks is important for passengers in relation to the city center, decoration of ports and environment make a port visually as well as functionally more attractive than other ports (Bosnić, 2015; Ružić, et.al.2016.). Building elements and technical requirements refer to the possibility of mooring boats in different conditions depending on the change in water level. It is necessary to provide parking for buses in the vicinity of docks or on the shore that transport passenger on excursions to the city or its surroundings, or provide the taxi stop for those that like to move independently on a tour but do not want to walk. Capacity of port/dock for mooring of river ships is also important, especially if there is a demand for simultaneous mooring of more than one ship. (Horak et.al., 2013, 33). A mix of internal content refers to a variety of tourist and catering services related to, for example, provision of preparing and serving food and drinks, souvenirs, etc. The attractiveness of destinations for shipping companies is one of the most important factors that has a decisive role in the selection of destinations that will be included in their itineraries. Destinations must first and foremost be special, authentic, with the potential to create different experiences, especially thematic content aimed to meet the different preferences of consumers which are increasingly more selective and seek to discover new and different experiences. Port/destination that provides an attractive offer to shipping companies can count on greater benefits from this type of tourism because it will not only attract more ships and visitors from

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<sup>2</sup> Port Authority is a port/dock manager and one of activities of the Port Authority is marketing and promotion of the port (Zakon o plovidbi i lukama unutarnjih voda, Official Gazette, „Narodne novine“, issue 109/07, 132/07, 51/13, 152/14, article 138, section 1)

these ships, but will also have a greater benefit from the consumption of these passengers on land.

In the element of marketing mix "product of destination ports of call", can include processes and people, on whose quality depends the total satisfaction of passengers arriving to the destination port of call. People involved in the process of providing and usage of services are an important part of the offer because their behavior affects the perception of tourists. Therefore, it is necessary for all employees (or persons involved in the key port operations which, among other things, include the contact with travelers) to be familiar with their role in the process of providing services, they must know what is expected of them and to be able to responsibly act in the context of their assigned rights and responsibilities (Ozretić Došen, Đ., 2002, 121).

#### **4.2. Price**

Port authorities that manage ports/docks charged shipping companies the port due. According to the Regulations on the criteria for determining port dues (Official Gazette, „Narodne novine“, issue 20/09, article 4, section 1), port fees to be charged in the port and dock are: fee for use of the coast or pontoon, the fee for berth, storage charge, fees for use of the port, the fee for use of dock. The amount of port dues are defined and announced by port authority with the approval of the Minister and are subject to the criteria and the maximum amounts specified in the Regulations on the criteria for determining port dues. Accordingly, the shipping companies pay a fee for use of the coast or pontoon for the purpose of disembarking and embarking passengers, the supply of vessels with fuel, food, grease and water. The fee is calculated and paid according to the number of passengers, with the shipping company, the ship's agent or a third party representing the shipping company must provide a credible list of passengers in written form.

#### **4.3. Promotional activities of destination ports of call**

Promotion activities of ports/destinations are directed primarily towards shipping companies with the aim of informing them about the destinations and negotiate that they include a specific port of call in their itineraries. Study tours for shipping companies are organized in cooperation with tourist boards and destination management companies that play a key role in promotion of certain tourist destinations, in order to present a destination tourist offer in the best way and convince them that it is attractive enough for them to include it in their itineraries. Furthermore, port authorities, together with representatives of tourist boards and destination management companies participate in specialized tourism fairs where they gather shipping companies and directly present their destination and tourist offer, or a range of products and experiences available to tourists in a specific destination (Eg. *ITB Berlin, The Seatrade Europe Cruise & River Cruise Convention*). For the necessary promotional activities, it is necessary to create promotional materials (informative brochures, catalogs, newsletters, audio-visual materials) which will contain key attractions and destinations. Promotional activities aim is to present a destinations tourist offer in the best way as well as provide information about the destination port of call. Also, setting up a web - site with all the necessary information: news and events in the port area, statistical data, timetables, weather, links to the main attractions in the area, can contribute to promotion of ports/docks and destination in general. It can also provide communication with local and other media with regard to the exchange of information and informing about new activities, events and curiosities. When talking about promotion, it is possible to increase promotional activities

aimed at travelers arriving by ship in ports with the aim to make them interested in returning to a destination and seeing with other attractions that have not yet been seen.

#### **4.4. Partnership**

Port authorities with jurisdiction over ports/docks are joining in partnerships with local tourist boards, primarily in the form of implementation of joint promotional activities, such as participation at specialized fairs and the organization of study tours through which they strive to gain the attention of shipping companies and highlight the competitive advantages of destination so that companies will include the destination in their itineraries. Partnerships with destination management companies are important too, primarily because of common interest related to construction and improvement of port infrastructure, which will enable the further development of tourism activities as well as complement and increase the quality of the tourist offer related to river tourism.

#### **4.5. Physical evidence**

To passengers arriving by river ships a ports arrangement and environment is essential, a physical surrounding that makes a port visually more attractive than others. Physical surroundings should be planned in a way to strengthen the position of a product in the head of a client (Kotler et.al., 2010, 55). When it comes to destination ports of call, by using the elements of physical environment it is possible to manage the perceptions and expectations of service users like shipping companies that use the services within the ports as well as passengers arriving or river ships that stay in the area of ports or go for a sightseeing of a destination. It is important to have exterior appearance of ports (architectural style) and interior decoration which will divulge the presumed quality of service. Ports located in the center of the city are much more attractive to travelers than those located in the industrial zone. Arranging the surrounding of a port is important, from arrangement of the environment, proper signage, proximity of parking, taxi stop, canopy between ship and Bus/taxi stop, etc. Given that the appearance of a port is essential in communicating the image of a destination, it is necessary to create a distinctive visual identity on all docks in the Republic of Croatia which will differentiate ports in the relation to competition and other ports on the Danube.

### **5. Conclusion**

Use of marketing concept has a crucial role in the creation of competitive position for river cruise on a dynamic and changing market. Currently, on the market of river cruising is present an ever stronger diversification, and as one of the most important strategies for achieving competitive advantage is becoming a strategy of product and market development. In that sense, shipping companies are intensively working on the enrichment of offer with new itineraries and enter into partnerships with certain destinations in order to jointly create a river cruising product tailored towards a specific market segments, which will be fully aligned with the needs, interests and desires of consumers as well as the desired market niche. Croatia, where the river cruising product is almost exclusively related to the Danube River, has a chance to position itself as a destination with an attractive offer, tradition, culture of life and work and local gastronomy, based on that it is possible to create a wide range of tourism products and services that are offered on land as well as thematic itineraries tailored towards specific interests of tourists. However, in order to achieve this, it is necessary, among other things, to manage the marketing programs of all involved in river cruises including the destination ports of call. Also, it is necessary to achieve mutual cooperation and partnerships



in the implementation of marketing activities between all stakeholders involved in the creation and management of river cruising products. Destination ports of call have to direct their marketing activities on one hand towards the shipping companies with the aim to present them the destination and interest them in to including that destination in their itineraries. On the other hand they also have to use marketing towards consumers, ie. passengers on river ships with the goal of motivating them to make another visit to Croatia as part of some other journey. Only by joint action is possible to position Croatia as an engaging and attractive destination on the market of river cruising on the Danube.

## REFERENCES

- Ban, I. (1998): *Krstarenje rijekama*, Ekonomska misao i praksa, Vol. 7, No.2, pp. 249-270
- Bosnić, I. (2015): *Marketing riječnog turizma*, Ekonomski fakultet u Osijeku, Osijek (doctoral thesis)
- Gržetić, et.al. (2013): *Nautical tourism Market Supplies in Continental Europe and the Black Sea*, in: Luković, T., ed.: Nautical tourism, CABI, UK, pp.140-154
- Goeldner, Ch. R. and Brent Ritchie J.R. (2009): *Tourism: Principles, Practices, Philosophies*. John Wiley & Sons, Inc, Hoboken, New Jersey
- Grammerstorf, H.H. (2013): *European River Cruising*, The European River Cruise Association, Hamburg, listopad 2013., [http://www.ccr-zkr.org/files/documents/workshops/wrshp081013/6\\_HGrammerstorf\\_en.pdf](http://www.ccr-zkr.org/files/documents/workshops/wrshp081013/6_HGrammerstorf_en.pdf) (accessed 23 October 2014.)
- Horak, et. al. (2014): *Akcijski plan razvoja nautičkog turizma*, Institut za turizam, Zagreb
- Horak, S., et.al. (2013): *Međunarodna krstarenja Dunavom: Trendovi, faktori uspjeha i benchmark*, Institut za turizam, Zagreb
- Kotler, Ph., et.al. (2010): *Marketing u ugostiteljstvu, hotelijerstvu i turizmu*, MATE, Zagreb
- Port Authority of Vukovar and Port Authority of Osijek
- Marušić, Z., et.al. (2013): *Istraživanje stavova i potrošnje posjetitelja s međunarodnih krstarenja Dunavom u Hrvatskoj u 2013. godini*, Institut za turizam, Zagreb.
- Ozretić Došen, Đ. (2002): *Osnove marketinga usluga*, Mikrorad, Zagreb
- Pravilnik o kriterijima za određivanje lučkih pristojbi, Narodne novine, 20/09
- Ružić, I., Bosnić, I., Kelić, I. (2016): *River cruise as tourism product: marketing approach*, in: Jautz, U. and Cini, V. ed.: Interdisciplinary management research XII, Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, May 20-22, 2016, pp. 339-349
- Ružić, D. (2007): *Marketing u turističkom ugostiteljstvu*, Ekonomski fakultet u Osijeku, Osijek
- Zakon o plovidbi i lukama unutarnjih voda, Narodne novine, 109/07, [132/07](#), [51/13](#), [152/14](#),

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**IMPACT OF INTEGRATED MANAGEMENT SYSTEMS ON  
ENTREPRENEURSHIP AND REGIONAL DEVELOPMENT: THE  
EXAMPLE OF CROATIA**

**UTJECAJ INTEGRIRANOG SUSTAVA UPRAVLJANJA NA  
PODUZETNIŠTVO I REGIONALNI RAZVOJ:  
PRIMJER HRVATSKE**

***ABSTRACT***

*There has been a development in system quality due to development of technology. Globalization resulted in increase of consumers' demands and the number of competitors; thus the initiation of system quality is not considered a competitive advantage any more. Development of management system has led to a need to merge more management systems into one system – an integrated management system. An integrated management system can be a combination of two or more management systems: Quality Management System (ISO 9001), Environmental Management System (ISO 14001), Health and Safety Management System (OHSAS 18001), Information Security Management System (ISO 27001), Energy Efficiency Management System (ISO 50001) and others. One of the most important facts for every organization, including business clusters, is ensuring the quality and reliability of products, health, safety and satisfaction of employees, compliance of environmentally friendly standards for the environment, proving the safety of classified data and reducing energy consumption. The primary goal of this paper is to show the frequency of application of integrated management systems in Croatian companies in practice focusing on the business clusters. The other goal of the paper is to present the management systems that are most frequently integrated in Croatian business practice, also with the same focus on clusters. Qualitative research methodology was used in this paper while the data was collected combining the primary and secondary sources. Two working hypotheses were set up on literature-based analysis. The first hypothesis is that most of the companies and clusters in the Republic of Croatia has implemented an integrated*

management system. The second hypothesis is that most companies and clusters integrated the Quality Management System (ISO 9001) and the Environmental Management System (ISO 14001). The third goal of the paper is to relate the numbers of the certified companies by regions in Republic of Croatia with GDP as macroeconomics indicators. Finally, the third hypothesis is that the most developed regions in the Republic of Croatia have the highest number of certified companies. The short theoretical review of the most important management systems is outlined in the introductory part of the paper and the second part of the paper refers to the research results of application of integrated management systems in the Republic of Croatia related to the main economic regional indicators.

**Key words:** ISO 9001, ISO 14001, clusters, economic development, regional differences.

## SAŽETAK

Razvoj tehnologije uvjetovao je razvoj sustava kvalitete. Globalizacija je rezultirala u povećanoj potražnji potrošača i broju konkurenata; no, stvaranje sustava kvalitete više se ne smatra konkurentnom prednošću. Razvoj sustava upravljanja doveo je do potrebe spajanja više sustava upravljanja u jedan sustav – integrirani upravljački sustav. Integrirani upravljački sustav može biti kombinacija dvaju ili više upravljačkih sustava: Sustav upravljanja kvalitetom (ISO 9001), Sustav upravljanja okolišem (ISO 14001), Sustav upravljanja zdravljem i sigurnošću (OHSAS 18001), Sustav upravljanja informacijskom sigurnošću (ISO 27001), Sustav upravljanja energetskom efikasnošću (ISO 50001) i drugi. Jedna od najvažnijih činjenica svake organizacije, uključujući poslovne klustere, odnosi se na osiguranje kvalitete i pouzdanosti proizvoda, zdravlje, sigurnost i zadovoljstvo zaposlenika uz usklađenost ekološki prihvatljivih standarda za okoliš, pružajući sigurnost u klasificirane podatke te smanjenje energetske potrošnje. Primarni cilj rada je prikazati učestalost primjene integriranog sustava upravljanja u hrvatskim tvrtkama uz usmjerenost na poslovne klustere. Drugi cilj rada je predstaviti sustave upravljanja koji su najučestalije dijelom hrvatske poslovne prakse, uz osvrt i na klustere. U radu je korištena metodologija kvalitativnog istraživanja, a podaci su prikupljeni kombinacijom primarnih i sekundarnih izvora. Dvije radne hipoteze postavljene su detaljnim uvidom u literaturu. Prva hipoteza je kako je većina tvrtki i klastera u Republici Hrvatskoj ima implementiran integrirani sustav upravljanja. Druga hipoteza je kako većina tvrtki i klastera provodi Sustav upravljanja kvalitetom (ISO 9001) te Sustav upravljanja okolišem (ISO 14001). Treći cilj rada je povezati broj certificiranih tvrtki s obzirom na regije Republike Hrvatske s BDP-om kao makroekonomskim pokazateljem. Zaključno, treća hipoteza je da najrazvijenije regije u Republici Hrvatskoj imaju najviši broj certificiranih tvrtki. U uvodnom dijelu rada prikazan je kratak teorijski pregled najvažnijih sustava upravljanja, a drugi dio rada se odnosi na rezultate istraživanja primjene integriranih sustava upravljanja u Republici Hrvatskoj, uz povezivanje s glavnim regionalnim ekonomskim pokazateljima.

**Ključne riječi:** ISO 9001, ISO 14001, klasteri, regionalni razvoj, regionalne razlike.

## 1. Introduction

Frequent changes of modern, thriving economies and industries affect entrepreneurship and regional development. Accordingly, term of quality is changing, in a way that goals and objectives related to quality management are changing and increasing. The importance of quality control of products, processes and overall business and company management is of exceptional importance for company's survival on the market. Today, in the time of great struggle for

survival, especially when the company is fighting to take the position of a leader in its field, the company achieves competitiveness only if the quality is in the first place in all business segments. Buyers more often demand from the supplier (and more often the other way around) a very high level of quality and a safe and an environmentally acceptable product or service. In order to assure their customers that they operate according to the highest standards of Quality, Environmental Management, Occupational Safety and Social Sensitivity, they implement, and after implementation, they certify their management systems by accredited international bodies. The certificate itself is a confirmation used by companies as a means of for convincing their business partners and interested parties that they operate according the requirements of certain ISO standards. The subject of this paper is the question how the integrated quality management systems affect entrepreneurship and regional development in the Croatia. From the perspective of managing business systems, management systems can be categorized as strategic or operative management systems. Top management of business organization has an objective to integrate management systems on two levels, strategic and operative. This kind of integration needs to be focused on building and long term sustainability of TQM. The integration of management systems can be pervaded with Quality System Standards. Indeed, for removing risks from organizational failures, integration of management systems with the purpose of achieving quality imposes itself as a necessity. Nevertheless, it does not have to be that way in practice. Often, business organizations integrate different Quality Systems in order to satisfy legal standards and similar, and not with the purpose of ensuring quality in all key processes. From the perspective of management of quality systems, different quality systems can be categorized depending on the purpose they achieve in a business organization. Therefore, the purpose of the quality systems is integration of quality in all or key processes, regardless if these are the processes of strategic or operative management. The business organizations achieve the greatest benefit when integration of management systems is carried out with the purpose of ensuring quality and excellence on all levels of business organization. In other words, if integrated management systems quality is implemented on all levels. The introductory part of the paper deals with development phases of quality management. This paper does not cover the problems of implementation of different quality systems into management systems of business organization. Therefore, the paper is focused on integration of ISO standards into integrated quality system. The paper is structured in five chapters. After the introductory part, the second chapter presents basic definitions used in explanation of quality management systems and regional development. The third chapter is focused on research analysis by displaying the methodological approach and presenting the research results. The fourth chapter includes conclusion remarks with potential recommendations and improvements.

## **2. Integrated management systems and regional development: Term and importance**

### **2.1. Integrated management systems development phases**

The first phase of Quality management system development refers to a period when the demand was greater than the offer. Capacity, quality and design are defined by the manufacturers without including the final customer because he has to be satisfied with whatever he gets. In that situations the management is oriented on production, which means based on the quantity of product. In this kind of surrounding, innovations and education of employees are not a primary topic. Increase in the amount of produced goods, with time, had affected equalization of offer and demand, and that is the second phase. The manufacturer and the seller are in a way forced to pay more attention to the formation of the product, in other words, they fulfil basic requirements for quality. Finally, it comes to an agreement of an acceptable level of quality between those

who offer and those who demand the products or services. It results in the first systematic measures of quality testing (Lazibat, 2003).

The third phase is marked by the increase in supply that is moving the intersection point of supply and demand. By increasing the supply, the buyer can pick a product with the least mistakes. In that way the buyer does not just set the quality of a product, but he is also interested in the quality systems of the supplier, in order to prevent eventual mistakes. There has been a breakthrough - an independent quality management system needs to be defined in order to increase product and service quality. This led to the creation of the ISO 9000 standard in 1987, which enabled an independent certification and comparison of quality insurance system from a third party point of view. The standard ISO 9000:1987 ensured the competitive advantage and created trust between the supplier and the buyer (Lazibat, 2003).

The fourth phase is important not only because of the changes and product expansion, but also because the actual situation in modern organizations becomes long term oriented. The buyer sets the conditions on the market, demands quality of the service and flawless quality of the product. The supplier is then compelled to offer extra services in the area of concern for the customer. The certification of quality management system turns to companies in the service areas. The product is no longer available in material form, and it becomes a combination of goods and services. Customer satisfaction becomes a more important measure of service quality and it is based on motivation and growth of awareness in the company that is on human resources. From 1987 to 2016 the ISO 9001 standard experienced four revisions in which there were significant changes in content and demands of the standard. The last revision of standard ISO 9001 in 2015 redefined the standard according to High Level Structure (HLS). All other system management standards issued since 2010 have been based on that principle. Therefore, the HL structure following standards are based ISO 27001:2013, ISO 14001:2015, ISO 22301:2013 BCM and ISO 50001:2011. The main task of the management has become the recognition of organization's surrounding, analysis and risk control on the basis of which the business goals and companies strategy are set up.

The fifth phase characterizes connection between buyers and suppliers, service quality, significance of life environment protection and orientation on the future and business sustainability. Firstly, there is joint planning of buyer's and supplier's requirements for quality, as well as connecting different companies with the purpose of creating a product due to system optimization. Globalization plays a significant role in expansion of introducing the concept of quality. With the suitable documentation and certification of quality management system, a connection can be developed between the buyer and the supplier. Modern quality management needs to include an aspect of significance of protection of living environment, employee health safety, food chain safety, social sensitivity, information security and energy efficiency. In order to meet these requirements the following standards were created: ISO 14001, OHSAS 18001, ISO 22000/HACCP, ISO 26001, ISO 27001 and ISO 50001. By combining two or more of stated management systems, the organization creates an integrated management system.

## **2.2. The most common management systems**

According to official data, the ISO organization has issued 19.773 international standards by 31.12.2015. Among the stated number of standards, the ISO organization states a few most popular ISO standards: ISO 9001; ISO 14001; OHSAS 18001; ISO 22000; ISO 27001; ISO 50001.

The standard ISO 9001 – System for quality management is considered basic standard of an integrated quality management system. The standard is based on process approach. Standard ISO 9001 defines requirements for process approach in development, application and improvement of effectiveness of the quality management system, with the goal of increasing satisfaction of users by satisfying their requirements. Term process is defined in the standard ISO 9001 itself as a set of interrelated or interdependent actions that turn inputs into outputs. Process determination and interaction, and process management in organization are the main objectives of every organization. It should be taken into account that often a way out from one process is a direct way in into another process. Because of the easier way of functioning, methodology known as PDCA matrix can be applied to all processes. Every action within the framework of the process can be done according to the PDCA principle, which constantly seeks improvement (Milčić, Donevski, Banić, 2008). As this standard was revised for the fourth time in 2015, the currently valid version has a mark ISO 9001:2015.

The purpose of standards that deal with problems of environmental management is to provide organizations with an effective and useful environmental management system that can be conjoined with other management requirements. By environment, we mean air, water, sea, ground, climate, wildlife and their mutual activity as part of the human environment. Environmental protection is based on respect of international and domestic regulations and laws considering environment and generally accepted principles. Environmental quality can be analysed from many aspects, and that is why quality can be expressed through physical, chemical and aesthetic indicators. International Standardization Organization in 1993 has established a special technical committee under the name TC 207, with main task to standardize world's environmental management systems (Lazibat, 2009). Even though by that time there was already a great number of national standards and regulations considering environmental aspects in terms of cultural specifics, often that kind of regulation represented an obstacle to international trade. Because of that there was a need for a unique international standard that would remove stated problems, that is for a new standard ISO 14001. Generally, there are two basic types of ISO standards:

1. Normative: states requirements that must be fulfilled and verification of fulfilment of those requirements is carried out by audit.
2. Informative: give only certain guidelines and do not offer possibilities of certification and are not suitable for audit.

ISO 14001 – Environmental management systems – specifications with instructions for use is the only normative standard from the family of ISO 14001. All other standards from this “Family” of standards are informative (Lazibat, 2009). The last revision of this standard was in 2015 and organizations have a deadline for transition to the new version of the standard by the end of 2018.

The purpose of occupational safety is prevention of injuries at work, professional illnesses and other diseases related to work and the protection of working environment. Occupational safety is an integral part of every work organization and it is the employer's responsibility. The goal of occupational safety management is to achieve high levels of occupational safety by a systematic approach reducing danger, harmfulness and efforts that occur during work. Specification OHSAS 18001:2007 (Occupational Health and Safety Assessment Series Specifications), is a specification for introduction and confirmation of a management system for Health and Safety of persons in professional activities (Milčić, Donevski, Banić 2008). “Standards/specifications OHSAS 18001, ISO 14001 and ISO 9001:2008 are mutually compatible and in some parts

completely matched” (Lazibat, 2009:408). Issuing of a new ISO 45001:2016 standard is announced by the end of 2016, which will be the successor of specification OHSAS 18001. Standard ISO 45001 is also based on HL structure.

### **2.3. Regional development**

It is necessary to systematically conduct and implement improvements of quality systems. Quite recognizable quote of the IBM founder Thomas J. Watson goes in favour of the above mentioned and it goes as follows: "Whenever an individual or a business decides that success has been attained – the progress stops" (Štajdohar-Paden, 2015, p. 127). In this context the importance of continuous monitoring of quality system and implementation is obvious, especially in this age of extremely dynamic modern business. Improvements considering quality systems can be monitored on different levels of national economy. This research focuses mainly on the accomplished level of certified systems in counties of the Republic of Croatia. Due to the fact that counties in the Republic of Croatia are considered holders of development on regional level, the paper reviews the number of certified companies in relation to ISO 9001 and ISO 14001 systems and the percentage of ISO 9001 and ISO 14001 certified companies in relation to total number of companies while taking into account a basic macroeconomic indicator of development according to counties, i.e. GDP. It must be noted that all stated data is based on 2014, i.e. the state on 31 December 2014. Besides that, it is known already that the regional level has considerable importance in modern functioning of national economy.

There are various definitions of regional development due to the extreme complexity of the process. In this paper the definition by Capello (2009:11) has been applied: "...regional development can be defined as the ability of a region to produce, with a (comparative or absolute) advantage, the goods and services demanded by the national and international economic system to which it belongs". Regional development usually focuses on reducing current regional differences, and covers according to the OECD (2016) a wide scope of activities aimed at diminishing regional differences by supporting particular economic activities within the region.

Moreover, as stated by Capello (2009:10) "productive resources are distributed unevenly in space: they are frequently concentrated in specific places (regions or cities) while they are entirely or partly non-existent in others." This uneven resources distribution is followed by an uneven location distribution of companies, and development is usually based on entrepreneurial activities. For this reason, one should also consider the number of companies striving for quality improvement of their products and services. The number of certified companies in a county can be an important indicator for the quality-centred operation of a company. That is the reason why the number of companies as holders of a valid certification in a particular county is important.

The data and the analysis results are presented hereinafter.

## **3. Research analysis**

### **3.1. Methodology**

During 2014 ranking of Croatian counties was conducted by Singer et al. (2014) concerning competitiveness of Croatian counties in 2013. Besides, in the paper are given ranks of counties concerning companies that were certified according to ISO 9001 norm and companies that were certified concerning ISO 14001 norm by the end of 2014. Data were conducted by analysing



available data on the number of certified companies in certain counties according to ISO 9001 norm and number of certified companies according to ISO 14001 norm (data for 2014 and indicators for the number of certified companies for both norms) and achieved GDP in certain counties during 2014. Counties were also ranked by the achieved GDP in 2014. The data of ranks was used to make comparison of achieved rank according to three criteria. Furthermore, the results of the Croatian competitiveness index are also compared with the already mentioned criterion.

The sources of information are the following: data of the Bureau of Statistics was used for the information on Gross domestic product – GDP for Croatia in 2014 and territorial outspread of business units. The next available indicator was: the number of certified companies according to ISO 9001 norm and ISO 14001 norm. Data for these two specified indicators is shown according to the status in December of 2014 and collected from the web page relevant in this business field ([www.kvaliteta.net](http://www.kvaliteta.net) and [www.iso.org](http://www.iso.org)), available usually for companies that carry out certification.

### 3.2. Research results

Accessible data on the number of certified companies in specified counties in 2014 is analysed in order to connect the results of the research and establish the ranking of the counties in the Republic of Croatia regarding the number of certified companies in the ISO 9001 and ISO 14001 norms. Furthermore, available data on the achieved GDP at county level is examined and counties are ranked by GDP as well as compared with ranks of number of certified companies in the ISO 9001 and ISO 14001 norms (Table 1).

Additionally, available data on competitiveness status of the counties in the Republic of Croatia in 2013 is examined (Table 1).

Rank of the counties in the Republic of Croatia as regards the importance of the achieved regional competitiveness has been created on three occasions (in 2013, 2010 and 2007). The research into the regional competitiveness index (Singer et al., 2014:21) shows the ranking of counties in 2013 according to the regional competitiveness index (Table 1).

**Table 1** Data regarding the number of certified companies (according to ISO 9001 and ISO 14001 norms) and GDP in 2014 and ranking of the counties according to the regional competitiveness index in 2013

| County ranking according to GDP in 2014, county number | County (the number ISO 9001 certified companies by 31 December 2014) | County (Number of ISO 14001 certified companies by 31 December 2014) | County ranking according to competitiveness in 2013 (Singer et al., 2014) by ordinal number of the county |
|--|--|--|---|
| City of Zagreb   | City of Zagreb (985)   | City of Zagreb (232)   | 21  |
| Primorje-Gorski kotar                                  | Split-Dalmatia (266)   | Zagreb (44)  | 5   |
| Split-Dalmatia   | Zagreb (259)   | Varaždin (39)  | 18  |
| Istria   | Primorje-Gorski kotar (248)  | Istria (39)  | 20  |
| Zagreb   | Istria (164)   | Primorje-Gorski kotar (37)   | 8   |
| Varaždin   | Varaždin (114)   | Split-Dalmatia (30)  | 13  |
| Zadar  | Osijek-Baranja (110)   | Međimurje (29)   | 1   |
| Dubrovnik-Neretva                                      | Međimurje (95)   | Osijek-Baranja (28)  | 6   |
| Sisak-Moslavina  | Karlovac (80)  | Karlovac (23)  | 17  |
| Vukovar-Srijem   | Brod-Posavina (75)   | Sisak-Moslavina (21)   | 19  |
| Međimurje  | Krapina-Zagorje (72)   | Brod-Posavina (13)   | 14  |
| Koprivnica-Križevci                                    | Dubrovnik-Neretva (64)   | Krapina-Zagorje (10)   | 2   |
| Karlovac   | Sisak-Moslavina (63)   | Koprivnica-Križevci (8)  | 4   |

| County ranking according to GDP in 2014, county number | County (the number ISO 9001 certified companies by 31 December 2014) | County (Number of ISO 14001 certified companies by 31 December 2014) | County ranking according to competitiveness in 2013 (Singer et al., 2014) by ordinal number of the county |
|--|--|--|---|
| Brod-Posavina  | Zadar (63)   | Vukovar-Srijem (8)   | 15  |
| Šibenik-Knin   | Koprivnica-Križevci (42)   | Bjelovar-Bilogora (7)  | 7   |
| Krapina-Zagorje  | Bjelovar-Bilogora (40)   | Zadar (6)  | 12  |
| Bjelovar-Bilogora                                      | Šibenik-Knin (39)  | Dubrovnik-Neretva (6)  | 9   |
| Virovitica-Podravina                                   | Vukovar-Srijem (31)  | Šibenik-Knin (5)   | 10  |
| Požega –Slavonija                                      | Požega-Slavonija (26)  | Virovitica-Podravina (3)   | 3   |
| Lika-Senj  | Virovitica-Podravina (19)  | Požega-Slavonija (2)   | 16  |
| Osijek-Baranja   | Lika-Senj (6)  | Lika-Senj (1)  | 11  |

Source: author's work, according to: Singer et al., (2014) – competitiveness ranking; [www.kvaliteta.net](http://www.kvaliteta.net); [www.iso.org](http://www.iso.org); [www.top-consult-grupa.hr](http://www.top-consult-grupa.hr) - for number of certified ISO 9001 companies 12/31/2014 and number of certified ISO 14001 companies 12/31/2014; [www.dzs.hr](http://www.dzs.hr) - total number of companies in counties.

Legend for the counties (according to ordinal number): 1=Zagreb; 2=Krapina-zagorje; 3=Sisak-moslavina; 4=Karlovac; 5=Varaždin; 6=Koprivnica-križevci; 7=Bjelovar-bilogora; 8=Primorje-gorski kotar; 9=Lika-senj; 10=Virovitica-podravina; 11=Požega-slavonija; 12=Brod-posavina; 13=Zadar; 14=Osijek-baranja; 15=Šibenik-kin; 16=Vukovar-srijem; 17=Split-dalmatia; 18=Istria; 19=Dubrovnik-neretva; 20=Međimurje; 21=City of

The achieved GDP in a specific national economy or some parts of national economy has been frequently used as an indicator for development of a certain area (with notifying the restrictions and the need for other objective development indicators as well when checked development). Therefore, GDP achieved in 2014 is used as an indicator of successfulness of the counties in the Republic of Croatia. It is obvious that in 2014 the City of Zagreb along with Primorje-Gorski kotar County, Split-Dalmatia County, Istria County, Zagreb County and Varaždin County rank as the most successful counties. Taking the number of ISO 9001 norm certified companies in 2014 as a criterion it is obvious that the above mentioned counties kept their leading positions with a slightly different ranking: City of Zagreb, Split-Dalmatia County, Zagreb County, Primorje-Gorski kotar County, Istria County, and Varaždin County. According to the criterion of the number of ISO 14001 norm certified companies in 2014 the ranking is as follows: City of Zagreb, Zagreb County, Varaždin County, Istria County, Primorje-Gorski kotar County, and Split-Dalmatia County.

The conclusion can be drawn that the ranking of the best counties in the Republic of Croatia according to the criteria such as GDP, the number of ISO 9001 certified companies and ISO 14001 certified companies for the specified year did not change much (the same counties ranked highest). It is only their position that changed. It can be concluded that the number of certified companies is higher in the counties that are according to specific economic criteria, such as GDP more developed.

Moreover, taking the most recent competitiveness index for the previous year (2013) into consideration it is obvious that top positions in the ranking were taken by the above mentioned counties with some exceptions (e.g. Zadar county ranking sixth according to the same criteria). The ranking of other counties is as follows: City of Zagreb, Varaždin County, Istria County, Međimurje County, Primorje-Gorski kotar County, and Zadar County. The previously mentioned Zagreb County that ranked among the six selected counties ranked seventh according to the competitiveness index in 2013, but still ranking near the top. Besides by the GDP, counties were ranked very similar by the competitiveness index as well.

The situation is slightly different if the data on the number of certified companies is taken in relation to the total number of companies in the specific county (Table 2). However, regardless of the fact that the rank of the counties concerning the ratio of the companies certified according

to two selected ISO norms does not equal the rank according to the total number of companies certified according to the mentioned ISO systems (i.e. top positions are taken by the following counties: Međimurje County, Varaždin County, Karlovac County), the counties that are mainly marked as less developed rank lowest (for instance, Požega-Slavonia, Vukovar-Srijem, Virovitica-Podravina, etc.). Furthermore, the second (possible) conclusion may be drawn that structure of economy in most developed parts and centres as well as urban areas, according to type of activity that companies are conducting, are significantly different compared to less developed counties. Accordingly, by their region ratio scale of certificated companies they are at the top, but not at the very top (for instance the City of Zagreb). Namely, in developed areas the number of service oriented businesses (for instance, cafes, restaurants, hairdresser's, etc.) are significantly higher compared to the number of manufacturing companies and the companies that usually are certified.

**Table 2** Rank of the Croatian counties concerning the ratio of certified companies compared to total number of companies certified according to ISO 9001 and ISO 14001 norms (the period until 31 December 2014)

|     | Rank of counties according to ISO 9001 norm | Rank of norm ISO 9001 | Rank of counties according to ISO 14001 norm | Rank of norm ISO 14001 |
|-----|---|-----------------------|--|------------------------|
| 1.  | Međimurje                                   | 1,251                 | Međimurje                                    | 0,382                  |
| 2.  | Zagreb                                      | 1,124                 | Varaždin                                     | 0,361                  |
| 3.  | Varaždin                                    | 1,000                 | Karlovac                                     | 0,285                  |
| 4.  | Karlovac                                    | 0,992                 | Sisak-moslavina                              | 0,229                  |
| 5.  | Krapina-Zagorje                             | 0,940                 | City of Zagreb                               | 0,217                  |
| 6.  | City of Zagreb                              | 0,922                 | Zagreb                                       | 0,191                  |
| 7.  | Zadar                                       | 0,899                 | Osijek-Baranja                               | 0,182                  |
| 8.  | Lika-Senj                                   | 0,762                 | Brod-Posavina                                | 0,156                  |
| 9.  | Šibeniko-Knin                               | 0,715                 | Istria                                       | 0,135                  |
| 10. | Sisak-Moslavina                             | 0,686                 | Krapina-Zagorje                              | 0,131                  |
| 11. | Bjelovar-Bilogora                           | 0,662                 | Koprivnica-Križevci                          | 0,126                  |
| 12. | Brod-Posavina                               | 0,637                 | Primorje-Gorski kotar                        | 0,114                  |
| 13. | Istria                                      | 0,595                 | Vukovar-Srijem                               | 0,101                  |
| 14. | Dubrovnik-Neretva                           | 0,569                 | Bjelovar-Bilogora                            | 0,099                  |
| 15. | Primorje-Gorski kotar                       | 0,565                 | Virovitica-Podravina                         | 0,072                  |
| 16. | Koprivnica-Križevci                         | 0,540                 | Split-Dalmatia                               | 0,067                  |
| 17. | Osijek-Baranja                              | 0,465                 | Šibenik-Knin                                 | 0,058                  |
| 18. | Požega-Slavonia                             | 0,453                 | Dubrovnik-Neretva                            | 0,056                  |
| 19. | Vukovar-Srijem                              | 0,451                 | Požega-Slavonia                              | 0,049                  |
| 20. | Split-Dalmatia                              | 0,391                 | Zadar  | 0,044                  |
| 21. | Virovitica-Podravina                        | 0,182                 | Lika-Senj                                    | 0,03                   |

Source: Author's calculation

#### 4. Conclusion

The research gives answers to all defined goals of the paper. The frequency of implemented integrated management systems in Croatian companies is quite low considering the EU average. In addition, the differences between the regions in Croatia are significant. The research shows

that the ISO 9001 and ISO 14001 are still the most frequently integrated management systems in Croatian business practice. The first hypothesis that the most companies in the Republic of Croatia has implemented integrated management system is confirmed. The second hypothesis stating that most companies integrated the Quality Management System (ISO 9001) and the Environmental Management System (ISO 14001) is also confirmed. The third goal of the paper is also accomplished, proving that the number of the certified companies by regions in the Republic of Croatia are in relation with GDP as macroeconomic indicator. And finally, the third hypothesis, that the most developed regions in Republic of Croatia have the highest number of certified companies is also confirmed.

## REFERENCES

Capello, R. (2009): *Regional Growth and Local Development Theories: Conceptual Evolution over Fifty Years of Regional Science*, Géographie, économie, société, Vol. 11, No. 1, pp. 9-21. Available at: <https://www.cairn.info/revue-geographie-economie-societe-2009-1-page-9.htm>, (accessed 28 April 2017)

Drljača, M., (2012): *Upravljanje karijerom u funkciji kvalitete sustava upravljanja*, in: Zbornik radova VII. znanstveno-stručne konferencije s međunarodnim sudjelovanjem Menadžment i sigurnost, Upravljanje ljudskim resursima i sigurnost, Hrvatsko društvo inženjera sigurnosti, Čakovec: Sveti Martin na Muri, 2012, pp. 253-264

Funda, D., (2008): *Potpuno upravljanje kvalitetom u obrazovanju*, Kigen, Zagreb

Lazibat, T., (2009): *Upravljanje kvalitetom*, Znanstvena knjiga, Zagreb

Liraz, M. (2014): *Quality Assurance: How to Set Up and Manage a Quality Control System*, Kindle, Miami

Singer, S. et al. (2013): *Regionalni indeks konkurentnosti Hrvatske 2013*, Nacionalno vijeće za konkurentnost, Program Ujedinjenih naroda za razvoj (UNDP) Hrvatska, Zagreb

Skoko, H., (2000): *Upravljanje kvalitetom*, Sinergija, Zagreb

Štajdohar-Pađen, O. (2015): *Plivati s ISO-om i ostati živ, Što je kvaliteta i kako njome upravljati u poslovnom i privatnom životu*, Redak, Split

OECD (2016). Regional Development Policy, Available at: <http://www.oecd.org/cfe/regional-policy/regionaldevelopment.htm>, (accessed 28 April 2017)

Zhang, Z. (2000): *Developing a model of quality management methods and evaluating their effects on business performance*, Total Quality Management, Vol. 11, No. 1, pp. 129–137

[www.bsigroup.com](http://www.bsigroup.com), (accessed 15 April 2017)

[www.dzs.hr](http://www.dzs.hr), (accessed 15 April 2017)

[www.iso.org](http://www.iso.org), (accessed 15 April 2017)

[www.kvaliteta.net](http://www.kvaliteta.net), (accessed 15 April 2017)

[www.top-consult-grupa.hr](http://www.top-consult-grupa.hr), (accessed 15 April 2017)

[www.universal-adria.hr](http://www.universal-adria.hr), (accessed 15 April 2017)

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## **IMPACT OF BUSINESS EXCELLENCE DIMENSIONS ON SUCCESSFUL BUSINESS PERFORMANCE OF HOTEL COMPANIES IN BOSNIA AND HERZEGOVINA**

### **UTJECAJ DIMENZIJA POSLOVNE IZVRSNOSTI NA USPJEŠNOST POSLOVANJA HOTELSKIH PODUZEĆA U BOSNI I HERCEGOVINI**

#### ***ABSTRACT***

*The overall objective of this study is to determine the intensity and direction of the impact of the key business excellence dimensions on successful business performances of the hotels in Bosnia and Herzegovina. In this paper will be identified and in details explained association between these variables and also determined which dimension has a statistically significant impact on the business performances of the hotels. The respondents were managers' of high-categorized hotels in Bosnia and Herzegovina. Data collection was carried out on the basis of proportional stratified sampling. Empirical research was conducted on a sample of the first and second category hotels that included two strata and those are: hotels with four and five-stars. Respondents within both strata are elected according to the principle of simple random sampling. In order to give answers onto the research questions regarding an impact of business excellence dimension on successful business performances of the hotels in Bosnia and Herzegovina, it were used different procedures and methods of data processing, all in accordance with determined research problem. First we tested a significance of mutual correlation between observed variables, and after that we analyzed data by relying on methods of simultaneous multiple regression analyzes. Thus, in the end, based on the*

*empirical research results it was confirmed a research hypothesis: "There is a statistically significant impact of business excellence dimensions on the indicators of successful business performances of hotels in Bosnia and Herzegovina".*

**Key words:** *business excellence dimensions, business performances of hotels, correlation analysis, ANOVA, simultaneous multiple regression analysis.*

## **SAŽETAK**

*Opšti cilj ovog rada jeste utvrditi intenzitet i smjer utjecaja ključnih dimenzija poslovne izvrsnosti na uspješnost poslovanja hotelskih poduzeća u Bosni i Hercegovini. Kroz rad će se utvrditi i detaljno predstaviti povezanost između ovih varijabli, te ustanoviti koja od dimenzija ima statistički značajan utjecaj na poslovanje hotelskih poduzeća. Ispitanici su bili menadžeri visoko kategoriziranih hotela u BiH. Prikupljanje podataka izvršeno je na osnovu proporcionalnog stratifikovanog uzorka. Empirijsko istraživanje je provedeno na uzorku hotela prve i druge kategorije, odnosno obuhvatilo je dva stratuma i to: hoteli sa četiri i hoteli sa pet zvjezdica. Ispitanici unutar oba stratuma su izabrani po principu prostog slučajnog uzorka. Kako bi se dali odgovori na postavljena istraživačka pitanja vezana za utjecaj dimenzija poslovne izvrsnosti na uspješnost poslovanja hotelskih poduzeća u Bosni i Hercegovini, korišteni su različiti postupci i metode obrade podataka, a sve u skladu sa postavljenim istraživačkim problemom. Prvo je testirana značajnost međusobnih korelacija svih posmatranih varijabli, a nakon toga su analizirani podaci oslanjajući se na postupke simultane višestruke regresijske analize. Prema tome, u konačnici, na osnovu rezultata provedenog empirijskog istraživanja potvrđena je istraživačka hipoteza da: "Postoji statistički značajan utjecaj dimenzija poslovne izvrsnosti na pokazatelje uspješnosti poslovanja hotelskih poduzeća u Bosni i Hercegovini".*

**Ključne riječi:** *dimenzije poslovne izvrsnosti, poslovanje hotelskih poduzeća, korelaciona analiza, ANOVA, simultana višestruka regresijska analiza.*

## **1. Introduction**

In today's business world, in which providing services takes more and more of the market share, a crucial factor of the market survival is excellence in providing services, and basic determinant of business success and development. It is very well known that excellence of hotel services implies quality products and services, the safety of guests, the true relationship between price and quality level of hotel services, courteous behavior of the staff and so on.

Taking into account the fact that hotel companies are becoming more and more important in the development of Bosnia and Herzegovina, it is necessary to explore implementation process of the business excellence concepts and to establish to what extent the process itself represents a stronghold for the improvement of the hotel business. Therefore, today, in the era of the world market globalization, it is crucially important that business is based on the business excellence as a concept of business management for several reasons. If hotel companies want to improve their business, they must continuously work on implementing the strategy of business excellence.

The subject of this paper is based on examination of the relationship between business excellence dimensions and improvement of the hotel companies operations in Bosnia and Herzegovina. On the basis of previous researches conducted in other countries, which are related to the concept of

business excellence and its impact on the business improvement in the area of hospitality, it can be concluded that this problem has not been researched at all in the Bosnia and Herzegovina, and therefore there is a theoretical and practical justification, and need for implementation of such research. Due to everything mentioned above, a central research question is: To what extent business excellence dimensions impact on to the improvement of the hotel companies operations in Bosnia and Herzegovina? The focus of this paper is observation of business excellence dimensions through the hotel companies operations. An impact or effect would be greater if hotel operations would continuously improve, and in that way the tourism sector of Bosnia and Herzegovina would improve and its competitiveness in the tourism market as well.

## **2. An overview of previous researches**

In the literature we find a large number of papers and researches of the operational excellence concept and its application in various industries. However, business excellence is still not sufficiently researched and applied in the hotel industry. Research results were used as a basis for defining a research problem, and on the basis of those results was created systematization of theoretical concepts and results of previous research.

Quality theorists, such as Injac (2001), for business excellence says that this is a final step that could bring an overturn, a revolution in the process of production and providing of services. Business excellence is an overall way of work which is balanced by stakeholders, and in that way they take care of it and increase probability of the long-term organizational success, and operational business adapts to customers and users and it also increases financial and market performances of the excellence (Bergquis et al, 2008, 501-538). A concept of business excellence can be synonymously related to the concept of the performance excellence. A term performance excellence is related to the integrated approach towards managing of organizational performance, which results in delivering continuously improved values to the customers and stakeholders, and it also contributes to organizational sustainability, and increases an overall organizational efficiency and capacity, and it also provides an organizational and personal learning (Evans, 2008, 7).

Ivana Žilic is one of the most important authors in this area, which deals with business excellence and its impact on all aspects of the hotel business. In her work "*Business Excellence in high-categorized hotels in Croatia*" (Žilic, 2012, 123-142), she aims to identify and define the selection of the key business excellence dimensions, to explore the attitude of strategic hotel management in Croatia, and to determine the impact of the strategic business excellence dimensions on to the guest satisfaction and hotel service. Analyzing results, it was determined high level of importance and need for strategic business excellence dimensions in the hotel industry, and the impact of business excellence dimensions sets on to the satisfaction of hotel guests and hotel offer as well.

In the paper entitled "*The impact of employee satisfaction on the quality of products and services in the hotel company*", the authors Vrtiprah and Sladoljev (2012, 97-122) pointed out that in the first place, hotel, as the primary holder of the tourist offer should have a professional and satisfied employees, because the hospitality industry is extremely sensitive to the lack of quality in every respect, and unprofessional and dissatisfied employees can negatively affect guest satisfaction, and thereby competitiveness and business success of the hotel. This paper aims to explore an interdependence of the employee satisfaction with its work and guest satisfaction with the quality of provided products and services in the hotel. According to the authors, the hotel has to be led by an idea that investing into quality of products and services, and investing into employees, in to their education and motivation, represents a cost, which in the end brings greater guest satisfaction and



higher financial results. Therefore, managers must continuously have information regarding work satisfaction of the hotel products and services and guest satisfaction with the quality of the provided services.

In her master's thesis, which refers to determining the connection of the service quality and customer satisfaction, Sekulović (2009) points out that providing continuous and complete service quality sets pre-conditions for achieving customer satisfaction (service users), and in that sense, providing of the desired quality for consumers and their satisfaction can achieve a number of competitive advantages.

In his doctoral dissertation titled "*Strategy of the brand in the function of the hotel chains market positioning*" Svorcan (2011) explains an impact of globalization on the hotel industry. As basic drivers of globalization he mentioned a development of international trade or export marketing, development of strategic alliances, and international direct investment. In the hotel industry, the main protagonists of modern globalization are transnational (TNC) and multinational (MNC) companies. The globalization process is achieved by proper organization, technology, money and ideology. In the paper are also specified certain barriers in the hotel industry, such as culture, language, legal regulations, then political stability, climate, racial barriers, etc. Therefore, it is concluded that only by standardizing the entire business hotel companies, these barriers can be overcome or at least reduced.

Authors of "*The service quality as a determinant of customer satisfaction in tourism*", Sekulić and Mandarinić (2013, 231-247) are trying to point out on to the importance of service quality to customer satisfaction in the hotel companies. In this paper, research results identify the most important factors, which are drivers of customer satisfaction. The price is marked as the most important factor. In addition, the services of the hotel staff and quality of hotel accommodation have been identified as extremely important factors of customer satisfaction.

Thus, trends and technology in the hotel industry is rapidly changing. Taking into account this fact, a constant education of employees is necessary and of course this requires setting aside financial funding. In fact, in most hotels in Bosnia and Herzegovina, holders of this sector do not have the necessary knowledge and experience. The importance of staff education/staff training was shown in the data from the year 2011. That year, the idea was born for the cooperation with the biggest investor in Bosnia and Herzegovina Al Shiddi Group and University of Sarajevo. They signed an Agreement, under which it will be worked on educating and training professional staff from BiH and abroad and organized numerous educational workshops, seminars, exchange of knowledge, all aimed at developing education and vocational students for the modern tourism and hospitality industry in BiH.

Summa summarum, an improvement of the business largely depends on the understanding of the concept of business excellence by managing and analyzing the impact of business excellence dimension on to the hotel companies operations. In modern environment, for the management is very important to establish which parameters positively affect the hotel business/operations in order to devote full attention and gain access to their further improvement. The previous arguments suggest that the application of the concept of business excellence is necessary to ensure good business results and competitive advantages of each hotel company.

### 3. Research methodology

As it was mentioned at the beginning of the paper, the overall objective is to determine the intensity and direction of the impact of the key business excellence dimensions on to the business performance of hotel companies in Bosnia and Herzegovina. Starting from the research problems and established goal, a hypothesis was set, which states: *"There is a statistically significant impact of business excellence dimensions on the indicators of successful business performances of hotels in Bosnia and Herzegovina"*.

Starting from the central research hypotheses we determined that independent variables in the study are business excellence dimensions of the hotel companies, while indicators of business hotel companies represent the dependent variable. According to that, in order to conduct an objective verification of the central research hypotheses, indicators were established for measuring of the dependent and independent variables. Indicators for measuring independent variables are: hotel offer - value for money, staff training, process and resource management, quality assurance, social responsibility and continuous improvement. Indicators for measuring dependent variable are: market position, the tourist trade and profit of the hotel. Empirical research was conducted based on primary data collection using field research and test methods (techniques of written testing) which used highly structured questionnaire as a data collection form. Respondents were managers of high-categorized hotels in Bosnia and Herzegovina. Data collection was carried out on the basis of proportional stratified sampling, since it is part of the random samples category and it allows assessing a reliability level of drawing conclusions about researched parameters. Since topic of the paper is about hotels, as stratification criterion was used categorization of hotel facilities, which is determined by the number of stars. The choice of hotel, as well as criteria of stratification was based on the results of tests of the professionals from the Association of Hoteliers and restaurateurs of Bosnia and Herzegovina and the Federal Ministry of Environment and Tourism. Empirical research was conducted on a sample of the first and second category hotels that included two strata and those are: four-star hotels and five-star hotels. In this research are not included hotels of the lower categories. According to the existing data, the total number of the first and second category hotels in Bosnia and Herzegovina was 95. Data collection was carried out from April to August 2015. Respondents within both strata were elected according to the principle of simple random sampling. In conclusion, the testing of hotel managers was conducted in 43 hotels, with the rate of elections at 45.26%.

*Table 1 Size and structure of the sample*

| Category   | Number of stars | The basis of selection |        | Sample |                  |                                |
|--|-----------------|------------------------|--------|--------|------------------|--------------------------------|
|  |                 | Number of hotels       | %      | %      | Number of hotels | Number of hotels in the sample |
| 1  | 5               | 10                     | 10,53  | 10,53  | 4,53             | 5                              |
| 2  | 4               | 85                     | 89,47  | 89,47  | 38,47            | 38                             |
| Σ  |                 | 95                     | 100,00 | 100,00 | 43               | 43                             |
| A desired fraction selection: $(43/95) * 100 = 0.4526 * 100 = 45.26\%$ |                 |                        |        |        |                  |                                |

Source: Authors

In order to establish the influence business excellence dimensions in the performance indicators of hotel companies in Bosnia and Herzegovina, we first examined and tested the significance of mutual correlation of observed variables, and after that, data were analyzed by relying on procedures for simultaneous multiple regression analysis. Pearson correlation coefficient was used as an indicator

of the strength and direction of two phenomena. On the basis of conducted correlation analysis, we can conclude that there is a positive relationship between business excellence dimensions and performance indicators of hotels, while on the other hand, it is confirmed and supported by the final summary table of correlation of performance indicators and business excellence dimensions.

**Table 2** Statistically significant correlations between dimensions of business excellence and performance indicators of hotel companies in terms of hotel managers

| Correlations observed variables (p <0.05; n = 43) |                                       |                     |  |                        |                            |                             |
|---|---------------------------------------|---------------------|--|------------------------|----------------------------|-----------------------------|
| Variables   | The hotel offers value for money (P1) | Staff training (P2) | The management of processes and resources (P3) | Quality assurance (P4) | Social responsibility (P5) | Continuous improvement (P6) |
| Performance Indicators                            | 0,612**                               | 0,551**             | 0,593**  | 0,867**                | 0,667**                    | 0,816**                     |

\*\* Correlation is statistically significantly at the level of 0.01

Source: Authors

In order to test the hypothesis that defined a statistically significant effect of the business excellence dimensions on the successful business performance of the hotel indicators, we calculated the parameters of the simultaneous multiple regression analysis model, ANOVA and necessary beta coefficients. In simultaneous multiple regression analysis, it was evaluated the predictive power of each independent variable, and it was measured how much it would improve the model, which is consisted of the set of independent variables. (McClave, Benson, Sincich, 2008, 664). Multiple regressions actually shows how much of the variance of the dependent variable is explained by variance of independent variables. (Newbold, Carlson, Thorne, 2010, 470). In the following table were presented parameters of the simultaneous multiple regression analysis model.

**Table 3** Simultaneous multiple regression analysis model for the dependent variable "successful business performance indicators of hotel companies"

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | ,885 <sup>a</sup> | ,782     | ,746              | ,25063440                  |

a. Predictors: (Constant), Continuous improvement, Hotel offers - value for money, Management processes and resources, Social responsibility, Staff training, Quality assurance; b. Dependent Variable: Performance indicators of hotel companies.

Source: Authors

The table shows that the coefficient of multiple linear correlations is 0.885, which suggests that among the observed variables there is an extremely strong positive linear relationship. A specific indicator of representative simultaneous multiple regression is the coefficient of multiple determination. The coefficient of multiple determinations shows the percentage of the dependent variable variation which was explained by a common impact of independent variables included in the model. It can take values in the interval [0,1]. The model is more representative, if the ratio is closer to the unit. (Fazlović, 2013, 341). On the basis of the parameters in the model, we can conclude that the coefficient of determination is  $R^2=0,782$ , which means that the selected simultaneous multiple regression analyzes model is interpreted as 78.2% of all deviations, which suggests that the model is very representative. Statistically speaking, it shows the percentage of variability of the dependent variable which is explained by variability of independent variables, or in our case, this ratio shows how much of the variance of the dependent variable performance

indicators of hotel companies explains a model that includes variable: continuous improvement, the hotel offers - value for money, process and resource management, social responsibility, staff training and quality assurance (78.2% dependence on the dependent variable of the six independent variables). Thus, the business excellence dimensions significantly explain more than two-thirds of the variance of the dependent variable. By analysis of variance, we determined that the presented model of the simultaneous multiple regression analyzes is statistically significant, since the value of sig. is less than 0.05 ( $p \approx 0$ );  $F(6,36) = 21,571$ . Thus, the model is suitable for further processing (Table 4.).

**Table 4 ANOVA – analysis of variance model of simultaneous multiple regression analysis**

| Model        | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------|----------------|----|-------------|--------|-------------------|
| 1 Regression | 8,130          | 6  | 1,355       | 21,571 | ,000 <sup>a</sup> |
| Residual     | 2,261          | 36 | ,063        |        |                   |
| Total        | 10,392         | 42 |             |        |                   |

a. Predictors: (Constant), Continuous improvement, Hotel offers - value for money, Process and Resource Management, Social responsibility, Staff training, Quality assurance; b. Dependent Variable: Performance indicators of hotel companies

Source: Authors

Furthermore, in order to make the most important step in the study of the relationship and testing of the impact of the business excellence dimensions on to indicators of the successful business of hotel companies in the next presentation we conducted simultaneous multiple regression analysis and calculated the necessary beta coefficients, which will show the importance of each independent variable in predicting or effecting on to the dependent variable and the extent to which all independent variables combined explain the variation of the dependent variable. The results are shown in the table below.

**Table 5 Results of simultaneous multiple regression analysis - evaluation of independent variables**

| Model |                                   | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|-----------------------------------|-----------------------------|------------|---------------------------|-------|------|
|       |                                   | B                           | Std. Error | Beta                      |       |      |
| 1     | constant                          | 1,563                       | ,491       |                           | 3,185 | ,003 |
|       | the hotel offers -value for money | ,664                        | ,207       | ,562                      | 3,205 | ,000 |
|       | staff training                    | ,335                        | ,099       | ,346                      | 3,390 | ,002 |
|       | process and resource management   | ,490                        | ,108       | ,477                      | 4,534 | ,000 |
|       | quality assurance                 | 1,022                       | ,332       | ,827                      | 3,084 | ,000 |
|       | social responsibility             | ,586                        | ,147       | ,509                      | 3,994 | ,000 |
|       | continuous improvement            | ,916                        | ,219       | ,619                      | 4,183 | ,000 |

Dependent Variable: performance indicators of hotel companies

Source: Authors

In what way beta coefficients defines which independent variables have the greatest impact on the variance of hotel performance indicators, on the basis of shown standardized beta coefficients we can conclude that the largest beta coefficient is 0,827 which is actually a value for the variable "quality assurance". As in the previous case, this variable alone contributes mostly to the explanation of the dependent variable "performance indicators of hotel companies", followed by a variable "continuous improvement", "hotel offers - value for money" and "social responsibility ". According to that, looking at the significance or p - value from the table above, we can conclude that all independent variables have a statistically significant effect on the dependent variable, performance indicators of hotel companies. In addition, we can draw the following conclusions:

- ✚ the most important predictor is certainly business excellence dimensions of quality assurance ( $\beta = 0,827$ ;  $t = 3,084$ ;  $p \approx 0$ ).
- ✚ dimension of the hotel offer - value for money achieves statistically significant effect on the performance indicators of hotel companies ( $\beta = 0,562$ ,  $t = 3,205$ ;  $p \approx 0$ ).
- ✚ independent variable of staff training has proven to be somewhat lower, but still statistically significant predictor ( $\beta = 0,346$ ,  $t = 3,39$ ;  $p < 0,05$ ).
- ✚ important predictors of performance indicators of hotel companies are certainly variables of social responsibility and continuous improvement, while the influence of the independent variable of the processes and resources management on the dependent variable is moderate, but statistically significant.

To summarize, a conducted simultaneous multiple regression analysis showed a statistically significant effect of all six business excellence dimensions of the hotel companies on to the performance indicators in terms of managers. Thus, in the end, based on the results of the empirical research we confirm the research hypothesis *that there is a statistically significant impact of business excellence dimensions on the performance indicators of hotel companies, where statistically and significantly are emphasized quality assurance, continuous improvement and the hotel offers value for money.*

#### 4. Conclusion

Regardless of the research subject, examining the current scientific and professional literature, different authors pointed out to the need of creating awareness of the concept of business excellence, but also on to the need to understand the significance of dimensions of this concept for the improvement of hotel business. Many research's have shown on to the need to build key business excellence dimensions in the hotel business, and it is emphasized that the hotel managers should strive to provide the optimal combination of business excellence dimensions (hotel offer - value for money, staff training, process and resource management, quality assurance, social responsibility and continuous improvement) in order to have successful business. It is notorious fact that the situation with the application of the concept of business excellence in the practice of hotel companies in Bosnia and Herzegovina is not particularly favorable, since this problem has never been researched. Although we can see the progress in improving the quality of services in hotels of Bosnia and Herzegovina, the very concept of business excellence is not sufficiently researched and therefore not represented in the field of hotel business. Taking into account the above, the conclusion is that everything points to the need to adopt and do business according to the concept of business excellence, and that its application is necessary to ensure good business results, and thus achieve competitive advantages of each hotel company.

Results of quantitative analysis showed that it is confirmed positive linear relationship between analyzed variables, and it was determined that the business excellence dimensions positively correlate with performance indicators of hotel companies. So, based on the results of research and statistical testing it was confirmed the positive correlation between a set of business excellence dimensions and hotel performance indicators in terms of hotel manager. Taking into account the above mentioned, it can be said that by using simultaneous multiple regression analysis we established a statistically significant effect of business excellence dimensions on to the performance indicators of hotel companies in Bosnia and Herzegovina.

Finally, it is important to stress once again that, the evaluation of all the variables involved in this research are based on the views and perception of hotel managers. Ultimately, everything points to

the conclusion that business excellence is based on the improvement of the overall hotel operations, with particular attention on to insurance of the quality, continuous improvement and encouraging a full participation of all employees in the implementation of the concept of business excellence, in order to achieve long-term success through the satisfaction of users and employees.

## REFERENCES

Bergquist, B., Foley, K., Garvare, R., Johansson, P. (2008): *Reframing Quality Management: The Theories and Practices of Organization Excellence New Perspectives*, Kevin J Foley i Philippe Hermel, pp. 501-538, SAI Global, Sydney

Evans, J. E., Lindsay, W. M. (2008): *Managing for Quality and Performance Excellence*, 7th Edition, Thomson, South Western Mason, OH

Fazlović, S. (2013): *Primijenjena statistika*, Off set, Tuzla

Injac, N. (2001): *Mala enciklopedija kvalitete, 3. dio – Moderna povijest kvalitete*, Oskar, Zagreb

Newbold, P., Carlson, W. L., Thorne, B. (2010): *Statistika*, Mate, Zagreb

McClave, J. T., Benson, P.G., Sincich, T. (2008): *Statistics for business and economics*, Tenth edition, Pearson Prentice Hall, Upper Saddle River, NJ

Sekulić, D., Mandarić, M. (2013): *Kvalitet usluga kao determinanta satisfakcije potrošača u hotelijerstvu*, [Časopis Marketing, broj 44/3](#), Univerzitet u Beogradu, Ekonomski fakultet, pp. 231-247.

Sekulović, N. (2009): *Kvalitet usluga i satisfakcija potrošača u turizmu*, Singidunum, Beograd

SPSS 20.0

Svorcan, N. (2011): *Strategija marke u funkciji tržišnog pozicioniranja hotelskih lanaca*, Singipedia, Beograd

Vrtiprah, V., Sladoljev, J. (2012): *Utjecaj zadovoljstva zaposlenika na kvalitetu proizvoda i usluga u hotelskom poduzeću*, Ekonomska misao i praksa, god. XXI, no. 1, pp. 97-122.

Žilić, I. (2012): *Poslovna izvrsnost u visokokategoriziranim hotelima u Hrvatskoj*, Ekonomska misao i praksa, god. XXI, no. 1, pp. 123-142.

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**ASSESSMENT OF CYCLING INFRASTRUCTURE WITHIN THE URBAN  
TRANSPORT NETWORK OF THE CITY OF OSIJEK**

**OCJENA STANJA BICIKLISTIČKE INFRASTRUKTURE U URBANOJ  
PROMETNOJ MREŽI GRADA OSIJEKA**

**ABSTRACT**

*Planning documents of the European Union set the strategic objectives for the development of "green" mobility in urban areas, which is not only justified for environmental, health and transport issues, but it has its direct and significant positive economic effects on both users and society as a whole. Lowland topography of the city of Osijek, as well as the tradition of cycling in the area, favors a growing proportion of cyclists in urban mobility, but to continue the positive trend it is necessary to provide infrastructure that will respond to the growing traffic demand. This paper describes the methodology and presents the results of the existing cycling infrastructure of Osijek. Results of the analysis and assessment of the situation made by the experts were compared with the results of a survey conducted among users of cycling infrastructure. The final assessment of all sections and network segments according to predefined criteria clearly indicate the need to improve the quality and efficiency of existing networks, as well as the need to create clear priorities in construction and management of the cycling transport infrastructure network.*

**Key words:** cycling transport infrastructure, urban mobility, assessment of cycling segments.

**SAŽETAK**

*Planskim dokumentima Europske unije postavljaju se strateški ciljevi razvoja „zelene“ mobilnosti u urbanim sredinama koja je ne samo ekološki, zdravstveno i prometno opravdana, nego ima svoje direktne i značajne pozitivne ekonomske učinke kako za korisnike, tako i za društvo u cjelini. Ravničarska topografija grada Osijeka, ali i tradicija biciklizma na ovim prostorima, pogoduje sve većem udjelu biciklista u urbanoj mobilnosti, ali za nastavak pozitivnog trenda potrebno je osigurati infrastrukturnu ponudu koja će odgovoriti na rastuću prometnu potražnju. U okviru ovog rada opisana je metodologija i prikazani su rezultati analize postojeće biciklističke infrastrukture grada Osijeka. Rezultati analize i ocjene stanja koje je dala struka usporedili smo sa rezultatima provedene ankete među korisnicima biciklističke infrastrukture. Konačna ocjena stanja svih dionica i segmenata mreže prema definiranim kriterijima jasno ukazuju na potrebna poboljšanja za podizanje kvalitete i učinkovitosti postojeće*



*mreže, kao i potrebu stvaranja jasnih prioriteta u izradnji i upravljanju mrežom biciklističke prometne infrastrukture.*

**Ključne riječi:** *biciklistička prometna infrastruktura, urbana mobilnost, ocjena stanja biciklističkih staza.*

## 1. Introduction

Pan-European program for development of transport, health and environmental protection, which was adopted in the Paris Declaration<sup>1</sup> in 2014, lays out the strategic objectives that focus on the promotion and development of "green" mobility - mobility that promotes health and environmental objectives, as well as fitting "green" mobility in physical plans and transportation planning for urban development (Geerlings, Stead, 2010). There is an ongoing public debate on the European Union Cycling Strategy<sup>2</sup>, and the fundamental importance of this document is defined by the mission, *'Encouraging more people to cycle more often' across the EU has the potential to unlock socioeconomic benefits worth billions of Euros. Stakeholders from diverse backgrounds have therefore joined forces to develop a blueprint for an EU Cycling Strategy which will recommend objectives and define actions falling within EU competence.*"

Encouraging the development of cycling results in increasing number of cyclists in everyday urban traffic, including all factors that can contribute to conditions for sustainable (Caulfield et al., 2012, Ogilvie et al. 2012, Lumsdon, 2000), healthy (Fraser, Lock, 2010) and safe (Schepers et al. 2014, Wegman, Zhang, Dijkstra, 2012) way to travel by bicycle. The main objectives incorporated in the national development programs of cycling (Geerlings, Stead, 2003) include the goals of building high-quality and well-connected cycling infrastructure (Buehler, Dill, 2016, Larsen et al., 2013, Caulfield et al., 2012) and accompanying parking and service facilities, increasing the safety of cyclists (Wegman, Zhang, Dijkstra, 2012), and equally important includes the change of the paradigm of mobility and raising awareness of cycling as a desirable and healthy way of travel (Akar, Clifton, 2009), as well as providing financial resources for accomplishing these goals. The quality, size, dislocation and general facilities of biking trails are in direct correlation with positive health effects of cycling (Fraser, Lock, 2010). Subjective perception of attractiveness, safety and accessibility of cycling infrastructure hugely influences that cycling is chosen as a form of mobility in the urban environment (Pucher, Buehler, 2008, Akar, Clifton, 2009, Goodman, Sahlqvist, Ogilvie, 2013). There is a growing popularity of cycling tourism in the context of making active tourism more popular, which effects urban mobility, but infrastructure and service predispositions should be created (Lumsdon, 2000, Holding, 2001).

Using the bicycle as an urban means of transport is also growing in the city of Osijek and its lowland topography favors the development of bicycle traffic. Cycling infrastructure is partly built, but bike paths do not form a complete network necessary for moving comfortably and accessing all parts of the city. For continuous using of bicycles in Osijek, in addition to bicycle paths, one must use the secondary network access streets, or partially roads of the primary network which is a security issue. In this paper the proposition of methodology for evaluation of existing cycling infrastructure in Osijek was made and expert assessment was compared with subjective perception of cycling infrastructure users.

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<sup>1</sup> [http://www.unece.org/fileadmin/DAM/thepep/documents/D%C3%A9claration\\_de\\_Paris\\_EN.pdf](http://www.unece.org/fileadmin/DAM/thepep/documents/D%C3%A9claration_de_Paris_EN.pdf)

<sup>2</sup> <https://ecf.com/what-we-do/cycling-all-policies/european-level/eu-cycling-strategy-public-consultations>

## 2. Methodology of rating

Within the transport network of the city of Osijek more than 40 km of cycle paths were built, which are differently designed, equipped and with different damage degrees. All segments were reviewed a dozen of times, typical places were documented and notes and ratings were made.

Assessment of cycling infrastructure according to the criteria:

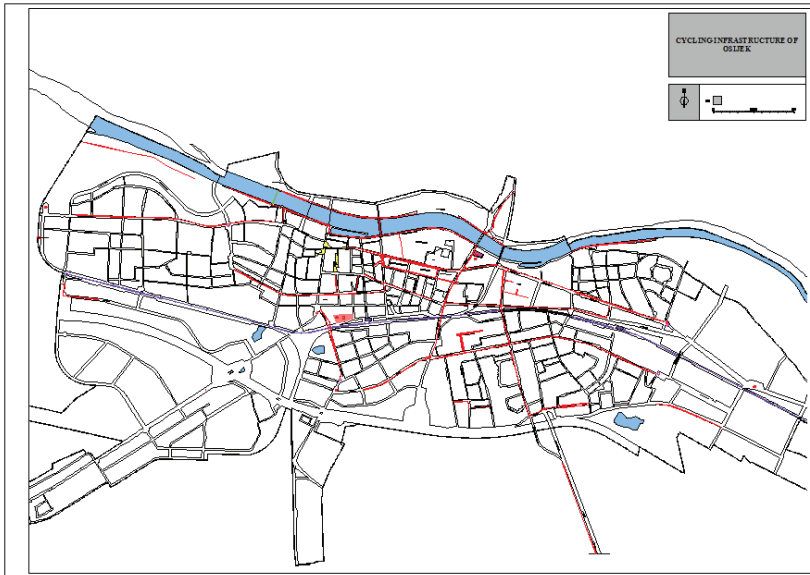
- width of the track in accordance with the Regulations on cycling infrastructure (2016),
- interference in the transverse profile of the track (the pillars of public lighting, traffic signs)
- lateral interference (insufficient distance of the lateral interference, facades, street signs, etc.)
- curbs,
- street lights,
- connectivity and availability,
- cycle route guidance and marking through the intersection,
- condition of the pavement structure of bike paths,
- signaling, marking and equipment in accordance with the Regulations,
- quality maintenance
- parking lots.

Segments of the bicycle transport infrastructure listed in Table 1, were evaluated by the scores **1 very poor** (very bad and poor condition after all or most of the criteria) - **poor 2** (poor condition after one or two criteria) - acceptable 3 (by none criteria is the path rated poor) - 4 very good (the trail is in good condition with minor objections) - 5 excellent (good by any standards). Professional evaluation is compared to the results of an online survey which examined the subjective perception of 116 participants of the above criteria for bike lanes of urban network in the city of Osijek. Users of cycling infrastructure, the target group, were interviewed before a cycling event, as a part of application form.

## 3. Results of the assessment of cycling infrastructure

The network of cycling infrastructure in Osijek is shown in Figure 1. Each segment was analyzed according to already mentioned criteria, a characteristic spots were documented, one example of documentation of the analyzed segment of the cycling network is shown in Figure 2.

**Figure 1** Cycling infrastructure as part of the urban transport network of Osijek



Source: Urban plan of Osijek, City Administration

**Figure 2** Characteristic places in this segment of cycling infrastructure



Source: Authors

The results of the bicycle infrastructure assessment according to some sections are shown in Table 1.

**Table 1** Results of cycling infrastructure of Osijek constructed by 2015

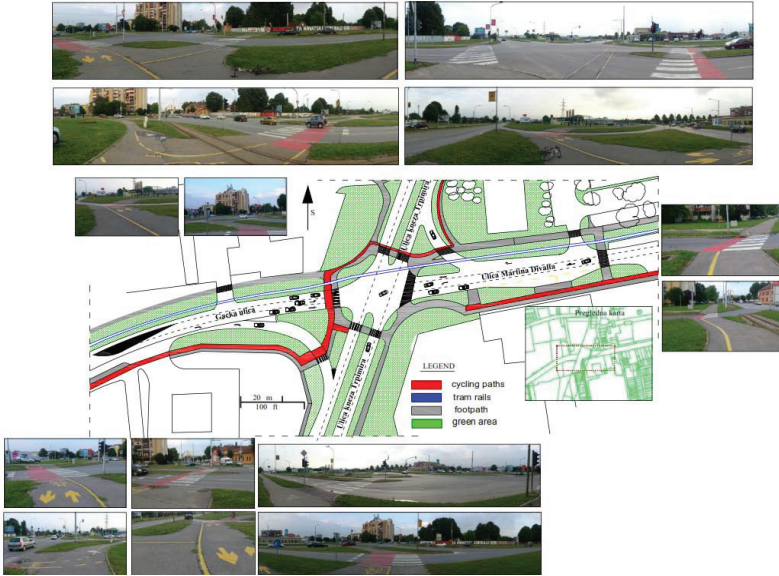
| No | Name of the network segment - bicycle trail segment  | L [m]   | Description of condition  | Rating |
|----|--|---------|---|--------|
| 1  | <b>Uske njive</b> -Delnička (from Woodrow Wilson to Novogradiške) -Novogradiška (to Lipik) -Lipička (to Kutinske)  | 500,0   | acceptable width, not connected with the rest of the cycling network, but ends in the secondary network, on pavement construction transverse cracks   | 3      |
| 2  | <b>Feeder road Osijek-Višnjevac</b> - joint Kapelske(Osijek) and J.J.Strossmayera(Višnjevac)   | 125,0   | one-way, both sides, proper width, not connected to the network and not accessible, pavement structure without major damage   | 4      |
| 3  | <b>Retfala south(Portanova)</b> -fromSvilajska along Portanova   | 550,0   | two-way, proper width, not connected to the network and not accessible, pavement structure without major damage, under-maintained trail   | 3      |
| 4  | <b>Zeleno polje- European Av.(north)</b> - Zeleno polje-M.Gupca-Square Jelačića-Park Kosača-C. Hadrijana –continuing on Europsku Av.(North)-Kapucinska-Lučki prilaz                                  | 2.626,0 | some parts share the area with the footway, variable width, drain covers are not well positioned ( narrow wheel bike can slip into it), pavement structure partial cracked  | 3      |
| 5  | <b>Promenada</b> – C. Hadrijana(from Trpimirove)-undred the Bridge of F. Tuđmana-Promenada-Solarski Square-Strossmayerova(toKanižlićeve)- from Kolodvorske-to S.Petefija 620m                        | 4.381,0 | proper width and signalisation,well-connected and accessible,well lighted, minor damage of pavement structure   | 4      |
| 6  | <b>Promenada left bank of the river</b> – from ZOO Hotel to eastern entrance – exit from Copacabane and from western entrance-exit from Copacabane to railway bridge including the pedestrian bridge | 2.815,0 | variable and improper width, interruption where the beach is, which makes it inaccessible, very bad pavement structure, paths are poorly maintained, full branches and leaves, insufficiently lightening                        | 2      |
| 7  | <b>Martina Divalta</b> - Martina Divalta Street from Velebitske to Miljacke  | 3.970,0 | proper width, but in areas with facilities in the profile (public lighting pillars ...) curbs not lowered, not signalized through all intersections, pavement structure quite damaged, with dents                               | 3      |
| 8  | <b>Biljska road</b> -from Bridge Tuđmana, along Biljski road till Petrol station on Biljska road   | 1.170,0 | variable, partially improper width, not well connected with the city network, interruptions on the bridge and when crossing rail, pavement construction in poor condition, longitudinal profile of the curb                     | 2      |
| 9  | <b>Vinkovačka road</b> –from roundabout Đakovština to Dunavske two-way, from Dunavske from western side till roundabout Vinkovačka-Drinska   | 1.440,0 | some parts improper width,crossing from one part of the roas to the other, not signaled through roundabouts , partly not lowered ponds, pavement structure poorly repaired and with longitudinal cracks                         | 3      |
| 10 | <b>Opatijska street</b> - Opatijska from Svačić St. to Srijemska St.   | 1.302,0 | alternates two- and one –way, in some parts insufficient width , well-connected, pavement structure has smaller local depressions   | 4      |
| 11 | <b>Passage Ante Slavičeka</b> - from I. Gundulića Street to Hrv. Republike Street  | 230,0   | not connected good enough- terminated on the primary road network (Croatian Republic), proper width, duly marked, nodamage  | 4      |
| 12 | <b>Sunčana street</b> - from I. Gundulića Street to Hrv. Republike Street  | 205,0   | guided integratedly with foot traffic, separated, no continuity, its purpose questionable   | 3      |
| 13 | <b>Vukovarska</b> - M. Gupca-Cvjetkova-Vukovarska-Gajev Square -Radičeva   | 3.250,0 | width adequate, curbs not lowered, the bars on the shafts are not well positioned, not properly signaled through the intersection, crossing the rail requires pushing a bike, pavement structure in some places heavily damaged | 3      |
| 14 | <b>Jug II</b> – from feeder road Vukovarska-Južna detour tillartificial lake JUG II  | 950,0   | not wide enough according to the Regulations, no signalisation, isolated, not connected to the rest of the network, not maintained enough   | 2      |

| No                 | Name of the network segment - bicycle trail segment  | L [m]           | Description of condition   | Rating |
|--------------------|--|-----------------|--|--------|
| 15                 | <b>I. Gundulića Street</b> -Gajve Square, Square b. Trenka-I. Gundulića street (from A. Kanižlića)   | 2.040,0         | proper width,longitudinal cracks in the pavement structure, great length, not connected to the rest of the network   | 3      |
| 16                 | <b>Svačićeva-Tenja</b> - Street k. P. Svačića(from C. Hadrijana) -overpass Rosinjača-J.R. Kira-entrance in Tenje   | 4.590,0         | proper width and signaling, well lightening, partially connected, the pavement structure partially with significant damages  | 3      |
| 17                 | <b>Trpimirova,C. Hadrijana-market-</b> from intersection Trpimirove-C. Hdrrijana-Vijenac I. Meštrovića-Srednjsko playground -Zvonimirova-A. Stepinca (the judicial passage) to European Avenue | 1.509,0         | proper width, well connected, signaled through the intersection, on the pavement construction transverse cracks, inadequate drainage, elevation of the roadway uneven  | 3      |
| 18                 | <b>Sjenjak-walking trail</b> - Sjenjak from departement store till Street Ivana Zajca andlink to cycling route M. Divalta  | 650,0           | oneway on both sides, improper width,shares an area with pedestrians, partly connected to the network, longitudinal and transversal cracks on the pavement   | 3      |
| 19                 | <b>Donjodravska coast</b> - from Ulice J. Huttlera(downhill at Streets Donjodravska coast) tobarracksVrbik   | 1.035,0         | not wide enough, not connected with the rest of the network, but is in the secondary network, shares a area with pedestrians (shared-used path), pavement structure in poor condition  | 2      |
| 20                 | <b>Campus</b> –northen entrance from Street k.P.Svačića(177m)and southern entrance from StreetSvačića (along parking place - 677m)   | 844,0           | on both sides, proper width and signaling, well-connected to the network, fewer pavement damage  | 4      |
| 21                 | <b>Trpimira(east) from Vij.I.Meštrovića to M. Divalta</b> - Kneza Trpimira from entrance-exit from Vij.I.Meštrovića till Street M. Divalta easter side (link to cycling route M. Divalta)      | 1.063,0         | track width varies and is insufficient for two-way traffic, section at the petrol station is not well managed, the path is well connected with the network curbs on parts of the track are not lowered, pavement structure has longitudinal and transverse cracks  | 3      |
| 22                 | <b>Bent along the river Drva-Retfala</b> – from end of Strma St.Along bent to the road bridgeto the western ring road  | 1.920,0         | improper width, road markings faded, inadequately maintained   | 3      |
| 23                 | <b>Kneza Trpimira(west)</b> - od European A ualong srednjoškolsko playground topassage between the playground and high school  | 122,0           | not proper width, not proper marked, is not guided through the intersection, not lowered curbs, shares an area with the footway, the safety of users endangered, significant grid cracks   | 1      |
| 24                 | <b>EuropeanAvenu-south</b> - from Radića St.to Istarska St and Istarska St to St.k.Zvonimira   | 1.140,0         | insufficient path width for two-way traffic, we-connected with the rest of the network, Pavement structure significantly damaged in some parts - longitudinal, transverse and grid cracks  | 3      |
| 25                 | <b>EuropeanAvenu-north</b> - from Trpimirove St.-Kapucinska-Lučki prilaz   | 1.470,0         | lane width is variable, in some places less than proper the path is not guided through all intersections, curbs are not lowered, pavement structure partly cracked   | 3      |
| 26                 | <b>Alley chestnuts</b> - Link from Promenade European Av. through the Park K.Tomislav next to tennis courts  | 295,0           | improper width, deleted tags, connection with the trail on the Promenade is not well done and marked, partial pavement damage  | 3      |
| 27                 | <b>J.J.Strossmayerova</b> - Promenada-Solarski Square-J.J.Strossmayerova- Š.Petefija (to GT Izolirke)  | 2710,0          | width of the lane variable and improper,inadequately labeled, is not signaled through the large number of intersections, lighting columns in the profile paths, the safety of cyclists endangered, there is no necessary connection with the network, pavement structure with longitudinal and spider web cracks | 2      |
| <b>ALLTOGETHER</b> |  | <b>42.902,0</b> |  |        |

Source: Authors

Analysis of cycle route guidance through intersection is made and one example is the intersection of Trpimirova street and Divaltova street (Figure 3).

**Figure 3** Cycling route guidance through intersection

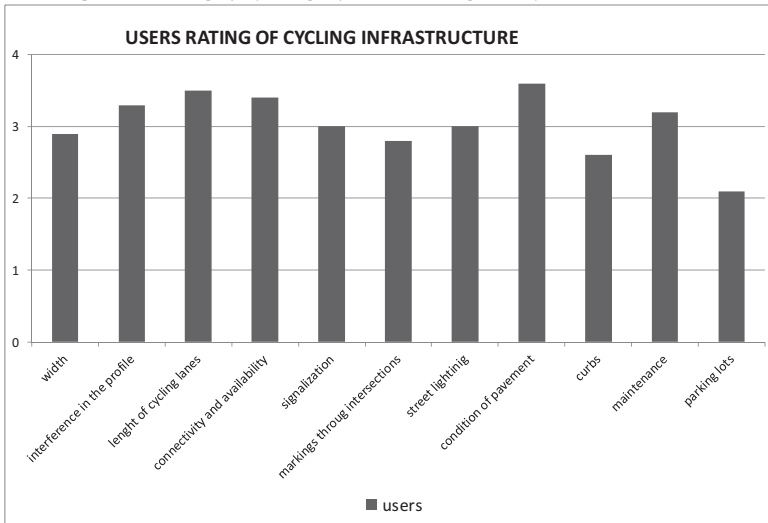


Source: Authors

#### 4. The results of the survey of users

The survey was conducted online on 116 participants, of which 55% men, mainly at the age up to 30 years (70%), 30-40 years old 9% and older than 40 years about 21%. The average ratings for each criteria evaluated by the user are shown in the graph in Figure 4.

**Figure 4** Rating of cycling infrastructure given by interviewed users



Source: Authors

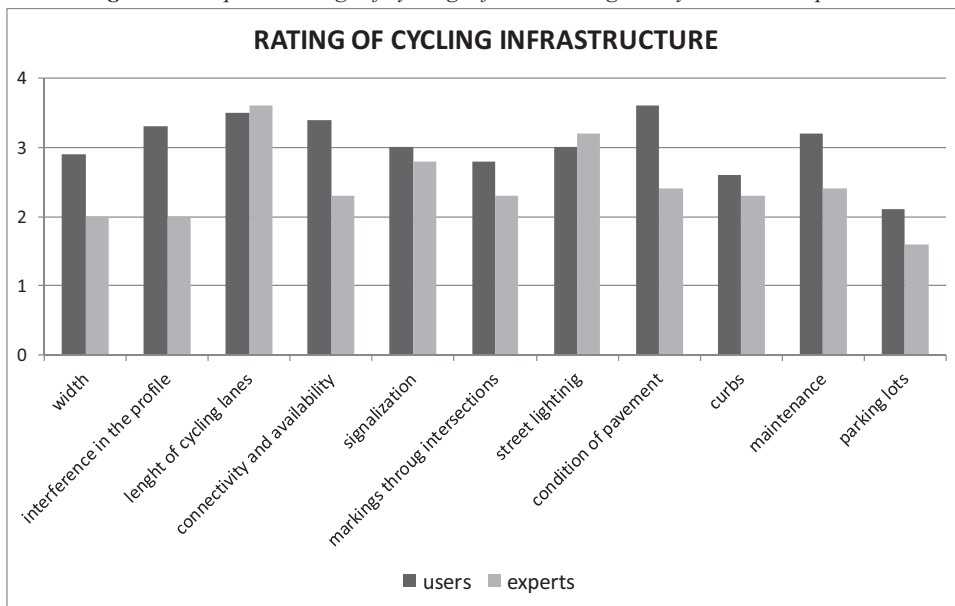


#### 4. Discussion and conclusion

Comparison of experts and users assessment of cycling infrastructure within the urban transport network of the city of Osijek is shown in the graph in Figure 5. Significant differences were found in 5 of 11 criteria, which are: width of bicycle lanes in accordance with applicable regulations (the Regulations on cycling infrastructure), barriers within the cross section lane (lighting poles, traffic signs, lateral interference), connectivity and accessibility, the state of road construction and maintenance. For these criteria experts have given less assessment, and for the other criteria the user and expert ratings were similar.

The city of Osijek is topographically predisposed to the development of cycling which is to be incorporated into the altogether urban mobility, but it is necessary to create infrastructural conditions. The main problem of existing cycle routes is their inadequate width, and intermittent network connections and poor bike trails. There are a number of small, not so many critical problems that can be solved with smaller interventions, which would lead to better solutions than the existing ones, such as lowering the curb, keeping cycling lanes through the intersection, some remediation of pavement structure and better maintenance. As part of planning documents, it is necessary to predict the construction of new parts of the infrastructure that would integrate better and raise the efficiency of the existing network, but parking places and customer service must be an integral part of cycling infrastructure projects.

**Figure 5** Compared ratings of cycling infrastructure given by users and experts



Source: Authors

With the planned development of cycling infrastructure, the analysis clearly indicates the need for bike lanes in the secondary network of Osijek. Additional bicycle lanes in the secondary network with a lower density and speed of traffic flow, enable greater security and safe movement of cyclists on the pavement of the road. And last but not least, in the zones of calm



traffic, the common solution is to have cycle traffic integrated on shared surface, taking into account the priorities of the most vulnerable road users, namely pedestrians and cyclists. These types of effective interventions are one of the possible solutions to the problem of keeping cyclists through secondary network level.

The research results presented in this paper clearly indicate that there are a number of problems in the existing system of cycling network, which were pointed out by the users themselves through the survey. The assessment of the existing infrastructure is the first step in the management of the network, which aims to develop continuous and planned infrastructure with clear priorities, but also to improve the quality and efficiency of the existing network.

## REFERENCES

Akar, G., Clifton, K. (2009): *Influence of Individual Perceptions and Bicycle Infrastructure on Decision to Bike*, Transportation Research Record: Journal of the Transportation Research Board, Volume 2140, pp. 165–172. DOI: <http://dx.doi.org/10.3141/2140-18>

Buehler, R., Dill, J. (2016): *Bikeway Networks: A Review of Effects on Cycling*, Transport Reviews, Volume 36, Issue 1: Cycling As Transport, pp. 9-27. <http://dx.doi.org/10.1080/01441647.2015.1069908>

Caulfield, B., Brick, E., McCarthy, O.T. (2012): *Determining bicycle infrastructure preferences – A case study of Dublin*, Transportation Research Part D: Transport and Environment, Volume 17, Issue 5, pp. 413–417. <http://doi.org/10.1016/j.trd.2012.04.001>

Fraser, S. D.S., Lock, K. (2010): *Cycling for transport and public health: a systematic review of the effect of the environment on cycling*, European Journal of Public Health, pp.1–6. doi:10.1093/eurpub/ckq145

Geerlings, H., Stead, D. (2003): *The integration of land use planning, transport and environment in European policy and research*, Transport Policy, Volume 10, pp.187–196. doi:10.1016/S0967-070X(03)00020-9

Goodman, A., Sahlqvist, S., Ogilvie, D.(2013): *Who uses new walking and cycling infrastructure and how? Longitudinal results from the UK iConnect study*, Preventive Medicine, Volume 57, Issue 5, pp. 518–524. <http://doi.org/10.1016/j.ypmed.2013.07.007>

Gracin, Š.(2015): *Biciklističke staze u okviru urbane prometne mreže grada Osijeka*, Građevinski fakultet Sveučilišta J. J. Strossmayera u Osijeku, diplomski rad

Holding, D. M. (2001): *The Sanfte Mobilitaet project: achieving reduced car-dependence in European resort areas*, Tourism Management, Volume 22, Issue 4, August 2001, pp. 411–417. [http://doi.org/10.1016/S0261-5177\(00\)00071-6](http://doi.org/10.1016/S0261-5177(00)00071-6)

Larsen, J., Patterson, Z., El-Geneidy, A. (2013): *Build It. But Where? The Use of Geographic Information Systems in Identifying Locations for New Cycling Infrastructure*, International Journal of Sustainable Transportation, Volume 7, Issue 4, pp. 299-317. <http://dx.doi.org/10.1080/15568318.2011.631098>

Lumsdon, L. (2000): *Transport and Tourism: Cycle Tourism – A Model for Sustainable Development?*, Journal of Sustainable Tourism, Vol. 8, No. 5, 2000, pp.361-377

Ogilvie, D., Bull, F., Cooper, A., et al. (2012): *Evaluating the travel, physical activity and carbon impacts of a 'natural experiment' in the provision of new walking and cycling infrastructure: methods for the core module of the iConnect study*. *BMJ Open* 2:e000694. doi:10.1136/bmjopen-2011-000694

Pucher, J., Buehler, R. (2008): *Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany*, *Transport Reviews*, Vol. 28, No. 4, pp.495–528. DOI: 10.1080/01441640701806612

Regulations on cycling infrastructure, Pravilnik o biciklističkoj infrastrukturi, Ministarstvo pomorstva, prometa i infrastructure (Narodne novine 28/2016)

Schepers, P., Hagenzieker, M., Methorst R., van Wee B., Wegman, F. (2014): *A conceptual framework for road safety and mobility applied to cycling safety*, *Accident Analysis and Prevention*, Vol. 62, pp. 331–340. <http://doi.org/10.1016/j.aap.2013.03.032>

Wegman, F., Zhang, F., Dijkstra, A. (2012): *How to make more cycling good for road safety?*, *Accident Analysis & Prevention*, Volume 44, Issue 1, pp. 19–29. <http://doi.org/10.1016/j.aap.2010.11.010>

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## **THE IMPACT OF TAX INCENTIVES FOR RESEARCH AND DEVELOPMENT ON ECONOMIC GROWTH - EXAMPLE OF EASTERN CROATIA<sup>1</sup>**

### **UČINAK POREZNIH POTICAJA ZA ISTRAŽIVANJE I RAZVOJ NA EKONOMSKI RAST – PRIMJER ISTOČNE HRVATSKE**

#### **ABSTRACT**

*Process research and development and technological progress are partly endogenous process that is influenced by the political and business environment. Since it is necessary to the existence of incentives that are mostly focused on direct measures (stimulus funding) and indirect measures (tax incentives and protection of intellectual property rights). Most states through their tax systems approved tax incentives for research and development and they make up a significant part of the tax benefits that are granted under the income tax. The most common forms of tax incentives for research and development of the tax base of income tax for eligible costs of the project of scientific research and development, delayed payment of taxes, and the tax credit. Apart from the tax incentives, some governments grant subsidies for research and development activities.*

*The Republic of Croatia, regardless of which approves tax incentives and state aid for research and development, has a significantly smaller the share of expenditure for research and development in GDP in comparison with other EU member states. Accordingly, the authors will explore, define and analyze the structure of tax incentives and state aid for research and development in Croatia, as well as the importance and impact of these incentives and support the economic performance Eastern Croatia.*

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<sup>1</sup> This work has been fully supported by the Croatian Science Foundation under the project Tax Policy and Fiscal Consolidation (8174)

*The aim of this paper is to point out the importance of encouraging research and development through tax incentives and state aid, with the aim of achieving greater economic growth both in the Republic of Croatia, as well as in Eastern Croatia.*

*Authors will investigate and provide an overview of the most important studies in the area of influence of R&D activities on economic growth. The paper will be presented and the basic forms of tax incentives and state aid to be granted in various ways in the Republic of Croatia, and the level of their use in Eastern Croatia. Also, based on the analysis the authors will provide proposals for improvements in the area of incentives for research and development.*

**Key words:** *tax incentives, state aid, research and development, the Republic of Croatia, Eastern Croatia.*

## SAŽETAK

*Proces istraživanja i razvoja i tehnološkog napretka su djelomično endogeni proces koji je pod utjecajem političkog i poslovnog okruženja. S obzirom na to nužno je postojanje poticajnih mjera koje se uglavnom svode na izravne mjere (poticaji financiranja) i neizravne mjere (porezni poticaji i zaštita prava intelektualnog vlasništva). Većina država putem svojih poreznih sustava odobrava porezne poticaje za istraživanje i razvoj i oni čine značajan dio poreznih olakšica koje se odobravaju u okviru poreza na dobit. Najčešći oblici poreznih poticaja za istraživanje i razvoj su umanjenja porezne osnovice poreza na dobit za opravdane troškove projekta znanstvenih i razvojnih istraživanja, odgoda plaćanja poreza, te porezni kredit. Osim samih poreznih poticaja, neke države odobravaju i subvencije za aktivnosti istraživanja i razvoja.*

*Republika Hrvatska, bez obzira što odobrava porezne poticaje i državne potpore za istraživanje i razvoj, ima značajno manji udio izdataka za istraživanje i razvoj u BDP-u u usporedbi s ostalim državama članicama Europske unije. Sukladno tome autori će istražiti, definirati i analizirati strukturu poreznih poticaja i državnih potpora za istraživanje i razvoj u Republici Hrvatskoj, kao i važnost i utjecaj tih poticaja i potpora na ekonomske performanse Istočne Hrvatske.*

*Cilj ovog rada je ukazati na važnost poticanja aktivnosti istraživanja i razvoja putem poreznih poticaja i državnih potpora, a sve u cilju postizanja većih stopa gospodarskog rasta kako u Republici Hrvatskoj, tako i na području Istočne Hrvatske.*

*Autori će istražiti i dati pregled najznačajnijih radova u području utjecaja aktivnosti istraživanja i razvoja na ekonomski rast. U radu će se prikazati i osnovni oblici poreznih poticaja i državnih potpora koji se na razne načine odobravaju u Republici Hrvatskoj, te stupanj njihovog korištenja u Istočnoj Hrvatskoj. Također, na temelju provedene analize autori će dati prijedloge poboljšanja u području poticaja za istraživanje i razvoj.*

**Ključne riječi:** *porezni poticaji, državne potpore, istraživanje i razvoj, Republika Hrvatska, Istočna Hrvatska.*

## 1. Introduction

The emergence of the high-technology industry in the 21st century has led to the development of a knowledge-based economy i.e. an economy founded on scientific research and development activities. Those advocating research and development, as a factor impacting economic growth, argue that increased expenditures for research and development result in new technological advancements and as such enhance economic growth, i.e. the growth of GDP per capita and a country's prosperity. The countries that follow the trend of increased expenditure for research and development and which develop highly sophisticated products should have a higher GDP per capita and higher productivity. Due to this, governments should actively support and finance research and development, especially if there is a lack of such activities in the private sector.

Therefore, one of the main priorities of the European Union is to boost smart growth i.e. to foster the development of an economy based on strengthening knowledge and innovation as drivers of future economic growth. In order to achieve this, it is necessary to enhance the quality of the education system, to increase the use of information and communication technologies, to provide conditions for incorporating innovative ideas into new products and services and to create new quality jobs. However, to succeed and achieve smart growth, in addition to the above mentioned, it is necessary to have financial resources and a well-developed entrepreneurship which takes into account the user needs as well as market opportunities. To achieve this, the EU member states ought to find ways, within public expenditure, to protect and promote long-term investments in education, research, innovation and energy.

The paper is organized as follows. We start by giving an introduction, followed by an overview of the literature related to R&D, economic growth and tax incentives. The third part of the paper presents the tax incentives and R&D activities in Croatia and we end our paper by providing concluding remarks.

## **2. Literature review**

Modern economy theory identifies investment in research and development as a key factor of reducing development disparities between countries and regions. It is necessary to pay special attention to sources of financing of research and development activities, which may be realized from the public and business sector, higher education sector and private non-profit sector.

### **2.1. R&D expenditure and economic growth**

Most researchers argue that investments in research and development and income growth are interdependent. For example, Coe and Helpman (1995) found that investment into research and development i.e. products resulting from research and development activities and their spillovers lead to higher productivity and thus greater income growth.

By analyzing the relationship between research and development, innovation and economic growth in OECD countries, Falk (2007) and Guloglu and Baris (2012) confirmed that there is a significant and positive impact of research and development on the GDP per capita growth rate. Ulku (2004) came to similar conclusions, but also proved that developing countries are able to enhance their domestic technological progress by using the know-how already created in developed countries.

Considerations of investment in research and development as a factor to achieve economic growth have been made by some authors in the region as well. Bečić and Dabić (2008), based on the analysis of scientific research activities in the Republic of Croatia in the EU accession process, pointed out the low investment of business sector and an unfavorable position of Republic of Croatia in the global science, technological backwardness compared to more developed EU member states and a weak linkage between science and industry. The above mentioned is also applicable to other countries in the region and represents a limiting factor in their adjustment to the EU economy. This research was continued by Puljiz (2009), who examined the causality of education and achieving of economic growth, stressing the importance of population who completed secondary education, which originates from the greater participation of highly educated workforce in sectors of low productivity.

As the most recent scientific articles which identified the importance of investing in research and development in achieving economic growth and convergence in the Republic of Croatia and other countries in the region, it is necessary to set aside those by Prodanović et al. (2013), Krstić and Đunić (2014) and Švarc (2014). In their research these authors have focused on identification of the key weaknesses of the research and development systems in these countries.

with particular emphasis on low levels of business sector investment, insufficient interaction between universities and economy, low levels of productivity and mobility of researchers and still very low level of commercialization of innovations. The authors point out that such situation resulted in the occurrence of negative processes i.e. the brain drain and brain waste (leaving jobs in the research sector and go to better-paid jobs), which further slowdown the economic progress of these countries. Švarc (2014) points out that the Republic of Croatia and other countries in the region must strengthen their capacity for absorption and creation of new technology and radical innovation, and recalls that the current measures to encourage economic growth, and based on strengthening entrepreneurship, have not proved effective. Aralica et al. (2008) conducted a microeconomic study for Croatia in the period 2001 – 2003. They analyzed the determinants of innovation activities and concluded that the demand plays a dominant role, while human capital and research and development have only little influence on the propensity to innovate.

Given all of the above, it can be concluded that expenditures for research and development have direct effect on innovation, and thus productivity and an indirect effect on the accumulation of new and technologically more efficient capital.

## **2.2. Tax incentives and R&D activities**

The relationship between investments into research and development and GDP growth are reciprocal i.e. the higher the GDP growth, the higher is the need for investments into research and development. Technological progress and research and development may be viewed as partly endogenous processes as they are influenced by the political and business environments. As such, research and development and technological progress require the existence of measures. These measures may be direct or indirect such as subsidies, tax incentives and protection of intellectual property rights.

Blažić (2006) classifies tax incentives as:

- Tax holidays
- Investment allowances in the narrow sense, which include:
  - ✓ accelerated depreciation including the declining balance as its specific form,
  - ✓ tax deduction or tax exemption (of the tax base),
  - ✓ investment tax credit (deduction of tax liabilities)
- Nominal (statutory) corporate income tax rate.

Among these incentives, tax credits for research and development are one of the most important measures for promoting and enhancing expenditures for research and development (Atkinson, 2007, Wilson, 2007, Hall and Wosińska, 1999). Tax credits for research and development reduce research and development costs in the private sector and therefore, increase investment in research and development. Such targeted tax incentives are used in many countries as a mechanism designed to boost economic growth, especially during the last two decades.

According to microeconomic theory, the government can encourage private investment in research and development by reducing the marginal cost of capital and by increasing the marginal rate of return. In their work, Hall and Van Reenen (2000) calculated that each US dollar of tax credit results in an extra dollar of private investment. Moreover, other studies such as Bloom, Griffith and Van Reenen (2000), Guillec and Van Pottelsberghe de la Potterie (2003) confirmed the positive impact of tax incentives for research and development on business investment. Therefore, government should support investments in research and development through grants or tax allowances.

### 3. Tax incentives and state aid for R&D

In the Republic of Croatia, according to The Scientific Activity and Higher Education Act (Official Gazette No. 60/2015) state aid for research and development can be granted for:

- Fundamental research (up to 100% of eligible costs) aimed at achieving progress in science and technology of direct impact on economic activity;
- Applied research (up to 50% of eligible costs) aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services;
- Development research (up to 25% of eligible costs) aimed at dissemination of industrial research results in form of new, modified and improved products, processes and services, regardless of whether they are intended for sale or use, including prototyping, which are not commercially usable.

In addition to this, the same Act prescribes the possibility of increasing the amount of state aid for applied research and development by 20% of eligible project costs for small and 10% for medium-sized enterprises. State aid for technical feasibility studies related to the implementation of applied research may be granted in a total amount of up to 75% of eligible costs for SMEs and up to 65% for large enterprises. In cases of technical feasibility studies related to the implementation of development research, state aid may be granted in a total amount of up to 50% of eligible costs for SMEs and up to 40% for large enterprises.

Given the objective and category of state aid, aid to industry and services is divided into horizontal aid, sectoral specific aid, regional aid and aid at the level of local and regional governments units. In the context of this paper, state aid and incentives for research and development are important horizontal aids. The horizontal aid includes aid for research and development and innovation, environmental protection and energy saving, small and medium-sized enterprises, rescue and restructuring based on aid schemes, employment, training, culture, the development of broadband networks, venture capital, financing during financial and economic crisis and other horizontal objectives.

Table 1 shows state aids (grants and tax incentives) for research and development and innovation in the Republic of Croatia in the period from 2006 to 2013, as well as their shares in total horizontal state aid and in GDP.

*Table 1 State aid for research and development and innovation in Croatia (2006 – 2013)*

|                             | 2006         | 2007         | 2008         | 2009         | 2010         | 2011         | 2012         | 2013         |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Grants (in HRK mil)         | 17.3         | 4.9          | 46.9         | 31.6         | 51.5         | 29.3         | 3.6          | 21.7         |
| Tax incentives (in HRK mil) | 121.5        | 156.0        | 162.7        | 107.5        | 116.1        | 96.3         | 101.2        | 101.2        |
| <b>Total</b>                | <b>138.8</b> | <b>160.9</b> | <b>209.6</b> | <b>139.1</b> | <b>167.6</b> | <b>125.6</b> | <b>104.8</b> | <b>122.9</b> |
| as % in horizontal aid      | 14.93        | 16.83        | 17.59        | 21.12        | 26.34        | 17.55        | 9.41         | 9.53         |
| as % of total state aid     | 1.46         | 1.50         | 2.38         | 1.60         | 1.79         | 1.40         | 1.19         | 1.45         |
| as % of GDP                 | 0.05         | 0.05         | 0.06         | 0.04         | 0.05         | 0.04         | 0.03         | 0.04         |

*Source: created by authors according to Croatian Competition Agency. Sources of original data: Ministry of Finance and other state aid providers (various issues)*

If observed over a longer period, it is evident that the majority of state aid in Croatia is granted in form of tax incentives and exemptions, and to a much lesser extent, in form of grants. Moreover, contrary to expectations, the total amount of state aid in the observed period did not increase. This modest share of state aid for research and development and innovation in total state aid (about 1.50%) is just one of the indicators of under-investment in research and development activities in the real sector. It should also be noted that the data presented in Table 1 does not include state aid for research and development and innovation granted to scientific institutions or their research centers.



The Republic of Croatia grants regional aid to promote the economic development of less developed areas i.e. areas with low living standards and high unemployment such as Eastern Croatia. This aid is aimed at encouraging new investments and increasing employment in those areas.

**Table 2** Aid for research and development and innovation according to the map of Croatian statistical classification of regions (NUTS 2) (in million HRK)

|   | 2011         | 2012         | 2013         |
|---|--------------|--------------|--------------|
| Central and Eastern (Pannonian) Croatia | 1.5          | 1.5          | n/a          |
| Adriatic Croatia                        | 5.5          | 3.9          | 5.9          |
| North-western Croatia                   | 118.6        | 99.0         | n/a          |
| Continental Croatia                     |              |              | 117.0        |
| <b>Total Croatia</b>                    | <b>125.6</b> | <b>104.4</b> | <b>122.9</b> |

Note: n/a – not applicable

Source: created by authors according to Croatian Competition Agency. Sources of original data: Ministry of Finance and other state aid providers (various issues)

Up to 2013, the Republic of Croatia was divided into three statistical regions (NUTS 2 regions), as follows: Northwestern Croatia, Central and Eastern (Pannonian) Croatia and Adriatic Croatia. In 2013, by the decision on the Regional aid map, Croatia was divided into only two regions: Continental Croatia and Adriatic Croatia. According to this new territorial classification, Eastern (Pannonian) Croatia falls under Continental Croatia with highly developed areas such as the City of Zagreb and Zagreb County, which precludes detailed analysis of the amount of granted state aid and used tax incentives in Eastern Croatian. However, based on the available data i.e. that for 2011 and 2012, it is noted that the minimum amount of state aid and use of tax incentives occurred precisely in this region.

Table 3 provides an overview of the number of users of tax incentives for research and development and the distribution of taxpayers (entrepreneurs) across Croatian counties according to their use of tax incentives for research and development.

**Table 3** R&D tax incentives by counties in Croatia (2008-2009)

|                           | Distribution of R&D tax incentives by counties (%) |      | Users of R&D tax incentives by counties |      |
|---------------------------|--|------|---|------|
|                           | 2008   | 2009 | 2008                                    | 2009 |
| Bjelovar - Bilogora       | 0  | 0    | 4                                       | 2    |
| Dubrovnik - Neretva       | 0.1  | 0    | 6                                       | 2    |
| Istria                    | 0.1  | 0.2  | 14                                      | 11   |
| Karlovac                  | 0  | 0    | 0                                       | 0    |
| Koprivnica - Križevci     | 3.7  | 1.4  | 3                                       | 6    |
| Krapina - Zagorje         | 0  | 0.9  | 3                                       | 3    |
| Lika - Senj               | 0.2  | 0    | 6                                       | 3    |
| Međimurje                 | 0  | 0.5  | 4                                       | 3    |
| Osijek - Baranja          | 0.3  | 0.8  | 13                                      | 14   |
| Požega - Slavonia         | 0  | 0    | 0                                       | 1    |
| Primorje - Gorski kotar   | 0.4  | 2.4  | 18                                      | 19   |
| Sisak - Moslavina         | 0  | 0    | 2                                       | 2    |
| Slavonski Brod - Posavina | 0  | 0.1  | 10                                      | 4    |
| Split- Dalmatia           | 1.1  | 2.6  | 22                                      | 21   |
| Šibenik - Knin            | 0  | 0    | 3                                       | 2    |
| Varaždin                  | 0.2  | 0.3  | 8                                       | 7    |
| Virovitica - Podravina    | 0  | 0    | 2                                       | 1    |
| Vukovar - Sirmium         | 0  | 0    | 2                                       | 0    |
| Zadar                     | 0.1  | 0.2  | 5                                       | 5    |
| Zagreb and City of Zagreb | 93.7   | 90.7 | 147                                     | 155  |

Source: Švaljek (2012)

The period shown in Table 3 is important in the analysis of tax incentives for research and development as it marks the beginning of granting such incentives in the Republic of Croatia. As can be noted, in these first two years, the highest share in used research and development incentives is held by the City of Zagreb and Zagreb County (over 90%). Consequently, the largest number of users of incentives is also located in these areas. Other counties in the Republic of Croatia, both in the Adriatic and the Continental regions, significantly lag behind. This situation is quite logical considering that the City of Zagreb and Zagreb County were at that point, and still are, the center of entrepreneurial activity in Croatia, as the majority of profitable companies has their headquarters there and that these companies are, at the same time, the biggest potential beneficiaries of tax relief.

#### 4. Conclusion

Tax incentives for research and development lower the costs of such activities. This has a positive impact on the development of innovation and implementation of new products on the market, which, in turn, leads to increased competitiveness and profitability, and consequently to creation of new jobs, higher wages and income. This contributes to increased awareness of the importance of knowledge and innovations i.e. benefits of such activities. Moreover, tax allowances reduce production costs and, in this manner, the cost of products and services. All this has a positive effect on the economic cycle and economic growth.

To conclude, the analysis shows that the Croatia government stimulates research and development activities through subsidies and tax reliefs, but this is far from being sufficient. The share of R & D activities in Croatia has been stagnating for years and barely exceeds 0.05% of GDP. Another issue standing out when Croatia is considered is the uneven distribution of state aid. Namely, the major part of Croatian territory has little or almost no use of state aid since it is all concentrated on the City of Zagreb and its surroundings. This calls into question one of the primary objectives of such incentives i.e. a balanced development of all regions, especially when it comes to regional aid, which is intended for promoting economic development of less developed areas i.e. areas with low living standards and high unemployment such as for example Eastern Croatia.

#### REFERENCES

- Aralica, Z., Domagoj R., Dubravko R. (2008): *Innovation Propensity in Croatian Enterprises: Results of the Community Innovation Survey*, South East European Journal of Economics and Business, Vol. 3, No. 1, pp. 77-88
- Atkinson, R. D. (2007): *Expanding the R&E tax credit to drive innovation, competitiveness and prosperity*, The Journal of Technology Transfer, Vol. 32, No. 3, pp. 617–628
- Bečić, E., Dabić, M. (2008): *Analiza ulaganja poslovnog sektora Republike Hrvatske u istraživanje i razvoj / Analysis of Croatian business sector investment in R&D*, Revija za sociologiju – Sociological Review, Vol. 39, No 1-2, pp. 69-84
- Blažić, H., (2006): *Usporedni porezni sustavi – oporezivanje dohotka i dobiti*, University of Rijeka, Faculty of Economics, Rijeka
- Bloom, N., Griffith, R., Van Reenen, J. (2002): *Do R&D tax credits work? Evidence from an international panel of countries 1979-1997*, Journal of Public Economics, Vol. 85, No.1, pp. 1-31
- Coe, D.T., Helpman, E. (1995): *International R&D spillovers*, European Economic Review, Vol. 39, No. 5, pp. 859-87

- Croatian Competition Agency (2007): *Annual Report on State Aid for 2006*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2008): *Annual Report on State Aid for 2007*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2009): *Annual Report on State Aid for 2008*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2010): *Annual Report on State Aid for 2009*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2011): *Annual Report on State Aid for 2010*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2012): *Annual Report on State Aid for 2011*, Croatian Competition Agency, Zagreb
- Croatian Competition Agency (2013): *Annual Report on State Aid for 2012*, Croatian Competition Agency, Zagreb
- Falk, M. (2007): *R&D spending in the high tech sector and economic growth*, Research in Economics, Vol. 61, No. 3, pp. 140-147
- Guellec, D., Van Pottelsberghe de la Potterie, B. (2003): *The impact of public R&D expenditure on business R&D*, Economics of Innovation and New Technologies, Vol. 12, No.3, pp. 225-243
- Guloglu, B., Baris, T.R. (2012): *A Panel Causality Analysis of the Relationship among Research and Development, Innovation and Economic Growth in High-Income OECD Countries*, Eurasian Economic Review, Vol. 2, No. 1, pp. 32-47
- Hall, B. H., Wosinska, M., (1999): *Effectiveness of The California R&D Tax Credit A Report*, Prepared For The California Council On Science And Technology. University of California, Berkeley, June 15, 1999
- Hall, B. H., Van Reenen, J. (2000): *How effective are fiscal incentives for R&D? A review of the evidence*, Research Policy, Vol. 29, No. 4-5, pp. 449-469
- Krstić, B., Džunić, M. (2014): *Analysis of the Western Balkan countries' competitiveness determinants using the KEI methodology*, Ecoforum Journal, Volume 3, No. 2
- Mele, M. (2010): *A Time Series Approach on the Chinese Exchange Rate Regime*, Economic Research, Vol. 23, No. 3, pp. 1-11.
- Švaljek, S. (2012): *R&D Tax Incentives in Croatia: Beneficiaries and their Benefits*, presented on the Conference: Hidden Public Spending Present and Future of the Tax Expenses, Zagreb, Institut za Javne financije, pp.117-130. available on: [http://www.ijf.hr/upload/files/file/skrivena\\_javna\\_potrosnja/zbornik.pdf](http://www.ijf.hr/upload/files/file/skrivena_javna_potrosnja/zbornik.pdf)
- Švarc, J. (2014): *A Triple Helix systems approach to strengthening innovation potential of the Western Balkan countries*, International journal of transitions and Innovation system, Vol. 3, No.2
- Prodanović, S., Petković, D., Bašić, H. (2013): *Istraživanje inovacionog potencijala BiH s aspekta upravljanja i odlučivanja o RDI aktivnostima/ Investigation of the Innovation Potential*

*in BIH according to R&D Activities Management*, prepared for 8th International Scientific conference with international participation "KVALITET/QUALITY 2013", Neum, Bosnia and Herzegovina, June 6-8, 2013

Puljiz, J. (2009): *Čimbenici regionalnog razvoja i regionalnih nejednakosti u Republici Hrvatskoj*, University of Split, Faculty of Economics, Split (doctoral thesis)

The Scientific Activity and Higher Education Act, Official Gazette NO. 60/2015

Ulku, H., (2004): *R&D, innovation, and economic growth: An empirical analysis*, IMF Working Paper, No. 04/185

Wilson, D. J., (2007): *Beggar thy neighbor? The In- State, Out-of-State, and Aggregate Effects of R&D Tax Credits*, Federal Reserve Bank of San Francisco Working Paper Series, No. 2005-08, available on: <http://www.frbsf.org/publications/economics/papers/2005/wp05-08k.pdf>

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**TESTING GIBRAT'S LAW IN CROATIA: COMPARATIVE ANALYSIS  
FOR EASTERN CROATIA**

**TESTIRANJE GIBRATOVA ZAKONA U HRVATSKOJ:  
KOMPARATIVNA ANALIZA ZA ISTOČNU HRVATSKU**

***ABSTRACT***

*According to Gibrat's law, growth rate of the firm is independent of firm's size. This paper empirically tests Gibrat's law on the panel data of Croatian firms during the period from 2006 to 2015. Moreover, we test for any structural differences between full sample and subsample of firms, the subsample comprising the firms that are registered in at least one of the five Slavonian counties. The aim of this paper is to show the importance of taking into consideration regions within countries when testing the Law.*

*Our data comes from Bureau Van Dijk's Amadeus database and originally included more than 80,000 firms. We use panel data analysis to disentangle effects of various firm-level variables on the growth rate of the firms. We use sales of the firm and the number of employees as proxies for the size of the firm. Moreover, we include variables such as the age of the firm, growth opportunities (proxied by ratio of intangible fixed asset to total fixed asset) and solvency ratio, in order to control for variables other than the size that affect the growth rate of the firm. Simple statistics showed that average growth rate of the small firms is almost 2 p.p. higher than the one for medium and large firms, econometric model (fixed effects (FE) model) showed that there exists statistically significant negative connection between size of the firms and their respective growth rates. That is, we reject Gibrat's law for the case of Croatian firms in general. Econometric analysis on subsample of firms from Eastern Croatia showed similar results (size of coefficients and significance) for all variables except the age of the firm. We find that there exist significant structural difference in "age of the firm-growth rate" link between firms in Eastern Croatia as opposed to of the rest of the firms in Croatia. While age of the firm is not significant at all when we estimate the FE model on the whole sample, it is highly significant and positive for the firms in Eastern Croatia. We offer several explanations for that puzzling finding.*

**Key words:** *Gibrat's law, Croatia, panel data analysis, fixed effects.*

***SAŽETAK***

*Prema Gibratovom zakonu, stopa rasta poduzeća je neovisna o veličini poduzeća. Ovaj rad empirijski testira Gibratov zakon na panel podacima hrvatskih poduzeća u razdoblju od 2006. do*

2015. godine. Osim toga, testiramo postojanje strukturnih razlika između cijelog uzorka i poduzorka poduzeća. Poduzorak se sastoji od poduzeća koja su registrirana u najmanje jednoj od pet slavonskih županija. Cilj istraživanja je pokazati važnost uzimanja u obzir regija unutar zemlja pri testiranju Gibratovog zakona.

Podaci su preuzeti s Bureau Van Dijk's Amadeus baze podataka i uključivali su više od 80.000 poduzeća. Koristimo analizu panel podataka kako bi razlučili učinke različitih varijabli na razini poduzeća na stopu rasta poduzeća. Koristimo prihode poduzeća i broj zaposlenih kao zamjenske varijable za veličinu poduzeća. Također, uključili smo varijable kao što su starost poduzeća, potencijal rasta (proxy varijabla je omjer nematerijalne fiksne i ukupne fiksne imovine) te indikator solventnosti kako bi kontrolirali utjecaj i drugih relevantnih varijabli koje imaju utjecaj na stopu rasta poduzeća. Elementarna statistika je pokazala da je stopa prosječnog rasta malih poduzeća skoro 2 postotna poena viša od stope prosječnog rasta velikih poduzeća. Ekonometrijski model (primijenjen je procjenitelj fiksni učinak (FE)) je pokazao da postoji statistički značajna negativna povezanost između veličine poduzeća i stope rasta, što implicira da Gibratov zakon za slučaj Republike Hrvatske nije potvrđen. Ekonometrijska analiza na poduzorku poduzeća iz Istočne Hrvatske je pokazala slične rezultate (veličinu koeficijenta i značajnost) za sve varijable osim starosti poduzeća. Postoji značajna strukturna razlika u „starost poduzeća-stopa rasta“ vezi između poduzeća Istočne Hrvatske i ostalih poduzeća u Republici Hrvatskoj. Starost poduzeća uopće nije značajna kad primjenjujemo FE procjenitelj na cijelom uzorku, međutim vrlo je značajna i pozitivna za poduzeća Istočne Hrvatske. U zaključku nudimo nekoliko objašnjenja za takav rezultat.

**Ključne riječi:** Gibratov zakon, Hrvatska, analiza panel podataka, fiksni učinci.

## 1. Introduction

Theory of industrial organization gives an overview and describes the structure of firms and markets through which firms operate as well as their interactions. Study of industrial organization can be made following two distinct approaches: structure-conduct-performance approach and price theory approach. First one gives an overview of the industrial organization, while the latter uses microeconomic models in order to explain firm behavior and market structure (Carlton & Perloff, 1999, 2). Furthermore, first approach is rather outdated, while the applicative part of the latter one includes statistics and econometrics in order to development and test microeconomic models on real data. There are numerous ways to empirically test different assumptions of the theories of industrial organization and this paper focuses on the Gibrat's law (henceforward the Law). The Law was first promulgated by Robert Gibrat in 1931 in order to explain relationship between size of the firm and growth rate of the firm. Gibrat concluded that the firms' growth rate and size are independent of each other. Mathematically, the Law can be expressed as:

$$x_t - x_{t-1} = \varepsilon_t x_{t-1}, \text{ from which it follows that } x_t = x_{t-1}(1 + \varepsilon_t) \quad [1]$$

where  $x_t$  is the size of the firm in period  $t$ ,  $x_{t-1}$  is size in the previous period and  $\varepsilon_t$  is the stochastic error term. If  $t$  is short time period (month, quarter or maximally one year) we can assume that  $\varepsilon_t$  will be small (this tenuous assumption will be valid for sure if our sample is random and large relative to the population) and that the term  $(1 + \varepsilon_t)$  will be very close to  $\varepsilon_t$  after logarithmic transformation of the equation [1]. That way, we can write the following:

$$\ln x_t \approx \ln x_{t-1} + \varepsilon_1 + \varepsilon_2 + \dots + \varepsilon_t$$

, [2]

Finally, if we assume that  $\varepsilon_t$  are independent and identically distributed, the limiting distribution of  $x_t$  is lognormal. Obviously, and something that was neglected by Gibrat in his original research is the fact the not only distribution of firms' sizes will vary across different industry sectors, but that the microeconomic and macroeconomic surrounding of the firms is ever changing. We would particularly like to emphasize the differences between distribution of firms' sizes between manufacturing and service sectors, different structure of ownership relationship within firms in 1930s when compared with 21th century, as well as globalization, which sometimes dictates macroeconomic policies of even the largest countries, let alone firms. We want to emphasize that for theoretical purpose, assumptions of lognormal distribution of firms' size is still regularly used (Hart, 2000).

In this paper, we argue that not only that one needs to consider different economic surrounding through time when testing the Law, but also regional differences within country (that is spatial dimension along with the time dimension). We argue that by neglecting regional differences when testing the Law can have negative effects of the findings. Technically speaking, obtained estimates of the particular model will be biased and this biasness cannot be corrected by increasing the sample size. The aim of this paper is to prove the importance of taking into consideration regions within countries when testing the Law. We use panel data of Croatian firms during 2006-2015 period. We take into consideration the fact that Law is usually tested for specific sector, but as beforementioned the aim of the paper is to prove regions and regional difference matter even on aggregate data, that is, with all sectors included. Therefore, we test the Law on the full sample and subsamples of firms, the subsamples being firms registered in the counties of Eastern Croatia/Slavonia region – Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem. For a robustness check we estimated the model on other subsamples, containing firms within other major regions in Croatia. Results of these estimations are not presented in this paper and are available upon request.

Section 2 continues with the review of the relevant literature covering the Law. We describe the data in Section 3, while the methodology is explained in Section 4. Results and discussion is contained in Section 5, while we present findings and recommendations for future research in Section 6.

## 2. Literature review

Theories focusing on the explanation of the growth of the firm are numerous, starting from the neoclassical theory that was primarily concerned with the profit maximization and optimal size of the firm. According to neoclassical view optimal size of the firm was closely connected with the profit-maximizing level of production, so the firm's growth was considered deterministic and finite process. Since 1950s, a significant progress in empirical research related to the growth of the firm is evident. Penrose's *The Theory of the Growth of Firm* (1959) is a seminal book that introduced dynamic into neoclassical model, he explains how firm's growth is affected by continuous learning, that is, learning by doing. Penrose stresses the importance of manager, while Marris upgraded on this and become one the pioneers of the managerial theory of the firm. In our paper we focus on the one theory that predates Penrose's and is one step ahead of the neoclassical theory.



Back in 1931, Robert Gibrat gave an important contribution to the theory of the growth of the firm. He stated that the growth rate of the firm is independent of its size at the beginning of the examined period. Later on, Mansfield introduced that "the probability of a given proportionate change in size during a specified period is the same for all firms in a given industry, regardless of their size at the beginning of the period" (Mansfield, 1962 in Lotti et al. 2007, pp. 3). The main problem of the Gibrat's theory that is obvious from its definition, is that it lacks the theoretical underpinnings and is basically oriented to empirical tests. However, Coad argues that the Law can be connected with evolutionary theory. According to him, there are three reasons for this assertion: 1) Gibrat's law connects variance of the growth shocks (see equation [1]) and heterogeneity between firms, 2) stochastic term ( $\epsilon_t$ ) fits into uncertainty of doing business in modern capitalism and 3) firm's current size is viewed as amalgamation of all previous growth shocks (Coad, 2009, pp. 7).

Considerable number of studies tended to show the inverse relationship between the size and growth, thus rejecting the Law. For Sutton (1997), the reason for incompatible results lies in the systematic differences in the sample selection. Hence, the findings vary a lot in this field of empirical research. In the case of manufacturing sector, the findings show that the Law tends to be rejected whilst it is valid in the case of service sector (Nassar et al. 2014). Moreover, the researches were mainly focused on testing the particular sector, while ignoring the attributes of a given country or region. Nevertheless, Ganugi et al. (2005) tested the Law on Italian mechanical companies by splitting them into four macro regions: North-West, North-East, Centre and South. In two out of four macro regions the Law holds, which is in line with our argument that the regional differences do matter. In the case of firms located in the Veneto region, the validity of the Law was turned down as the results showed that in the early stages of the firm's life cycle younger firms grow faster (Piergiovanni, 2010). Another study which rejected the Law was the one conducted by Hoxha (2008) where he used 289 firms established between 1997 and 2002 in Kosovo. The sample consisted of firms from the manufacturing, trade and service sector. As in the previous empirical works which rejected the Law, the results showed that small firms grew faster than large firms.

The Law failed to hold in the case of young firms in manufacturing sector of West Germany, indicating that smaller firms have larger growth potential than larger ones (Almus and Nerlinger, 2000). The aim of the research of Nassar et al. (2014) was to investigate the validity of the Law in developing countries. Their paper presents an overview of empirical findings related to the testing of the Law and the findings were divided into three groups; in the first group are papers which confirm the Law, in the second, those which reject the Law and in the third group the ones with ambiguous results. The conclusion of their analysis is that there is high degree of probability that the results of the testing should be in developing countries, that is that the Law does not hold and that smaller firms tend to grow faster.

The Fujiwara et al. (2008) research was tested on the sample of 260,000 firms across 45 different European countries during 1992-2001 period and the findings showed that the growth rate of each firm was independent of the individual firm's size at the beginning of the study, thus the Law was confirmed. Falka (2008) tested the Law on all European multinational firms, using Bureau Van Dijk's Amadeus database. The aim was to analyse whether the growth of multinational companies differs across countries and industries. The results show the growth rate is decreasing with the size of multinational enterprises, hence the Law was rejected. One of the latest papers was one by Hedija (2016). His testing was focused on the more than 36,000 Czech's private firms during 2008-2013 period. In his paper, the validity of the Law was tested at the industry sector level using Rev.2 (NACE). The study rejected the Law in the case of Czech Republic where smaller firms grow faster comparing with their larger counterparts in the most of private sector.

### 3. Descriptive statistics

Database that we use is obtained from Bureau Van Dijk's Amadeus database and it originally included more than 80,000 firms during 2006-2015 period, that boiled down to 43,115 firms since for a lot of firms, data that we needed for our research were missing/not reported. Table 1 show results of the descriptive statistics for the subsample 1 (all firms except those registered in Slavonia), while Table 2 for the subsample 2, that is, firm registered in Slavonia.

*Table 1 Descriptive statistics for the subsample 1*

|           | (1)     | (2)    | (3)    | (4)     | (5)       |
|-----------|---------|--------|--------|---------|-----------|
| VARIABLES | N       | mean   | sd     | min     | max       |
| age       | 196,632 | 13.82  | 10.54  | 1       | 194       |
| ratio     | 196,632 | 31.61  | 33.29  | -100    | 100       |
| empl      | 196,632 | 27.86  | 228.6  | 2       | 16,604    |
| sales     | 196,632 | 2,727  | 38,793 | 0.00131 | 6.439e+06 |
| intfix    | 196,632 | 0.0520 | 0.165  | 0       | 1         |

*Source: Author's calculations*

If we compare the statistics from Tables 1 and 2, we can observe that all variables have almost the same mean values and have very similar standard deviations values (in 3 from 5 cases). Since simple descriptive statistics on two different samples can be misleading, we employed t-tests in order to check whether there is any statistically significant difference between subsamples. Results showed that there are significant differences between subsamples in two variables – age and solvency ratio. This is important result, since we can expect that the results of inferential statistics on the subsamples will probably be different due the significantly different sample characteristics in particular variables.

*Table 2 Descriptive statistics for the subsample of firm located in Eastern Croatia*

|           | (1)    | (2)    | (3)    | (4)    | (5)     |
|-----------|--------|--------|--------|--------|---------|
| VARIABLES | N      | mean   | sd     | min    | max     |
| age       | 21,117 | 14.08  | 11.30  | 1      | 126     |
| solv      | 21,117 | 30.97  | 31.94  | -99.94 | 100     |
| empl      | 21,117 | 28.76  | 91.34  | 2      | 2,307   |
| sales     | 21,117 | 2,288  | 12,499 | 0.0105 | 488,674 |
| intfix    | 21,117 | 0.0502 | 0.164  | 0      | 1       |

*Source: Author's calculations*

We also compared average growth rate of small firms with average growth rate of medium sized and large firms. Small firms during observed period grew faster on average than larger counterparts. Average growth of small firms was 5.67% while medium sized and large firms grew 3.70% on average. This also can be considered as an indicator of the results of inferential statistics.

### 4. Methodology

We used panel data analysis on firm-level data in order to test the Law. In order to decide which panel data estimator is best suited to our sample of firms we used two approaches. The first one was purely intuitive; we applied economic theory on our database and deduced that since our database contains all active firms operating in Croatia that are covered by Amadeus, heterogeneity in the sample due to existing idiosyncrasies between firms in more than one dimension will be substantial, for example, due to structural differences between micro firms and large firms, differences between firms across different sectors etc. Moreover, it was plausible to assume that these idiosyncrasies will be correlated with regressors. These facts singled out fixed effects (FE)

estimator as the most appropriate to our needs. We didn't consider dynamic linear panel estimators since observed time period is relatively short and panel data is unbalanced. On unbalanced panel data, estimates obtained after employing dynamic estimators turn to be quite sensitive when model specification changes, that is, they are usually not robust. Second approach to deciding which estimator to use was purely technical, we started with Breusch-Pagan LM test in order to check whether heterogeneity assumption is valid; assumption turned out to be correct, since  $H_0$  of constant variance across panel unit was rejected. So, we discarded pooled ordinary least squares estimator as an option. Then we employed Hausman test in order to see whether FE or random effects (RE) estimator is best suited to our sample. Hausman test was in favor of FE estimator, as we assumed using intuitive approach. Results of all both tests (BPML and Hausman test) are available upon request.

In order to test the Law we developed the following economic model:

$$growth = f(sales, empl, age, solv, intfix) \quad [1],$$

where variable *growth* is measured as the difference in levels of sales between year  $t$  and  $t-1$ , *sales* are revenues of the firm, *empl* is the level of employment, *age* is variable calculated as the difference between current year and the year of incorporation, *solv* is the ratio of shareholders' equity and total assets of the firm, and *intfix* is the ratio of intangible and tangible fixed assets. For purposes of testing the Law, first three variables are usually taken as regressors while other two variables are relatively "new" in this research field (for example, Serrasqueiro&MacasNunes, 2016, use it for explaining the growth in Portuguese small and medium-sized hotels). Solvency ratio determines how much shareholders would receive in the case of liquidation of the firm and is a proxy for the financial health of the company. We use *intfix* as a proxy for firm's growth opportunities. In both cases we expect positive sign of estimated coefficients.

If we simplify equation [1] and translate it into simple linear econometric model in order to explain what would be the main indicator for or against the Law, we end up with the following equation:

$$\ln growth_{it} = \beta_0 + \beta_1 \ln sales_{i,t-1} + \varepsilon_{it} \quad [2]$$

If the Law holds, then coefficient of the lagged value of sales ( $\beta_1$ ) should be equal to one. If the coefficient is either smaller or larger than one, we reject the Law. Moreover, if  $\beta_1$  is smaller than one, then smaller firms grow faster than larger firms and vice versa, if  $\beta_1$  is larger than one.

From [2] we can further develop full econometric model of our paper:

$$growth_{it} = \beta_0 + \beta_1 sales_{i,t-1} + \beta_2 empl_{i,t-1} + \beta_3 age_{i,t-1} + \beta_4 solv_{i,t-1} + \beta_5 intfix_{i,t-1} + \alpha_i + \lambda_t + u_{it} \quad [3]$$

First term is the constant ( $\beta_0$ ), while next five variables are the same as the ones used in equation [1]. Last three terms are idiosyncratic error unique to the particular firm ( $\alpha_i$ ), year fixed effects ( $\lambda_t$ ) through which we control aggregate effects on  $growth_{it}$  that are not attributed to five regressors and stochastic disturbance ( $u_{it}$ ) respectively. We emphasize that in equation [3] we use first lags of regressors to reduce endogeneity problems. Also, growth is calculated as the difference in natural logs of sales between time  $t$  and  $t-1$ ; sales and employment variables are also expressed in natural logs, so their coefficients are interpreted as percentage change. Solvency and growth opportunity are expressed as ratio and since the dependent variable is logged, the coefficients need to be multiplied by 100 before interpretation.

## 5. Results and discussion

Results of the estimation of equation [3] are shown in Table 4. It is obvious that the Law doesn't hold for Croatian firms as well as for the Slavonian firms. First column shows estimation results for all firms in Croatia that had available financial data in Amadeus, second column for all firms except firms registered in one of the five Slavonian regions, while the third column shows results for Slavonian firms only (subsample 2). Moreover, employment is significant, but only mildly positive. Again, since employment level is also a proxy for the size of the firm (we tested size of correlation between sales and employment in order to avoid problems that brings potential multicollinearity; variables are moderately correlated but estimation of equation [3] with and without employment doesn't affect the size of the sales coefficient), this add to the previous conclusion that the Law doesn't hold.

*Table 4 Results of the estimation of equation [3]*

|                  | (1)                       | (2)                      | (3)                      |
|------------------|---------------------------|--------------------------|--------------------------|
|                  | Full sample               | Subsample 1              | Subsample 2              |
| VARIABLES        | growth                    | growth                   | growth                   |
| L.Insales        | -0.549***<br>(0.00707)    | -0.546***<br>(0.00739)   | -0.572***<br>(0.0239)    |
| L.Inempl         | 0.0493***<br>(0.00565)    | 0.0486***<br>(0.00588)   | 0.0551***<br>(0.0200)    |
| L.age            | 0.149***<br>(0.00171)     | -0.0124***<br>(0.000951) | 0.156***<br>(0.00597)    |
| L.intfix         | 0.0405**<br>(0.0180)      | 0.0339*<br>(0.0191)      | 0.111**<br>(0.0522)      |
| L.solv           | 0.000379***<br>(0.000108) | 0.000286**<br>(0.000113) | 0.00137***<br>(0.000360) |
| Constant         | 1.901***<br>(0.0416)      | 3.332***<br>(0.0441)     | 1.930***<br>(0.137)      |
| Year FE included | Yes                       | Yes                      | Yes                      |
| Observations     | 167,973                   | 151,653                  | 16,320                   |
| R-squared        | 0.302                     | 0.300                    | 0.322                    |
| Number of id     | 35,561                    | 32,096                   | 3,465                    |

*Source: Author's calculations*

Size of the coefficient of the variable age showed that there is large and significant difference between the effects of the age between subsample 1 (all firms without those registered in Slavonia) and subsample 2. Possible interpretation of this result is that older firms have obviously surpassed minimum efficient scale, and since descriptive statistics showed that the average firm in Slavonia is older when compared to the average firm in the rest of Croatia (and t-test showed that the difference is significant) it is more likely that these firms will grow faster. Another interpretation (although we admit, a stretched one) is that consumers in Eastern Croatia appreciate more tradition and therefore are buying more from well known local firms (in general, since we don't differentiate across different sector). Finally, the problem is that in both subsamples only 16% of the firms survived during observed period. That affects the results for sure, since the subsample that we estimated for the robust check and which contained only firms that survived during the whole period, age was not significantly different between two subsamples (we again divided that subsample in order to distinguish between Slavonian and rest-of-the Croatia firms). Based on this fact, we argue that higher attrition rate for the firms registered in Slavonia region when compared with the rest of the firms in Croatia is the reason for different sizes in coefficients between subsamples.

Last two variables, growth opportunities and solvency ratio had predicted signs for both subsample 1 and subsample 2. This confirms theoretical assumption and shows that intangible

assets are important factor that affects firms' growth and that there is positive link between solvency ratio and growth rate of the firm.

## 6. Conclusions

Testing of the Gibrat's law has been intensive since Gibrat's original formulation. In this paper, we used panel data analysis to test the validity of the Law on the sample of Croatian firms, from which we made two subsamples. We were not focused on any sector in particular since we wanted to test the importance of accounting for the regional differences when testing the Law. We focused on one region in particular – Slavonia (subsample 2) and compared results with the subsample 1 (all firms except those registered in Slavonia region). This is our main contribution to the existing empirical research in this field for the case of Croatia. Moreover, for the purposes of robust check, we tested the Law of subsamples consisting of firms registered in other Croatian macro regions, but the results were in line with the subsample 1.

Results of the testing were against the Law on both subsamples and indicated that smaller firms grow faster. All variables except the age were similar between subsamples. The coefficient for the age from subsample 2 affected the size of the coefficient for the whole country. We can only conclude that the higher attrition rate of the firms in Slavonia when compared with the rest of the country paired with significantly older firms on average in Slavonia region affected the results. Future research should be focused on the survival analysis of the firms registered in Slavonia and comparison of those survival rates with survival rates of firms located in other Croatian macro regions.

## REFERENCES

- Almus, M. and Nerlinger, E. A. (2000): *Testing "Gibrat's Law" for Young Firms: Empirical Results for West Germany*, Small Business Economics, Vol. 15, No. 1, pp. 1-12.
- Carlton, D. W., Perloff, J. M. (1999): *Modern Industrial Organisation*, Pearson/Addison Wesley.
- Coad, A. (2009): *The Growth of Firms – A Survey of Theories and Empirical Evidence*, Evolutionary Economics Group, Max Planck Institute of Economics, Germany, Edward Elgar Publishing Limited, UK.
- Ganugi, P., Grossi L, Gozzi, G. (2005): *Testing Gibrat's law in Italian macro-regions: analysis on a panel of mechanical companies*, Statistical Methods & Applications, Vol. 14 pp. 101-126.
- Gibrat, R. (1931): *Les inégalités économiques*, Librairie du Recueil Sirey, Paris.
- Falk, M., (2008): *Testing Gibrat's Law for European Multinational Enterprises*, FIW Research Report N° 014 / Foreign Direct Investment, WIFO, Wien.
- Fujiwara, Y., Guilmi, C., Aoyama, H., Gallegati, M., and Souma, W. (2008): *Do Pareto-Zipf and Gibrat's Law Hold True? An Analysis with European Firms*, arXiv: 0310061.
- Hart, P. E. (2000): *Theories of Firms' Growth and the Generation of Jobs*, Review of Industrial Organization, Vo. 17, pp. 229-248.
- Hedija, V. (2016): *The validity of Gibrat's law in individual sectors of Czech economy*, 3rd International Multidisciplinary Scientific Conference on Social Sciences and Arts SGEM, SGEM

2016 Conference Proceedings, Book 2, Vol. 5, 897-904 pp, Available at [www.sgemsocial.org](http://www.sgemsocial.org)(accessed 8March 2017).

Hoxha, D. (2008): *Entrepreneurship, employment and fast-growing firms in Kosova*, World Review of Entrepreneurship, Management and Sustainable Development, Vol. 4, No. 2-3, pp. 203-217.

Lotti, F., Santarelli E., Vivarelli, M. (2007): *Defending Gibrat's Law as a Long-Run Regularity*, Discussion Paper No. 2744, The Institute for the Study of Labor (IZA), Bonn.

Nassar I.A, Almsafirb M. A., Al-Mahrouqc, M. H. (2014), *The Validity of Gibrat's Law in Developed andDeveloping Countries (2008-2013): Comparison BasedAssessment*, Procedia - Social and Behavioral Sciences 129, pp. 266 – 273.

Penrose, E. T. (1958): *The Theory of the Growth of the Firm*, Oxford, UK: Basil Blackwell.

Piergiovanni, R. (2010): *Gibrat's Law in the Third Italy: Firm Growth in the Veneto Region*, Growth and change: A journal of urban and regional policy, Vol. 41, No. 1, pp. 28-58.

Serrasqueiro, Z., MacasNunes, P. (2016): *Determinants of growth in Portuguese small and medium-sized hotels: empirical evidence using panel data models*, Tourism Economics, Vol. 22, No. 2, pp. 375-396.

Sutton, J. (1997):*Gibrat's legacy*, Journal of Economic Literature, Vol. 35, No. 1, pp. 40-59.

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## **ANALYSIS OF THE RESULTS OF TRAFFIC PARTICIPANTS' TIME OF REACTION RESEARCH FOR PREVENTION OF TRAFFIC INSECURITY**

### **ANALIZA REZULTATA MJERENJA VREMENA REAKCIJE PROMETNIH SUDIONIKA U PREVENCIJI PROMETNE NESIGURNOSTI**

#### ***ABSTRACT***

*The time of reaction of both drivers and pedestrians has a considerable role in avoiding traffic accidents in the conflict zone. Children as pedestrians are legitimate traffic participants in the urban transportation network and the preconditions of their safety in traffic are appropriate reactions and respect of the traffic regulations.*

*The time of reaction of the target group, which encompasses children of preschool and early school age (up to 10 years of age), and the control group, which includes adult drivers, was measured in terms of internal project of the Faculty of Civil Engineering called Micro-simulation Modelling of Pedestrian Movement of Children. The time of reaction was measured in controlled conditions, using the same methodology for both target and control groups. The basic statistical interpretation of the results gives clear indication that the time of reaction*



*follows the cognitive development of children and that they are especially vulnerable as participants in traffic. The research of children's behaviour in real traffic conditions is in process because the time of the reaction of children is influenced by various real traffic, spatial, and situational factors which prolong it, in comparison to time measured in controlled conditions. The goal of this research is to increase the safety of urban traffic network in close vicinity of schools and kindergartens in Osijek. Current results of the research clearly point to the necessity for additional social efforts to adjust the traffic environment to the most vulnerable of its participants.*

**Key words:** *safety of children as pedestrians, urban traffic safety, reaction time measurement*

## SAŽETAK

*U izbjegavanju prometne nezgode u konfliktnoj zoni značajnu ulogu imaju vrijeme reakcije kako vozača, tako i pješaka. U urbanoj prometnoj mreži djeca pješaci su punopravni prometni sudionici, a preduvjet njihove prometne sigurnosti su pravovremene reakcije i poštivanje prometnih pravila. U okviru Internog projekta Građevinskog fakulteta Mikrosimulacijsko modeliranje pješačkog kretanja djece izmjereno je vrijeme reakcije ciljne skupine koja obuhvaća djecu predškolske dobi i rane školske dobi (do 10 godina) i kontrolne skupine koja obuhvaća odrasle prometne sudionike, vozače. Vrijeme reakcije izmjereno je u laboratorijskim uvjetima, istom metodologijom za ciljnu i kontrolnu skupinu. Osnovna statistička obrada rezultata daje jasnu indiciju da vrijeme reakcije prati kognitivan razvoj djece i da su djeca posebno ranjivi prometni sudionici. U tijeku je istraživanje ponašanja djece u realnim prometnim uvjetima, jer se vrijeme reakcije djece pod utjecajem različitih realnih prometnih, prostornih i situacijskih faktora produžava u odnosu na izmjereno u laboratorijskim uvjetima. Cilj ovog istraživanja je nizom regulacijskih i građevinskih mjera povećati sigurnost urbane prometne mreže grada Osijeka u blizini škola i dječjih vrtića. Dosadašnji rezultati istraživanja jasno upućuju na to da je neophodan dodatni društveni angažman da se prometno okruženje u najvećoj mogućoj mjeri prilagodi najranjivijim prometnim korisnicima.*

**Ključne riječi:** *pješačka sigurnost djece, urbana prometna sigurnost, mjerenje vremena reakcije*

## 1. Introduction

In preventing traffic insecurity, the influential factors are divided into ones connected to the characteristics of the traffic (traffic load, structure of the traffic flow, etc.), traffic regulation, physical characteristics of the conflict zone (size, channelling of the traffic flows, available visibility, etc.), and the behaviour of the participants in traffic. The functioning of a traffic system is under the influence of various aspects of human behaviour (Onieva et al., 2012), in which the time of reaction is one of the most influential parameters in traffic safety. The reaction time is influenced by predictability of a situation (Stańczy et al., 2011), as well as the age, gender and cognitive abilities (Summala, 2000), distractions due to phone calls and conversations with passengers (Consiglio et al., 2003), lack of sleep, travel distance and driving experience (Philip et al., 1999). Studies of behaviour of children in a traffic environment show that there is a substantial difference in risk perception across different age groups (Hillier, Morrongiello, 1998). A number of studies suggest that children's development of different cognitive skills, such as attention to the relevant stimuli in traffic situations (Foot et al., 1999), selective attention/attention switching (Dunbar, Hill, Lewis, 2001, Barton, 2006), and decision-making is related to increased pedestrian safety and that relevant skills improve as children get older (Demetre, 1997, Connelly et al., 1998, Pitcairn, Edlmann, 2000). Those processes also overlap with other developing skills, such

as perceptual abilities, including visual search skills and aural perception (Schwebel, Davis, O'Neal, 2012, Whitebread, Neilson, 2000, Pfeffer, Barneccut, 1996).

In a potential conflict between a vehicle and a pedestrian, the reaction times of both, the driver and the pedestrian influence the final outcome of the conflict. The project *Microsimulation Modelling of Pedestrian Movement of Children* has the aim to improve the pedestrian safety of children between the ages of 5 and 10 in the transportation network of the city of Osijek. Generally, children are more vulnerable in road traffic than other road users so it is very important to obtain good data about their participation in the traffic system so that appropriate strategies can be implemented (Limbourg, 2010). The indicators of the risky behaviour were analysed in the real traffic environment and the reaction time of children and adult traffic participants were measured in controlled, and in real traffic conditions. The results of the measurement of the time of reaction of the target and control group in controlled conditions are presented in this work.

## **2. Methodology**

Being mobile is a basic precondition in the child's gradual development. Mobility, however, can be seen as a double-edged sword: on the one hand it helps children to explore the world, but on the other hand it exposes them to risks. Nonetheless, it would be wrong to reduce children's independent mobility to diminish their risk of dying in an accident. By contrast, actions need to be taken to promote autonomous mobility of children by providing a child-friendly traffic environment (Ištoka Otković, Ručević, Borovac, 2016). The aim of the present study is to increase the safety of urban traffic network in close vicinity of schools and kindergartens in Osijek. Current results of the research clearly point to the necessity for additional social efforts to adjust the traffic environment to the most vulnerable of its participants.

The target group comprised 356 children attending kindergartens ("Pčelica" and "Mak"), and the first three grades in two elementary schools ("Fran Krsto Frakopan", and "Jagoda Truhelka") in Osijek. The control group consists of 180 drivers from Osijek. Reaction time in both groups was measured in controlled conditions, using the same methodology. Hypotheses of research related to the reaction time measured under laboratory conditions are expected:

H1 reaction time follows cognitive development of children,

H2 adult participants (drivers) have faster reaction time when compared to children.

## **3. Results of the Research**

### **3.1. General Data about the Participants**

Age and gender structure of the target group are shown in Table 1 and Table 2, respectively. The age structure of the participants is a direct consequence of the available number of children whose parents had agreed to this research in the mentioned elementary schools and kindergartens. Table 2 shows the number of male and female participants from the target group. As the number of both genders is equal, the sample is guaranteed to be representative.

*Table 1 Participants from the target group in regard to age*

| AGE                   | TOTAL NUMBER OF THE PARTICIPANTS | PERCENTAGE OF THE PARTICIPANTS |
|-----------------------|----------------------------------|--------------------------------|
| Preschool             | 74                               | 21%                            |
| 1 <sup>st</sup> grade | 114                              | 32%                            |
| 2 <sup>nd</sup> grade | 68                               | 19%                            |
| 3rd grade             | 100                              | 28%                            |
| TOTAL                 | 356                              | 100%                           |

*Source: Authors*

*Table 2 Participants from the target group in regard to gender*

| GENDER | TOTAL NUMBER OF THE PARTICIPANTS | PERCENTAGE OF THE PARTICIPANTS |
|--------|----------------------------------|--------------------------------|
| Male   | 172                              | 48%                            |
| Female | 184                              | 52%                            |
| TOTAL  | 356                              | 100%                           |

*Source: Authors*

Table 3 shows the age structure of the participants from the control group. All participants had agreed to be engaged in the research and they were chosen randomly, with only exception being the age limitation between 20 and 50 years of age.

*Table 3 Participants from the control group across different age groups*

| AGE          | TOTAL NUMBER OF THE PARTICIPANTS | PERCENTAGE OF THE PARTICIPANTS |
|--------------|----------------------------------|--------------------------------|
| Less than 20 | 6                                | 3%                             |
| 20 - 29      | 54                               | 30%                            |
| 30 - 39      | 41                               | 23%                            |
| 40 - 49      | 52                               | 29%                            |
| 50 - 59      | 19                               | 10%                            |
| 60 - 69      | 7                                | 4%                             |
| More than 69 | 1                                | 1%                             |
| TOTAL        | 180                              | 100%                           |

*Source: Authors*

Gender structure of the participants from the control group is displayed in the Table 4.

*Table 4 Participants from the control group with respect to gender*

| GENDER | TOTAL NUMBER OF THE PARTICIPANTS | PERCENTAGE OF THE PARTICIPANTS |
|--------|----------------------------------|--------------------------------|
| Male   | 115                              | 64%                            |
| Female | 65                               | 36%                            |
| TOTAL  | 180                              | 100%                           |

*Source: Authors*

In the control group consisting of drivers, the male participants were more frequent (64%) than female (36%) as shown in the Table 4.

### 3.2. Results of the Reaction Time Measurement

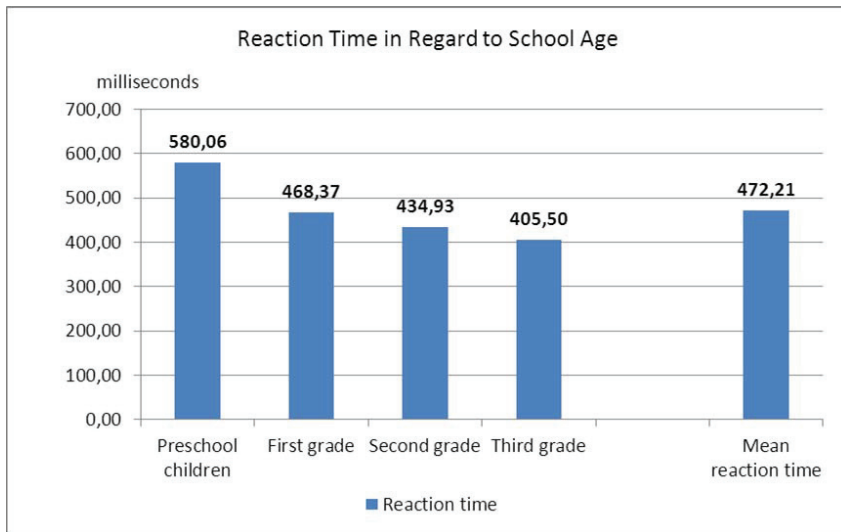
The reaction time was measured in controlled conditions, using the Human benchmark Reaction time test<sup>1</sup> on all participants, and the additional data was gathered through a survey of the target and control group.

**Table 5** The average reaction time of the participants from the control group across different age groups

| AGE                   | TIME OF REACTION<br>[milliseconds] |
|-----------------------|------------------------------------|
| Preschool             | 580,06                             |
| 1 <sup>st</sup> grade | 468,37                             |
| 2 <sup>nd</sup> grade | 434,93                             |
| 3 <sup>rd</sup> grade | 405,50                             |
| AVERAGE               | 472,21                             |
| AVERAGE OF THE ADULTS | 315,50                             |

Source: Authors

**Figure 1** Measured reaction time of the participants from the target group across different age groups



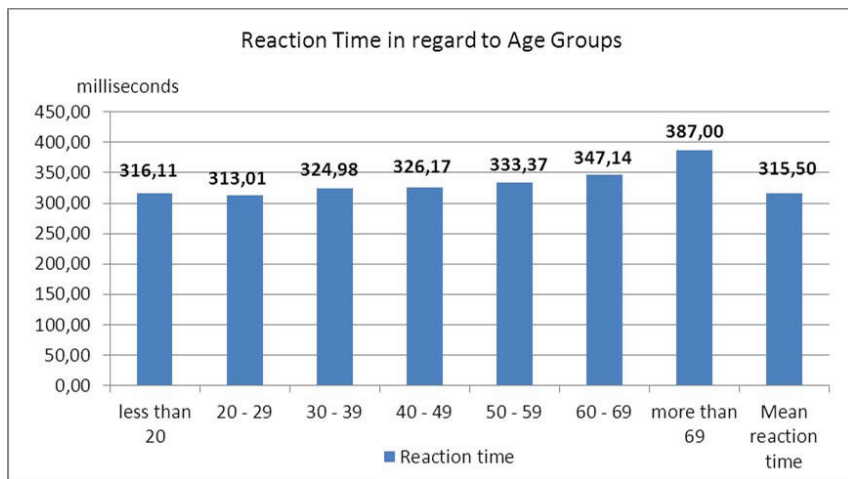
Source: Authors

From the gathered data which is shown in the Table 5 and Figure 1, we can observe that there is a cognitive leap between the groups of participants. The older participants showed faster reaction time than the younger ones, which points to the correlation between the time of reaction to the stimulus and the cognitive development of the child which confirms the first hypothesis. The most noticeable difference was visible between the children of the preschool age and the 1<sup>st</sup>

<sup>1</sup> <http://www.humanbenchmark.com/tests/reactiontime>

grade of elementary school, which suggests that this is the age at which the greatest cognitive leap in the development of a child happens. This can be connected to the Table 6 which shows that this is the period when children usually start going to school unsupervised. When comparing the average reaction time of children (Figure 1) to that of adults, (Figure 2) it is evident that the adult participants have faster reaction time than children, as hypothesized. The adult participants in traffic should bear in mind that children need more time to react to a certain traffic situation. According to the research results, the parents have exceedingly high expectations of preschool and early school age children (the research covered children under the age of 10) and less than 20% of surveyed parents know that the cognitive abilities of children in this developmental stage are such that they cannot fully process complex traffic situations and assess the risks (Rivara, Bergman, Drake, 1989, Gielen, DeFrancesco, Bishai, 2004).

**Figure 2** Measured reaction time of the participants from the control group in regard to age

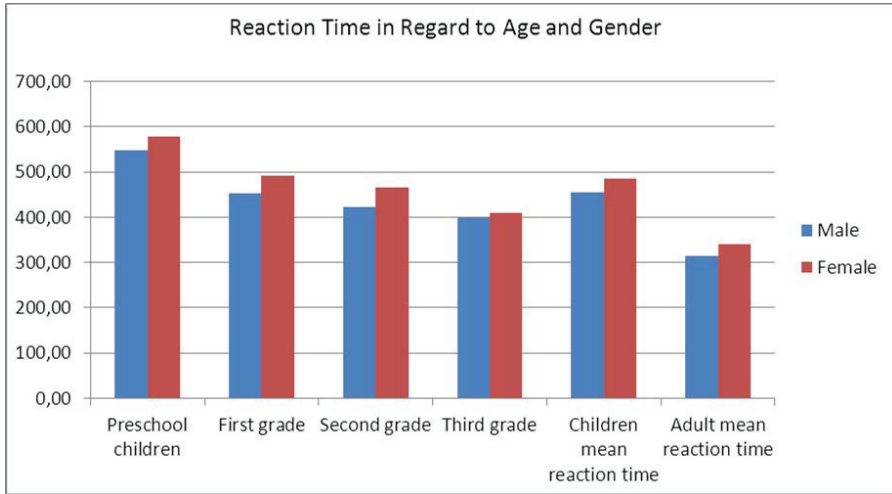


Source: Authors

The reaction time of children is significantly affected by age, gender, control of inhibitors, parental supervision (Barton, Schwebel, 2007) and developmental difficulties, such as hyperactivity (Fischer, et al., 2007).

In accordance to the results displayed in the Figure 3, it is evident that there is a link between the reaction time and gender of the participants. In all mentioned instances, from the preschool age to the adult control group, male participants had faster reaction time than female. Diagram in the Figure 3 clearly shows that the reaction time of male participants from the 1<sup>st</sup> grade of elementary school was faster than that of female participants from the 2<sup>nd</sup> grade, which confirms the results of the research shown in the literature that gender and personality traits have a great influence on the reaction time. Diagram in the Figure 3 shows that as early as the 3<sup>rd</sup> grade of elementary school, the difference in the reaction time between male and female participants becomes smaller.

**Figure 3** The mean reaction time of the participants in regard to gender



Source: Authors

### 3.3. Other Acquired Data

Supervision, meaning movement accompanied by an adult, has a notable influence on the safety of movement of children as pedestrians, especially of preschool and early school age children. By conducting a survey among the participants from the target group, the data on the means of their transportation to kindergarten and school was collected. Data indicates that preschool children are mainly driven or accompanied by adults on their way to kindergarten/school, while early school age children usually move unsupervised by adults (Table 6).

**Table 6** Children who go to school or kindergarten unsupervised and children who are accompanied by adults

| AGE                         | UNSUPERVISED | SUPERVISED  | NO ANSWER | TOTAL OF RESPONDENTS |
|-----------------------------|--------------|-------------|-----------|----------------------|
| <b>Preschool</b>            | 1            | 71 (95,9%)  | 2         | 74                   |
| <b>1<sup>st</sup> grade</b> | 66           | 47 (41,2%)  | 1         | 114                  |
| <b>2<sup>nd</sup> grade</b> | 52           | 16 (23,5%)  | 0         | 68                   |
| <b>3<sup>rd</sup> grade</b> | 80           | 20 (20%)    | 0         | 100                  |
| <b>TOTAL</b>                | 199          | 154 (43,3%) | 3         | 356                  |

Source: Authors

As can be seen in Table 6, preschool children move in traffic under the supervision of the adults. Among them, only one stated that he/she goes to the kindergarten unsupervised, while 71 participants (96%) claimed that they move under supervision of adults. The difference emerges at the early school age when children start going to school unaccompanied. Thus, children in the 1<sup>st</sup> grade go alone to school in 59% of the cases, children in the 2<sup>nd</sup> grade in 77% of the cases, while children in the 3<sup>rd</sup> grade in 80% of the cases. It should be noted that the children could give multiple answers to this question so there are situations in which the children occasionally go to school unsupervised, while in other occasions they are accompanied by adults. However, similar

results appear in Germany where in year 2000, 52% of children in the age 6 to 7 went alone to school, and in the age of 8 to 9, 84 % of children went alone to school or were accompanied with their schoolmates (Limbourg, 2010).

*Table 7 Means of learning about the behaviour in traffic*

| AGE                   | DID NOT LEARN | IN SCHOOL/ KINDERGARTEN | FROM PARENTS | FROM OTHERS | NO ANSWER | TOTAL OF STUDENTS |
|-----------------------|---------------|-------------------------|--------------|-------------|-----------|-------------------|
| Preschool             | 2             | 37                      | 59           | 11          | 2         | 74                |
| 1 <sup>st</sup> grade | 3             | 36                      | 83           | 16          | 2         | 114               |
| 2 <sup>nd</sup> grade | 1             | 32                      | 56           | 3           | 1         | 68                |
| 3 <sup>rd</sup> grade | 2             | 40                      | 85           | 5           | 0         | 100               |
| <b>TOTAL</b>          | <b>8</b>      | <b>145</b>              | <b>283</b>   | <b>35</b>   | <b>5</b>  | <b>356</b>        |

*Source: Authors*

As can be seen in Table 7, most of the participants from the target group (79%) have learned about the behaviour in traffic from their parents. They are followed by the group who have learned about the acceptable behaviour in traffic in school or kindergarten (40%). It is important to emphasise that the participants, just like in the previous question, could give multiple answers to this one as well.

#### **4. Conclusion**

The results of the measured reaction time of 356 participants from the target group and 180 participants from the control group show that the participants from the target group (children between 5 and 10 years) have longer reaction time than adult members of the control group. The results of the reaction time (stimulus-response) were acquired through the computer test in controlled conditions, in which the method of testing was detailed and the participants were focused while the stimulus was expected. The sequel of the research is focused on the behaviour of children in the real traffic conditions and the first results show that the reaction time of children in the real conditions is longer than that in the controlled conditions. The reaction time of children in traffic in real conditions is significantly influenced by all types of distractions, which is often the case when moving in groups. The random crossing of the road is typical for the unsupervised children of preschool and early school age which poses a specific problem of safety. Having in mind that the cognitive development of children notably influences the reaction time, it is necessary to put extra efforts in adjusting the urban traffic networks in vicinity of schools and kindergartens to the needs of the most vulnerable of their participants. Visibility greater than the minimal stopping one, additional testing of the visibility on the pedestrian crossings used by children in regard to the height of the youngest of the traffic participants, reduction of speed of the traffic flow using precautions in appeasement of traffic, setting protective fencing in vicinity of tramway, installation of traffic lights, continuous education of the target group, organised adult supervision on the critical points in the vicinity of schools and kindergartens (the efforts of European countries in engaging retirees, with minimal compensation, in helping children in traffic serve as positive evidence) are just few of many precautions which should be analysed for every target location of the urban traffic network according to its characteristics.



## REFERENCES

- Barton B. (2006). *Integrating selective attention into developmental pedestrian safety research*, Canadian Psychology Vol. 47(3), pp. 203–210. <http://dx.doi.org/10.1037/cp2006010>
- Barton, B. K., Schwebel, D. C. (2007). *The Roles of Age, Gender, Inhibitory Control, and Parental Supervision in Children's Pedestrian Safety*, Journal of Pediatric Psychology 32(5) pp. 517–526, doi:10.1093/jpepsy/jsm014
- Connelly, M. J., Conaglen, H. M., Parsonson, B. S., Isler, R. B. (1998). *Child pedestrians' crossing gap thresholds*. Accidents Analysis and Prevention, Vol.30(4), pp. 443–453. [http://dx.doi.org/10.1016/s0001-4575\(97\)00109-7](http://dx.doi.org/10.1016/s0001-4575(97)00109-7)
- Consiglio, W., Driscoll, P., Witte, M., Berg, W. P. (2003). *Effect of cellular telephone conversations and other potential interference on reaction time in a braking response*, Accident Analysis and Prevention 35, pp. 495–500, doi:10.1016/S0001-4575(02)00027-1
- Demetre, J. D (1997). *Applying developmental psychology to children's road safety: Problems and prospects*. Journal of Applied Developmental Psychology Vol.18(2), pp. 263–270. [http://dx.doi.org/10.1016/s0193-3973\(97\)90040-x](http://dx.doi.org/10.1016/s0193-3973(97)90040-x)
- Dunbar, G., Hill, R., Lewis, V. (2001). *Children's attentional skills and road behaviour*, Journal of Experimental Psychology: Applied, Vol. 7 (3), pp. 227–234. <http://dx.doi.org/10.1037/1076-898x.7.3.227>
- Fischer, M., Barkley, R. A., Smallish, L., Fletcher, K. (2007). *Hyperactive children as young adults: Driving abilities, safe driving behaviour, and adverse driving outcomes*, Accident Analysis and Prevention Vol.39 (1), pp. 94–105, DOI: 10.1016/j.aap.2006.06.008
- Foot H, Tolmie A, Thomson J, McLaren B, Whelan K. (1999) *Recognizing the hazards*, Psychologist, Vol 12(), pp. 400–402.
- Gielen, A.C., DeFrancesco, S., Bishai, D. (2004): *Child Pedestrians: the Role of Parental Beliefs and Practices in Promoting Safe Walking in Urban Neighbourhoods*, Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 81 (4), pp.545-555
- Hillier, L.M., Morrongiello, B.A. (1998). *Age and Gender Differences in School-Age Children's Appraisals of Injury Risk*, Journal of Pediatric Psychology, Vol. 23 (4), pp. 229-23
- Ištoka Otković, I., Ručević, S., Borovac, T. (2016). *Pedestrian safety of children in an urban Transportation network-research review -Sigurnost pješačkog kretanja djece u urbanoj prometnoj mreži –pregled istraživanja*. U: Mašek Tonković,A. (ur.) 5th International Symposium „Economy of Eastern Croatia-Vision and Growth“. Sveučilište J.J. Strossmayera u Osijeku, Ekonomski fakultet u Osijeku.(405-413).
- Limbourg,M.(2010). *Kinder unterwegs im Straßenverkehr*. Düsseldorf: Unfallkasse Nordrhein-Westfalen
- Onieva, E., Milanes, V., Villagra, J., Perez, J., & Godoy, J. (2012). *Genetic optimization of a vehicle fuzzy decision system for intersections*. Expert Systems with Applications, 39, 13148–13157.

- Pfeffer, K., Barnecutt, P. (1996). *Children's auditory perception of movement of traffic sounds. Child: Care, Health and Development*, Vol. 22(2), pp. 129–137. <http://dx.doi.org/10.1111/j.1365-2214.1996.tb00780.x>
- Philip, P., Taillard, J., Quera-Salva, M. A., Bioulac, B., Kerstedt, T. A. (1999). *Simple reaction time, duration of driving and sleep deprivation in young versus old automobile drivers*, *Journal of Sleep Research* Vol. 8 (1), pp.9-14
- Pitcairn, T. K., Edlmann, T. (2000). *Individual differences in road crossing ability in young children and adults*. *British Journal of Psychology*, Vol. 91(3), pp. 391–410. <http://dx.doi.org/10.1348/000712600161899>
- Rivara, F.P., Bergman, A.B., Drake, C. (1989): Parental attitudes and practices toward children as pedestrians, *Pediatrics* Vol. 84, pp.1017–1021.
- Schwebel, D.C., Davis, A. L., O'Neal, E. E. (2012). *Child Pedestrian Injury: A Review of Behavioral Risks and Preventive Strategies*. *American Journal of Lifestyle Medicine*, Vol. 6(4), pp. 292–302. <http://dx.doi.org/10.1177/0885066611404876>
- Stańczyk, T. L., Jurecki, R., Jaśkiewicz, M., Walczak, S., Janczur, R. (2011). *Researches on the reaction of a pedestrian stepping into the road from the right side from behind and an obstacle realized on the track*, *Journal of KONES Powertrain and Transport*, Vol. 18 (1), pp. 615-622
- Summala, H., (2000). *Brake Reaction Times and Driver Behaviour Analysis*, *Transportation human factors*, Vol.2(3), pp.217–226
- Whitebread, D., Neilson, K. (2000). *The contribution of visual search strategies to the development of pedestrian skills by 4-11 year-old children*. *British Journal of Educational Psychology*, Vol. 70(4), pp. 539-557. <http://dx.doi.org/10.1348/000709900158290>

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## **TRADITIONAL WINE ARCHITECTURE IN CROATIA AS A RESOURCE FOR THE REVITALIZATION OF WINE REGIONS**

### **TRADICIJSKA VINOGRADARSKA ARHITEKTURA HRVATSKE KAO RESURS ZA REVITALIZACIJU VINSKIH REGIJA**

#### **ABSTRACT**

*Traditional wine architecture is part of agricultural architectural heritage built from wood, stone or clay (depending on the region). Man built this type of structure in unison with nature, but he built it in accordance to the general social, economic and cultural conditions. Usually such structures are located near or in the vineyard, are small in size, embedded in the landscape and represent traditional architectural heritage.*

*A relatively large number of traditional wine architecture is still preserved in Croatia, yet only a tiny fraction of it has been protected as cultural goods. Although traditional wine architecture is an important element of regional cultural landscape, its survival is not economically profitable unless it is given a new function and purpose. Given the noticeable trend of intensive abandoning and/or devastation of traditional wine architecture in the last three decades under the pressure of globalisation, this research focuses on understanding and interpreting traditional wine architecture for the needs of sustainable development.*

*The starting point of this paper is that traditional wine architecture as heritage can be a factor of revitalization of wine regions. The goal of the paper is, through field trips and scientific literature analysis, to determine the factors, characteristics and values of traditional wine architecture as heritage in so that it can be characterised as a resource in the preparation of wine region development plans.*

*Since traditional wine architecture is regionally recognizable, it should be considered on the level of wine regions and its destiny should be tied to integral development plans.*

*By understanding and recognizing the integral importance of heritage on the regional level, it can be shaped into an authentic and original tourism product and contribute to the recognisability and revitalization of wine regions.*

**Key words:** Croatia, wine regions, heritage, revitalization, traditional wine architecture

#### **SAŽETAK**

*Tradicijnska vinogradarska arhitektura dio je poljoprivrednog arhitektonskog nasljeđa a izgrađena je od drveta, kamena ili zemlje (ovisno o regiji). Tu vrstu građevine čovjek je gradio u tijesnoj suradnji s prirodom ali ju je gradio ovisno o općim društvenim, ekonomskim i kulturnim prilikama. Vinogradarska arhitektura smještena je blizu ili u vinogradima i male je veličine, uklopljena je u okoliš i predstavlja tradicijsko arhitektonsko nasljeđe.*

*Na prostoru Hrvatske još je uvijek sačuvan relativno velik broj primjera tradicijske vinogradarske arhitekture od kojih je vrlo mali broj zaštićen kao kulturno dobro. Iako je tradicijska vinogradarska arhitektura važan element regionalnog kulturnog krajolika, njezin opstanak ekonomski je neisplativ osim ukoliko ne dobije novu funkciju i namjenu. S obzirom da je u posljednja tri desetljeća, uslijed globalizacijskih procesa, zamijećeno intenzivnije napuštanje i/ili devastacija tradicijske vinogradarske arhitekture predmet istraživanja je razumijevanje i interpretiranje tradicijske vinogradarske arhitekture za potrebe održivog razvoja.*

*U radu polazi se od stava da tradicijska vinogradarska arhitektura, kao nasljeđe, može biti resurs za revitalizaciju vinskih regija. Cilj rada je temeljem obilaska terena i znanstvene literature odrediti činitelje, karakteristike i vrijednosti tradicijske vinogradarske arhitekture, kao nasljeđa, kako bi se ista mogla karakterizirati kao resurs prilikom izrade planova razvoja vinskih regija.*

*S obzirom da tradicijska vinogradarska arhitektura ima regionalnu prepoznatljivost nju je potrebno sagledavati na razini vinskih regija a njena budućnost ovisi o integralnim planovima razvoja vinskih regija.*

*Razumijevanjem i prepoznavanjem cjelovitog značenja nasljeđa na razini regija ono se može oblikovati kao autentičan i originalni proizvod prostora te doprinijeti prepoznatljivosti i revitalizaciji vinskih regija.*

***Ključne riječi:*** Hrvatska, vinske regije, nasljeđe, revitalizacija, tradicijska vinogradarska arhitektura

## **1. Introduction**

Under the influence of modernisation processes, devastation or deterioration of heritage is noticed in the whole world. That is why heritage has become the topic of an increasing number of officially adopted documents, particularly in Europe. These documents encourage identification and activation of heritage as a strategic resource for setting the direction of sustainable development or for its adaptation to the modern way of living as well as activating all stakeholders with an aim of identifying, making an inventory of and preserving heritage (Council of the European Union, 2014 and European Parliament, 2015).

Croatia cannot be isolated from current social and economic trends in the world (globalisation, deagrarianisation, market-based agriculture etc.) and therefore deterioration and/or devastation of heritage is to be expected in Croatia as well. Devastation and/or deterioration of heritage were noticed already after the Second World War, only to intensify in the past three decades.

One of specific rural agricultural heritage in Croatia is traditional vineyard architecture.<sup>1</sup> Traditional vineyard architecture is characterised by small dimensions, use of local building materials, blending into the surrounding landscape and reflection of local traditional way of living and working. Since traditional vineyard architecture as heritage contributes to the recognisable space identity, the topic of this research is recognising this heritage as a strategic resource for the development of wine regions.

With the influence of tourism and growing efforts to brand wines, Adriatic wines and vineyard landscape have become better known, although not less important than the continental ones. In

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<sup>1</sup> In Croatian, there is a term *vineyard architecture* which does not exist in English; English uses only *wine architecture*.

line with that, it was noticed that traditional wine architecture in Adriatic Croatia has gone through more changes than its counterpart in continental Croatia.<sup>2</sup>

Unlike the world-famous wine regions in which, since mid-20<sup>th</sup> century, wine architecture has adapted to the global market (surface area, size, design etc.), Croatia still has a relatively large number of preserved traditional wine architecture which it may be possible to activate as one of the strategic resources of wine regions.

Therefore, the aim of this research is to find out whether traditional wine architecture and the accompanying landscape, if considered in comprehensive form together with all factors, characteristics and values, can become one of the strategic resources for wine regions development.

For this heritage to assume a strategic as well as an active role in achieving sustainable wine region development, we must examine if it is possible and necessary for traditional wine architecture to change its function and purpose.

## **2. Methodology**

In order to determine if traditional wine architecture and its accompanying landscape are one of the possible important strategic resources for the development of wine regions, heritage must be considered in entirety, that is, in its full significance.

For traditional wine heritage to be considered in entirety (in full significance) and to be properly interpreted and adapted to contemporary needs by wine regions (change of function and purpose) while at the same time preserving its specific features, we must first determine its:

- spatial and architectural factors and features,
- social, cultural, economic and environmental values in the past, present and future.

By determining the factors, features and value of traditional wine architecture, this segment of heritage is for the first time examined in entirety and in the role of sustainable development of wine regions.

Taking into consideration that traditional wine architecture is characterised by regional features, it should be considered at the level of wine regions. Croatia is divided into three wine regions<sup>3</sup>, meaning that each wine region comprises several counties, but it should be noted that wine region boundaries do not overlap with external county borders.

The research was conducted by field research and by domestic and foreign literature analysis.

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<sup>2</sup> The most famous vineyards in Croatia are Primosten vineyards, surrounded by drywalls and protected as cultural landscape, proposed for inscription on the UNESCO list of cultural and natural heritage, and vineyards in Stari gradsko polje on the island of Hvar.

<sup>3</sup> According to the Ordinance on geographical areas of grapevine cultivation (Official Gazette no. 74/12), Croatia is divided into three wine regions. This implies that wine region boundaries do not overlap with county boundaries.

### 3. Previous research

On the global level, a lot has been published on the intertwined relationship between wine and heritage, as evidenced by many books and scientific articles (**Rosano 2000**; Harvey, White, and Frost, 2013). In order to describe as short as possible the complex and time-consuming procedures under which cultural heritage came into being, which also describe the expressive link between land, man, time and emotions (visible, sensory or invisible), different terminology was used. To describe the factors of traditional heritage identity the term "local heritage" is often used (Gade, 2004; Cohen, 2005; Crenn and Techoueyres, 2007), and some of the terms are easily literally translated such as the French wine "terroir". The importance of cultural and natural heritage of some individual wine regions is obvious from the fact that some of them are inscribed on the UNESCO list of cultural and natural heritage.<sup>4</sup>

In Croatia just like in the world there is almost no scientific research into traditional wine architecture since it is characteristic for only several European countries (part of Slovenia, Croatia and Hungary). The only research into traditional wine architecture carried out in Croatia was sectoral research from the aspect of ethnology (Svoboda, 1967) and architecture (Zebec, 2010; Zebec, 2011). Little research has been done on the connection between traditional wine architecture and viticulture in Slovenia (Hazler, 2009; Levičnik, Novljan, Ažman Momirski, 2012).

Due to an ever increasing impact of global wine industry on traditional wine architecture, some authors believe it will completely disappear and have already written about *hommage* to wine and architecture (Struna Bregar, 2014). Some authors are of opinion that "globalisation helps in producing local" (Crenn and Techoueyres, 2007) as there is a growing public awareness about the value of local heritage.

It is interesting to note that Croatia has no plans for wine region development but only for the development of wine tourism as a segment of wine regions. While there is a need to elaborate plans for wine region development, they nevertheless do not exist. The reason for non-existence of such plans can be, inter alia, attributed to the fact that wine regions in Croatia comprise several counties and their adoption would be questionable (which body would be competent to adopt them). Regardless of the problem of authority for the adoption of wine region development plans, such plans are needed, as obvious from the fact that highly developed wine regions (France, Australia etc.) have them.

This paper starts from the facts that traditional wine architecture as heritage has not been researched in its entirety and that it can become one of strategic resources for wine region development.

### 4. Comprehensive view of traditional wine architecture as heritage

Traditional vineyard architecture is usually located near or in vineyards, small in size, embedded in the landscape and today represents a segment of the traditional agricultural heritage. It is built of wood, stone, clay, bricks or a combination of materials (depending on the region). Built from local materials, traditional vineyards architecture had three basic functions: it was used for small-scale wine-making, to provide shelter from bad weather during vineyard cultivation and/or for short-term stay – rest after hard work in the vineyard. These types of structures / architecture are

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<sup>4</sup> UNESCO has protected the most famous wine areas and inscribed them on the World Cultural and Natural Heritage List.

built in unison with nature, but also in accordance with the general social, economic and cultural conditions.<sup>5</sup> This architecture emerged out of the desire for survival, whereas today we admire it as unique architectural heritage that came into being as the result of creativity from necessity. It has been preserved in such a significant scope due to the tradition of vineyard cultivation, but also due to the suppression of private agricultural development during socialist times.

This neglected traditional agricultural architecture undoubtedly still contributes to the spatial/visual identification of wine production and to a particular identity of, and the region in which the structures are located. While contributing to the spatial identity only in rare cases, it is protected by the competent body for the protection of cultural property at the national or regional level,<sup>6</sup> and its revival depends exclusively on the enthusiasm of individuals since the competent body provides funding for buildings of a more local representative significance.

Although sudden deterioration of traditional wine architecture is clearly visible, this fact cannot be corroborated by figures since neither the bureau of statistics nor competent ministries (of agriculture and culture) have no registers of wine architecture. Central Bureau of Statistics has data on agricultural buildings (not traditional wine architecture) whereas the Ministry of Culture has data only on buildings protected as cultural good.

Unlike the world-famous wine regions (Italy, Spain, France etc.) in which vineyard and wine architecture has adapted to contemporary trends of producers and consumers (in shape, surface area, size, construction, technology)<sup>7</sup>, Croatia, and in particular the Western Continental Croatia wine region, still has a relatively large number of preserved traditional wine architecture.

For the specific traditional wine architecture to be properly interpreted and adapted to contemporary needs (change of function and purpose) while at the same time preserving its specific features, its specific factors and identity features as well as values must be known.

#### **4.1. Factors and characteristics of spatial and architectural identity**

The following factors were chosen to show how traditional wine architecture contributes to spatial and architectural identity of wine regions: factors of landscape identity, factors of agricultural and vineyard identity, factors of spatial structure and building material. For each factor, traditional characteristics were determined.

Since the emphasis is on recognising visual spatial and architectural identity, these characteristics are expressed descriptively. Factors and characteristics were determined based on detailed examination in the field.

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<sup>5</sup> In the Western Continental Croatia there are examples (the village of Obrež near Križevci) of wooden wine buildings put together without a single nail, whereas in Coastal Croatia such buildings were built of stone without any mortar to bind them together, using the dry stone building technique.

<sup>6</sup> The Ministry of Culture proposed the most famous vineyards in the central Coastal wine region (without buildings) - Primosten vineyards - for inscription on the UNESCO list of cultural and natural heritage.

<sup>7</sup> Large world wine producers commission famous world architects to design their wineries. Some of the commissioned architects were: Santiago Calatrava, Norman Foster, Frank Gehry, Zaha Hadid, Herzog & de Meuron, Steven Holl, Rafael Moneo, Glenn Murcutt, Renzo Piano, Richard Rogers and others. Large wine producers want to promote wine and its architecture as a lifestyle. The projects were realized in California (USA), Canada, Spain, Italy, Austria, Chile, Argentina, Australia and New Zealand.



**Table 1** Factors of spatial-architectural identity traditional vineyards architecture

| Factors  | Characteristic   |
|--|--|
| Factors of landscape identity                                  | <ul style="list-style-type: none"> <li>- Picturesque landscape (the ratio between the size of agricultural plots and wine architecture) of wine regions</li> <li>- Small surface areas of vineyards - fragmentation of agricultural land (less than 1.0 ha)</li> </ul>   |
| Factors of agricultural vineyard identity                      | <ul style="list-style-type: none"> <li>- Mostly autochthonous wine grape varieties</li> <li>- Traditional production of wine in small quantities by small producers <math>\leq 1.000</math> l</li> <li>- Cultivation of vineyards mostly by hand with little use of machinery</li> <li>- Large number of small grape and wine producers</li> </ul> |
| Factors of spatial structure traditional vineyard architecture | <ul style="list-style-type: none"> <li>- Linear vineyard architecture</li> <li>- Dispersed vineyard architecture</li> </ul>  |
| Factors of architectural heritage                              | <ul style="list-style-type: none"> <li>- Fit well in the landscape</li> <li>- Small floor area of buildings</li> <li>- Built without the help from architects</li> </ul>   |
| Building material  | <ul style="list-style-type: none"> <li>- Wood</li> <li>- Stone</li> <li>- Earth</li> <li>- Brick, or a</li> <li>- Combination thereof</li> </ul>   |

Source: Author's own work

#### 4.2. Social, cultural, economic and environmental values of traditional wine architecture

In order to determine social, cultural, economic and environmental values of observed heritage, they were observed in the past, present and future. These values were determined on the basis of talks with local population and analysis of literature (Svoboda, 1967; Zebec, 2011; Levičnik; Novljan; Ažman Momirski, 2012).

The following table shows that traditional wine architecture has social, cultural, economic and environmental values, but these are prone to change with the change in social and economic conditions.

**Table 2** Social, cultural, economic and environmental values of traditional vineyards architecture

| Values          | In the past   | In the present time  | In the future   |
|-----------------|---|--|---|
| <b>Social</b>   | <ul style="list-style-type: none"> <li>- Survival symbol,</li> <li>- Status symbol,</li> <li>- Social contacts,</li> <li>- Recreation.</li> </ul> | <ul style="list-style-type: none"> <li>- Status symbol,</li> <li>- Social contacts,</li> <li>- Secondary housing,</li> <li>- Awareness of traditional architectural heritage,</li> <li>- The problem of cultivation of vineyards.</li> </ul> | <ul style="list-style-type: none"> <li>- Marginalization of social contacts,</li> <li>- Conflicts between stakeholders,</li> <li>- Increase in unemployment.</li> </ul> |
| <b>Cultural</b> | <ul style="list-style-type: none"> <li>- Picturesque cultural landscapes.</li> </ul>  | <ul style="list-style-type: none"> <li>- Picturesque cultural landscapes,</li> <li>- Traditional architectural heritage,</li> <li>- Traditional intangible heritage (song, painting, food).</li> </ul>                                       | <ul style="list-style-type: none"> <li>- Uniform landscape without picturesqueness,</li> <li>- Loss of traditional architectural heritage.</li> </ul>                   |
| <b>Economic</b> | <ul style="list-style-type: none"> <li>- Existence</li> </ul>   | <ul style="list-style-type: none"> <li>- Economic unprofitability of wine production,</li> <li>- Economic unprofitability of maintenance of buildings.</li> </ul>  | <ul style="list-style-type: none"> <li>- Increase in market value,</li> <li>- Increase in economic value.</li> </ul>  |

| Values        | In the past    | In the present time  | In the future           |
|---------------|----------------|--|-------------------------|
| Environmental | - biodiversity | - Reduction of biodiversity,<br>- Awareness of natural heritage<br>(indigenous varieties). | - Loss of biodiversity. |

*Source: Author's own work*

## 5. Conclusion

Although wine is at the centre of viticulture and as such represents immaterial heritage, other material and immaterial heritage connected with wine regions must not be neglected (architecture, landscape, gastronomy, the culture of living and working, etc.).

While traditional wine architecture is nowadays primarily considered from the visual and aesthetic aspect (picturesque cultural landscape), it originated as the result of a strong will for survival. Having been formed under specific natural and anthropogenic influences, as a heritage it has specific factors, characteristics and values.

Specific factors, characteristics and values of traditional wine architecture are by all means related to wine regions. Given that this paper has shown that traditional wine architecture has specific factors, characteristics and values, it can certainly be considered as one of strategic resources for wine region development.

Should heritage become one of the strategic resources for wine region development, traditional wine architecture can and should be adapted to contemporary needs. Therefore, changing its basic function and purpose should be considered. Aside from a purely agricultural function, it can also be used in tourism and education. Its purpose does not have to be solely storage of agricultural tools, protection from bad weather or production of small quantities of wine. Traditional wine architecture can be turned into small exclusive wine tasting facilities, educational spaces or facilities for accommodating visitors in vineyards, etc.

In view of the fact that world-famous wine regions (Italy, France, Spain and others) have significantly adapted their wine architecture to contemporary needs, i.e. large market, if Croatian authentic traditional wine architecture is given a function and purpose, it can become first-class attraction because it has specific and recognizable factors, characteristics and values.

The reason for a relatively large number of preserved traditional wine architecture facilities can be found, *inter alia*, in a still pronounced tradition of making own wine and a relatively poor investment in wine-making.

Local communities are still unaware of the comprehensive significance of traditional wine architecture and lack both instruments and financial means to address problems.

A justification for taking such an approach to traditional wine architecture can be found in the fact that Germany has not only wine routes but also sightseeing tours of wine architecture in wine regions with the purpose of enjoying wine architecture.

Traditional wine architecture in Croatia (especially in north-western Croatia) is still largely preserved, but its future has not been comprehensively planned on the level of wine regions.

Croatia, including its traditional wine architecture, cannot be isolated from contemporary social and economic trends (globalisation, deagrarisation, market-based agriculture, etc.) and therefore

further deterioration of traditional wine agriculture is to be expected unless it is given a new purpose and a role in wine region development.

In light of the necessity to introduce changes in agriculture (for e.g. consolidation of agricultural land), changes may occur in wine regions, but also devastation of traditional wine architecture as a needless and unprotected segment of heritage. Therefore, below is a list of possible problems that might occur related to traditional wine architecture and accompanying landscape:

*Table 3 Possible negative consequences in planning wine regions development*

| Sectors and possible changes |   | Problems   |
|------------------------------|---|--|
| Agriculture                  | Consolidation of agricultural land          | Loss of small vineyards and consequently loss of identity of cultural landscape.   |
| Culture                      | Construction or reconstruction of buildings | Disregard for the existing spatial structure during new construction,<br>Cost of technical infrastructure (water, electricity),<br>Lack of artisans skilled in traditional architecture,<br>Lack of building materials for traditional construction. |
| Tourism                      | Hospitality                                 | Lack of a larger carrying capacity of traditional vineyard architecture  |

*Source: author's work*

Taking into consideration the tradition of existence, contribution to recognisability and thus also to the diversity of wine region identity, if traditional wine region is to be put to use in contemporary way of living, one of the options is to use it in wine tourism.

Its future is not solely dependent on individual sectoral development plans (agriculture, culture or tourism) and wine regions; rather, it should be the subject of harmonised, coordinated inter-sectoral plans and integral development plans.

Since development plans cannot be carried out without coordinated planned activities, there is a need to raise awareness and knowledge about the value and significance of traditional wine architecture as heritage as well as to improve the responsibility of all stakeholders.

### **Acknowledgements**

This research is a part of the scientific project *Heritage Urbanism (HERU) - Urban and Spatial Models for Revival and Enhancement of Cultural Heritage (HERU-2032)* financed by Croatian Science Foundation, which is being carried out at the Faculty of Architecture University of Zagreb.

### **REFERENCES**

- Asquith, L. and Vellinga, M. (ed.), (2006): *Vernacular Architecture in the Twenty-First Century, Theory, education and practice*, Taylor & Francis, London.
- Cohen, R. (2005): *At the heart of France, an unchanging "terroir"*. *International Herald Tribune*, August 27, pp. 2

Conucil of the European Union (2014): *Conclusion on cultural heritage as a strategic resource for a sustainable Europe*, 20. May 2014, No. 216/2013, [http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:52014XG1223\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:52014XG1223(01)&from=EN) (accessed 20 March 2017)

Crenn C. and Techoueyres I. (2007): *Local heritage to singularize a wine terroir: the example of pays Foyen (Gironde, France)*, Anthropology of food [Online], no. S2 | March 2007.

European Parliament (2015): *Towards an integrated approach to cultural heritage for Europe*, P8\_TA(2015)0293. <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2015-0293+0+DOC+XML+V0//HR> (accessed 20 March 2017)

Gade, D. W. (2004): *Tradition, territory, and terroir in French viniculture: Cassis, France and Appellation Contrôlée*. Annals of the Association of American Geographers, Vol. 94. No. 4, pp. 848-867.

Harvey, M.; White, L. and Frost, W. (Eds.) (2013), *Wine and identity: Branding, heritage, terroir*, UK: Routledge, Abingdon.

Hazler, V. (2009): *O kulturi vinskih kleti na Slovenskem*, [Slovene Wiene Cellars], Glasnik SED, Vol. 49, No. 3-4, pp. 5-13.

Levičnik, N.; Novljan, T.; Ažman Momirski, L. (2012): *Razmerje med arhitekturo in kulturo vina*, [The relationship between Architecture and Wine Culture], Glasnik SED Vol. 52, No. 4; pp. 66-71

*Pravilnik o zemljopisnim područjima uzgoja vinove loze*, (Narodne novine br. 74/12)

Rosano, D. (2000): *Wine Heritage: The Story of Italian-American Vintners*, Board and Bench Publishing,

Struna Bregar, A. (2014): *Hommage vinu i arhitekturi*, [Homage to wine and architecture]. Oris. Vol. 16, No. 88, pp. 92-99.

Svoboda, B. (1967): *Stare vinogradarske kurije i klijeti, zapisi o starim guričnim kurijama na Varaždinskom bregu*, Kulturno prosvjetno društvo Hrvatskih zagoraca "Matija Gubec", Zagreb.

Zebec, M. (2010): *Tipologija i kronologija tradicijske arhitekture klijeti na podravskom dijelu sjeverozapadne Bilogore*, Podravina, Vol. 9, No. 17, pp. 153 – 165.

Zebec, M. (2011): *Tradicijska arhitektura vinogradarskih klijeti – ruralno graditeljstvo u Podravini*, Meridijani, Vol. 17, Nr. 152, pp. 56-63.

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## ECONOMIC SUSTAINABILITY OF KOSOVO GOSPODARSKA ODRŽIVOST KOSOVA

### ABSTRACT

*In this work are treated some of main issues related to regional development as sustainable, and importance to know and be aware by new generations, which make the main goal of the thesis. First it will be treated the meaning of concept “sustainable development” based on what is written by other authors; its necessity and importance of education.*

*With this work is specifically treated the Kosovo case. The work has the goal to identify possibilities for sustainability, challenges to overcome and conditions for sustainability. The achieved results are important, because are showing the low level of knowledge and are required to undertake measures to improve the situation in the future.*

**Key words:** Sustainable development, Education, Awareness.

### SAŽETAK

*U ovom radu obrađuje neke od glavnih pitanja vezanih uz održivost regionalnog razvoja, sa svrhom da bi nove generacije bile svjesne važnosti privredne samo-održivosti. Prvo ćemo razjasniti što znači pojam „održivi razvoj“ gdje ćemo se osloniti na radove istraživanja drugih autora koji naglašavaju nužnost i važnost obrazovanja.*

*Svrha ovog rada je posebna analiza Kosova sa ciljem da se identificiraju mogućnosti gospodarske održivosti i izazova u ostvarenju uvjeta za održivost. Rezultati istraživanja pokazuju nisku razinu znanja i potrebu da se poduzmu mjere za razvoj obrazovanja za bolju budućnost.*

**Ključne riječi:** *održivi razvoj, obrazovanje, izazovi.*

## **1. Introduction**

This report aims to shortly treat the challenges Kosovo is facing in its path towards creation of a sustainable economy, at the time when the National Development Plan is underway.

Main objective is to provide an overview of current situation and to underline strategic priorities and necessary policies to be implemented by the Government supported by stakeholders, which shall be served on the creation of a perspective for sustainable economic growth. It is normal that the report shall not remain as such, but it shall be further reviewed and elaborated for the following years.

## **2. Economic sustainability and its importance for Kosovo**

### **2.1. An overview on Theoretic Concepts**

In general, national economy is considered sustainable if it is capable to use its human, financial and capital resources and capacities, for the generation of continuous economic growth and to ensure the welfare of all its citizens. The importance of resources (human, financial and natural) is undisputable, but only its effective use ensures a continuous economic growth and social welfare. The growth is essential for achievement of social-economic sustainability and political development of a country.

The growth does not appear suddenly. It is a result of quality policies (productivity, technology, innovations and external effects). Human development includes not only the result of GDP increase, but also the increase of possibilities of access to education, health and creation of income from all members of society. In fact, this can be considered as an increase and quality development. Serious reforms oriented towards economic development based on market and creations of an economic and political sustainability are key factors of growth in transitional economy. Some theories:

Linear stages theory – the experiences of Marshal Plan and developing countries during 1950s have promoted Roslow stages, a model of growth, which emphasis that during transition from the being, undeveloped to develop, in order for the societies to become economically sustainable and mature, first they should mobilize all local and international savings. From this time it outcomes the well-known model of investments for quick growth, supported by Harrod and Domar (Harrod – Domar model).

During 1960s, the Change Model (known as Lewis model) promoted changes from basic agricultural into different industries, economic services and urban areas. He uses two aspectssurplus labor in agriculture and its transfer in the advance technology sector and high salaries but, this does not match with most of the cases of developing countries. In these countries even urban areas have a high unemployment. The main direction of sectorial changes is: from agriculture into industry; accumulation of human and physical capital; change of clients' demands; increase of cities and urban areas, farmers around small cities, downsize of families and the focus on education quality.

Dependence theory (during 1970s) is based on neocolonial and neo Marxist approach. Developing countries remain undeveloped, despite of the facts that they had international support, both in technology and finance. They prove the failure on FDI, and market failure.

Neoclassical anti-revolution (1980): It emphasizes that more important is offer, macroeconomic policies, market liberalization, reformation of public property and regular reduce by government. The main reasons of low development are the weak allocation of resources, already few, and state increased intervention.

New theory of waiting (1990) endogen theory: It emphasizes that more important is the government of production system and not external factors. The growth is a natural result of long-term equilibration Todaro, M.(2003):*Economic development (8th ed.)*, Addison Wesley, Boston.

## **2.2. Economic Sustainability and its Importance to Kosovo**

Can Kosovo have sustainable economy? This is a question that is made very often. Certainly, this is very important issue, which has direct impact on dignity and quality of Kosovars' life. However, whenever this is made in the aspect (connotation) "pro" or "against" the will of majority of Kosovars, not infrequently takes speculative direction and understanding, because also it could be made the question: who else shall ensure economic sustainability of the country, if this is not done by Kosovars itself. The bellow presented historical facts proves that economic growth of Kosovo was proportional to the Kosovars' possibility to govern themselves, and with issues that are very linked to political stability. The sustainability is something that Government owes to its citizens. In case of democratic societies, the lack of fulfillment of this task would bring the victory or loss of elections. Economic sustainability, in modern times of technological impact, is very connected to the governance quality than to natural assets or resources. In the other side, it is clear that, depending on economic sustainability, Kosovo would join or would remain behind the prosper societies and it would be on the position to comply with expectation and ambitions of its citizens.

From the other point of view, it would be discussed the impact of sovereignty and its importance on economic growth. The sovereignty and territorial control impacts directly on, including its natural resources, long-term investments. Also, it has effect on decision making on priorities and own issues. Political unclearness limits the possibility for alternatives, definition of economic order and governance.

On the situation of post war, the negative effects of lack of sovereignty are reflected negatively in many areas and in particular, on international cooperation with international organizations, as World Bank, WTO and other international-trade financial organizations, and on relation to other countries, on privatization and on creation of favorable climate for FDI (Foreign Direct Investments).

The question that now is asked and requires answer it has to do with strategies and policies to ensure resources for development in the future and to overcome the non-development.

It is clear that it is related to policies Kosovo has to follow to be a country with prosperity and is linked to developed world. Before we attempt to give the answer to this question, we will try to describe the current situation and challenges that it could face towards the development and economic sustainability.

Financial transactions based on Euro have contributed positively on Kosovo macroeconomic sustainability. However, mid-term and long-term macroeconomic sustainability is jeopardized by critical imbalances, including here: imbalances between GDP and consumption, very high trade deficit, imbalances on labor market and the amount of budget compare to necessary capital investments.



Total consumption, according to International Monetary Fund, is 8-9% higher than GDP, which is mainly covered by the money sent by Kosovars living outside the country.

According to World Bank statistics of 2015, it comes out that 29.7% of Kosovo citizens lives under the national line of poverty, and 10.2% on extreme poverty. When it is taken into consider the limit of poverty and extreme poverty, which is only 1.72 and 1.20 euro per day, respectively, it could be concluded that the situation is miserable and the Government should take added care during policy making. Privatization is not a solution of economic problem, but the resolution of this problem is to invest for the regeneration of production, and on the industry of production process.<sup>1</sup>

The economic sustainability is achieved by directing the investments on set up of medium and small businesses, by making efficient fiscal laws, by supporting with grants coal, chrome and zinc processors, and providing market to place agriculture products. As soon as possible the eyes should be directed on processing and development of agriculture and not on importation.

### **2.3. Conditions and Factors Impacting/Supporting Economic Sustainability**

Below, we are treating some core conditions in Kosovo to generate economic growth. The necessary conditions to support economic sustainability can be viewed by different aspects:

- Human capital/resources
- Natural assets
- Accumulation of capital and investment resources
- Institutional capacities
- Macroeconomic stability and applicable economic policies
- Quality of public infrastructure

### **2.4. Challenges of developing countries, and for Kosovo too**

As a part of economy included by globalization and growth, the focus, mainly should be to overcome the problems in these areas:

- Saving, respectively, inadequate investments
- Inadequate manpower
- Worsening conditions for trading
- Weak institutions

It is concluded that high taxes (on wages and profit) discourage the growth, and the functionality of market and capital has positive effect. Also, opening of markets and trade are factors that support the economic growth.

Finally, we can conclude that economic growth is built up by the improvement of education, financial intensity, open market and good public infrastructure. And, economic growth falls with extensive limitations, when the implemented policies are not in favor of macroeconomic stability (inflation, overestimation of currency exchange and the crisis in bank system), and in negative conditions of trade. Proper combination of economic policies may generate the model that ensures self-sustainability of economic growth.

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<sup>1</sup>Group of authors (2005): *Qëndrueshmëria Ekonomike e Kosovës*, Riinvest, Prishtinë

### **3. How to create economic growth**

#### **3.1. The need to accelerate economic growth**

Although Kosovo has achieved some successes during the post-war period, nowadays it faces with an unemployment rate of 40%, with a negative trade balance as described above (imports are covered by exports by 4-5%). Taking into consider that about 63% of population are of age under 30 and the absorbing capacities of economy is very low, every year there are 25,000-30,000new jobseekers on the labor market. That requires an increase on employment with an annual rate of 6-7%. The other critical factor is the increase of exports. The participation of agriculture in GDP is estimated to be 25%, while the service sector is with 60%. The current participation of industry in GDP is 15%. These structural disproportions with current level of productivity impact on the level of competitiveness capability and on the quality of export demand.<sup>2</sup>

#### **3.2. Potential scenarios of economic growth**

Question does not rely on that whether Kosovo needs a dynamic rate of economic growth, but more rely on the way to achieve it. Some countries of Central Europe, and some of Southeast Europe, have achieved high rated of economic growth, similar to those Kosovo needs during the transition period. They have their success mainly on imposition of liberalization of processes on increase of competitive advantages, and on creation of a favorable business environment.

These experiences are quite useful when the potential scenarios are discussed for economic growth in Kosovo, and when key factors are taken into consideration for the influence on economic growth as discussed above. Starting from today's conditions and some key factors that may impact on both investment activities and on increase of competitive capabilities of economy, we have complied three scenarios: "what if". Each of those scenarios creates certain conditions for development and investments.

### **4. Necessary investments for economic growth and sustainability**

#### **4.1. Indicative projections for necessary investments**

In case of Kosovo, the estimation of investment capacities (sectors & resources) are of particular importance having into consideration the need that Kosovo has for mobilization of all investment resources. This is significantly important for evaluation of public investment capacities. This estimation is totally indicative and is dedicated to show what attempts should be made to realize a dynamic economic growth.

#### **4.2. Potential resource structure**

Domestic investments of private business and household economies, including remittances, are estimated to achieve 49% (6.848 billion) and FDI (FDI – Foreign Direct Investments) 10% (about 1.389 billion).

#### **4.3. How to create "favorable environment for investments"**

Analyzing the above scenarios, it is clear that factors impacting on generation of economic growth are connected, above all, with effective functionality of democratic institutions, with implementation of law and resolved status. That would make the basis to establish a better

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<sup>2</sup>Group of authors (2005): *Qëndrueshmëria Ekonomike e Kosovës*, Riinvest, Prishtinë

investment environment. In addition, it should be added the approach on normal circumstances on IFI (IFI – International Financial Institutions) and the mobilization of public and private investments.

The above described investments are imperative, but they are insufficient and itself do not generate development and increase on required rate. It should be created and function other economic and institutional conditions, such as: structural necessary changes, institutional capacities, management capabilities, qualified labor and abilities to make and implement projects.

## 5. Towards a sustainable budget

Budget sustainability is facing some problems that shortly are presented as follows:

Revenues collected by the impositions of tax instruments at the border make about 80% of total tax revenues, and the domestic revenues are quite modest, yet. The change of relation between these revenues through creation of a stronger capacity on higher collection of taxed inside the country against those at the border shall have strong impact on budget consolidation and on long-term sustainability. After the noted surplus until 2003, from 2004 the Kosovo budget turn on a deficit, this continues to be present till today. Budget deficit in 2005 participates with 13% on budget consumption or about 3.8% of GDP. The deficit during this period is covered by budget surpluses accumulated until 2003, respectively by the surplus of previous years.<sup>34</sup>

The higher number of employees, already, in the administration/public sector had influenced that the participation of wages on budget consumption is very high. That has started to threaten budget sustainability and, according to IMF estimations, presents potential factor of budget destabilization. The heavy economic situation limits the possibility that the solution of this problem to be made through the reduction of number of civil service employees, because this would understand the increase of unemployment rate. In the other side, lowering the level of wages would create negative effect on already high poverty. On long-term, this problem would be neutralized through the continuous increase of budget revenues and through suspension of increase on number of employees on these services.

The significant importance on budget sustainability has the increase of fiscal culture, both on the population and state institutions. Creation of a connection and communication between taxpayers and government, and the reflection of budget on public services offered to public, it will be an important factor on budget revenue enhancement and its stability. It is of great importance to be established a budget transparency and responsibility, which would drive the efficiency of budget consumption and broaden the fiscal base. Despite of importance on fiscal education, however it cannot compensate the creation of enforcement mechanisms and their effective implementation on payment of taxes and invoices for public services.

Fiscal decentralization, which is directed towards strengthening the role of municipalities on collection of the own revenues, it is not providing the expected revenues. Big differences on property tax rate, and the insufficient transparency against taxpayers in some environments, has impacted on having big differences between the municipalities with regard of property tax collection and own source revenues in general.

The most evident problem of the budget is facing the needs of capital investments, whether for new buildings or their maintenance.

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<sup>3</sup> Group of authors (2003): *Sistemi buxhetor i Kosovës - politikat dhe qëndrueshmëria*, Riinvest, Prishtinë

<sup>4</sup> Group of authors (2005): *Qëndrueshmëria Ekonomike e Kosovës*, Riinvest, Prishtinë

Up-to-date projections of capital investments are separated from economic development strategy, due to the lack of this strategy. Therefore, PIP (Public Investment Plan) drafted and approved by government should be in line with mid-term national development plan and with basic goals of economic development.

According to what can be seen now, it is to be expected that Kosovo shall face difficulties to, at list on mid-term, ensure public capital investments because of structural problems. Therefore, on this segment is necessary the support of IFI (International Financial Institutions) and donors.

## REFERENCES

- Group of authors (2005): *Qëndrueshmëria Ekonomike e Kosovës*, Riinvest, Prishtinë
- Group of authors (2005): *Profili socio-ekonomik i Kosovës dhe sfidat e zhvillimit*, Riinvest, Prishtinë
- Group of authors (2004): *Zhvillimi ekonomi lokal dhe investimet e jashtme direkte*, Riinvest, Prishtinë
- Group of authors (2004): *Sistemi i arsimit dhe zhvillimi ekonomik i Kosovës*, Riinvest, Prishtinë.
- Group of authors (2003): *Politikat tregtare dhe promovimi i eksportit në Kosovë*, Riinvest, Prishtinë
- Group of authors (2003): *Sistemi buxhetor i Kosovës - politikat dhe qëndrueshmëria*, Riinvest, Prishtinë
- Group of authors (2002): *Tregu i punës dhe papunësia në Kosovë*, Riinvest, Prishtinë
- Group of authors (2001): *Rindërtimi i Kosovës pas luftës - strategjia dhe politikat*, Riinvest, Prishtinë
- Group of authors (1999): *Ripërtëritja dhe rindërtimi i Kosovës pas luftës*, Riinvest, Prishtinë
- Justin, Y.L. (2003):** *Development Strategy, Viability, and Economic Convergence*, Economic Development and Cultural Change, Vol. 51, No. 2, pp. 277-308
- World Bank (2000): *Program in Support of Kosovo 2000-2001*
- World Bank (2000): *Group Transitional Support Strategy for Kosovo Progress Report*
- World Bank (2015): *Country Program Snapshot April-2016*
- The Economic Consequences of the Kosovo Crisis (1999): An Updated Assessment April 16, 1999 IMF/WB

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## **PROMOTION – A KEY ELEMENT OF MARKETING MIX FOR BETTER POSITION OF THE TOURISM CLUSTER „SLAVONSKA KOŠARICA“ ON THE TOURISM MARKETS**

### **PROMOCIJA – KLJUČNI ELEMENT MARKETING MIKSA ZA BOLJE POZICIONIRANJE TURISTIČKOG KLASTERA „SLAVONSKA KOŠARICA“ NA TURISTIČKIM TRŽIŠTIMA**

#### **ABSTRACT**

*The Tourism Cluster „Slavonska košarica“, founded in 2011, by the city of Slavonski Brod, can be extracted as an example of good practice in the field of networking. Already in 2012, cluster became a regional and now networks 131 manufacturers of food, drinks and handicrafts; providers of tourist services, as well as public institutions from whole Slavonia. The results of the primary research from February 2015 showed that only one-third of surveyed cluster members considered the previously conducted promotional activities had been effective. Therefore, during 2016, the cluster began marketing activities also in the area of the product creation; distribution; pricing policies and internal processes, as recommended by the cluster members in early 2016. Since the results of that research showed that promotion should continue to be the priority of the cluster marketing activities, in January 2017 a new primary research was conducted in order to find out which form of promotion, in accordance with the opinion of the surveyed cluster members, should be intensified in the coming period. In this paper the results of the research will be analyzed and synthesized to conceive about the forms of promotion the cluster members practice; then, whether they promote own marketing activities through the cluster; when it comes to business advertising, what they prefer - on-line or off-line advertising; whether they do promotion also through secondary promotional activities; whether they have own web sites regularly complementing them with new contents, use Google Analytics, take care of the position of their web sites on the web browsers as well as do promotion through social networks. The aim of the work will be to get the results on the basis of which it will be possible to improve the cluster activities in the promotion as one of the key elements of the marketing mix.*

**Key words:** *tourism cluster; marketing; promotion; advertising; web sites; social networks*

#### **SAŽETAK**

*Turistički klaster „Slavonska košarica“ osnovan od strane grada Slavenskog Broda 2011. može se izdvojiti kao primjer dobre prakse u segmentu umrežavanja. Već 2012. klaster je postao regionalan te danas umrežava 131 proizvođača hrane, pića i rukotvorina; pružatelja turističkih usluga, kao i javnih institucija s područja cijele Slavonije. Rezultati primarnog istraživanja provedenog u veljači 2015. pokazali su da je samo jedna trećina anketiranih članova klastera*

tada smatrala da su do tada provođene promocijske aktivnosti bile efikasne. Stoga se klaster tijekom 2016. počeo baviti marketinškim aktivnostima i u segmentu stvaranja proizvoda; distribucije (prodaje), politike cijena i internih procesa, za što su se založili i članovi klastera popunjavajući anketni upitnik početkom 2016. Obzirom da su rezultati tada provedenog istraživanja pokazali da promocija i dalje treba biti jedan od prioriteta marketinškog djelovanja klastera, u siječnju 2017. ponovno je provedeno primarno istraživanje, radi utvrđivanja oblika promocije koje bi, sukladno mišljenju anketiranih članova klastera, u nadolazećem razdoblju trebalo intenzivirati. U radu će se analizirati i sintetizirati rezultati istraživanja radi spoznaje o tome koje oblike promocije članovi klastera prakticiraju; je li koriste mogućnost promoviranja svojih aktivnosti posredstvom klastera; je li, kad je riječ o ekonomskoj propagandi, daju prednost on line ili off line oglašavanju; je li se promoviraju i putem sekundarnih promocijskih aktivnosti; imaju li, koja su obilježja te je li redovno novim sadržajima nadopunjuju svoje web stranice; koriste li Google analitiku; vode li računa o položaju svojih web stranica na web tražilicama te je li se promoviraju putem društvenih mreža. Cilj rada bit će dobiti rezultate na osnovu kojih će se unaprijediti poslovanje klastera u promociji kao jednom od ključnih elemenata marketing miksa.

**Ključne riječi:** turistički klaster; marketing; promocija; ekonomska propaganda; web stranice; društvene mreže

## 1. Introduction

Different authors define clusters in different ways, with Porter as one of the most cited authors. According to him the clusters are "geographically concentrated, interconnected business subjects and institutions in a particular area, many of them including governmental and other organizations such as universities, development agencies, institutions for education, trade associations and others (Porter, ME, 1998, 78, 79, 89), with nowadays a widespread opinion that the cluster connection is the basis for ensuring the success of certain areas in the global economy (Lončarić, B., Petrovic, T., 2015, 98).

Clusters allow participants to be more productive and more innovative than they would be if operating independently (Dragicevic, M., Obadić, A., 18). Although clustering companies is natural, governments can encourage the development of emerging clusters by supporting efforts that a group of companies can do to achieve the full potential merger (Iordache, C., Ciochina, I.; Asandei, M., 102).

Networking and clustering should be recommended in the tourism industry (Scott, N. Baggio, R., Cooper, C., 2008, 90-95), because tourism, as an economic activity, includes a wide range of small and medium-sized enterprises engaging in various sectors (Lagos, D., Courtis, PG, 111). The theory of networking in the tourism sector dates back to ten years ago (Morrison, A.M. et al., 2004, 198), and in that context the development of tourist destination implies close cooperation between public and private sector (Bagaric, L., 2010, 237). Entrepreneurship in tourism has been based on the same economic principles as well as other economic activities (Bartoluci, M., Buda, V., 2010, 182,183), while in the tourism sector networked small and medium-sized economic operators complete globally and cooperate locally, with obvious benefits for the business (Novelli et al., 2006, 1143). Tourism stakeholders have to cooperate in the product development in a destination, because each of them provides specialized services and together they offer a comprehensive tourism product (Gúćik, M., Gajdošík, T., Lencsési, Z., Bear., M, 238).

## **2. Clusters in Croatia**

Although the Croatian Parliament adopted the Strategy 2011 of cluster development in Croatia, which was preceded by the establishment of the Clusters\* Community at the Croatian Chamber of Economy in 2007, and no matter that the Operational Program "Competitiveness and cohesion 2014 -2020" anticipates supporting the activities of the cluster through the program "Entrepreneurs networking", during 2015 and 2016 there was, for clusters, no possibility to apply for any proposals by the relevant Ministry of Business and Trade. In 2016 the only call clusters could apply for was the call announced by the Ministry of Tourism for a grant to co-finance "programs and projects aimed at improving the quality of human resources in the tourism and hospitality industry and strengthening the competitiveness of tourism offer" (Ministry of Tourism, 2016).

Clustering of the tourism sector in Croatia is still in its initial stage and has not reached a satisfactory level. In this regard, a pilot project of the "Croatia 365" which was started in September 2014 by the Ministry of Tourism with the primary objective of a better use of resources during the pre- and post-season (Loncaric, B., Ružić, D., 2015, 282), but also of encouraging joint action of networked subjects, can be assessed as justified, regardless of possible hesitating to which extent the subject project has started operating in practice.

Tourism clustering in Croatia is a concept that has to be introduced strongly. Croatia has tourist attractions, but there is no products in tourist destinations (Ivaniš, M., 1665). Speaking about the cooperation of stakeholders of the tourist development of an area, it is evident that at the level of Croatian tourist destinations, as an inevitable positive example, can be extracted Istria as the region of seven clusters, according to the Master plan of Tourism of the Istria County in the period 2015-2025 (Tourist Board of the Istria County, 2015, 49). When it comes to the continental Croatia, the first example of tourist destinations clustering is the establishment of the Tourism Cluster "Lonjsko polje" with 70 networked members.

## **3. Regional tourist networking**

Regional development policy should aim at achieving a balanced tourism development in all parts of the region (Loncaric, B., 2012, 46), while regional clusters can be characterized as a production networks of strongly interconnected business entities, agencies that "produce" knowledge, institutions that "connect" and customers, interconnected in the value chain of added production (Asheim, B., Isaksen, A., 2001). When talking about tourism, it is evident that a relatively small number of tourists are interested in macro-regions and countries, and that people are usually attracted by specific experience in regions and cities (Brown, K., Geddes, R., 129), which are perfect niches for the formation of tourism clusters since the major precondition for their creation is the existence of tourist attraction centers and geographical nearness or related companies (Malakaustkaite, V. Navickas, V, 151).

Cooperation and networking in tourism sector of tourist underdeveloped areas is a necessity for survival in the tourism market (Christensen, P. McIntyre, N., Pikhholz, H., 2002, 19-21), while the private-public partnership is becoming the preferred method of support and managing the development of local tourism activities and of solving problems faced by small and new operators in markets where there is great competition. In doing so, at least in the region of Slavonia, the most common initiators of collaborating stakeholders in tourism at the level of tourist destinations are tourist boards (Loncaric, B., 2016, 934), and, in this context, at the regional levels, as one of the informal mutual networking appeared in 2014, 40 Croatian PPS



destinations, of which 16 of them located in the continental Croatia, could be singled out (Lončarić, B., 167).

Regardless of whether connections between entities within particular regions with the same or similar geopolitical, historical or other characteristics are formal or informal, basic brake to tourism operators intensive connecting is primarily lack of funds for activities, meaning first of all of those which should be remitted "from the top ", ie from the state resources. In the case of clusters as formal associations, it is evident that their activities are mainly financed by membership fees and founder donations and primarily depend on whether the cluster members have been aware of the benefits networking brings to them.

#### **4. Cluster "Slavonska košarica"**

The most acceptable form of networking subjects that create tourism products is so-called „contractual vertical marketing system“ (Kotler, 1988, 472), with the cluster „Slavonska košarica“ having seat in Slavonski Brod as an example of good practice. This cluster networks today 131 members: food, beverage and artifacts producers; representatives of the accommodation and catering sector; owners of travel agencies and tourist economies; representatives of local governments; tourist boards and other public and educational institutions from all over the region.

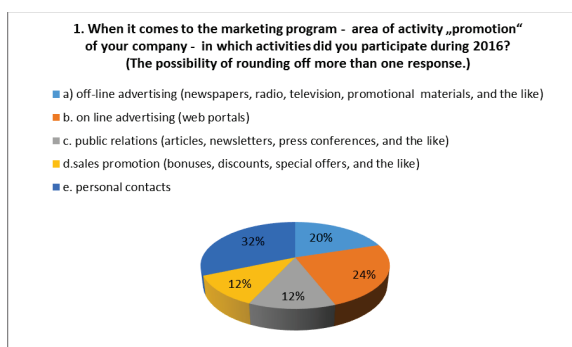
The main activities of this cluster are determined by annual work programs adopted by the Assembly consisting of representatives of all the members (Cluster "Slavonska košarica“, 6). According to data from the Report on the work and on financial performance in 2016, the cluster "Slavonska košarica" in 2016 generated revenues in the amount of 259,045.12 HRK, in which structure there was a significant share of grants from the state level (21.5%); revenues from the sale of goods (21.3%) and grants from the city of Slavonski Brod, the Tourist Board of Slavonski Brod and the Development Agency of Slavonski Brod, all as the founders (13.6%) (Cluster "Slavonska košarica, 8).

#### **5. The results of primary research**

The results of primary research conducted in January 2017 showed that 82% of the surveyed cluster members (70.6% of all members) supported the model of networking food and beverage producers; service providers; educational and research institutions; institutions and entities for the promotion and sale and units of local government. When it comes to marketing activities in the area of "promotion", 42% of the members expressed their intention of participation at fairs; 38% intention to advertise on portals and 19% intention to participate in special presentations, while 92% of respondents said they supported the concept of creating unique products under the brand "Slavonska košarica“, with more partial products integrated in one (Lončarić, B., 939) .

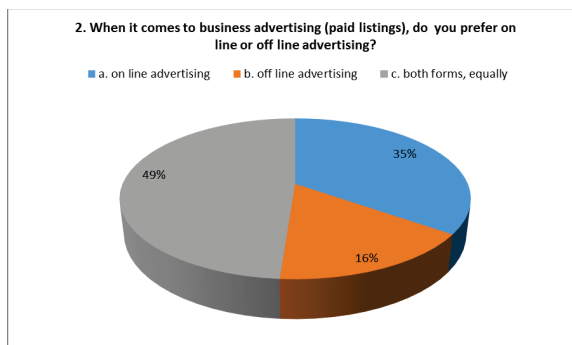
In January 2017, we carried out a new primary research to determine what were the forms of promotion which, in accordance with the opinion of the members of the cluster, in the coming period, should be intensified. The study included 86 members, accounting for 65.6% of the total membership. The results are presented below:

**Figure 1** Promotional activities of the cluster members, question and answers



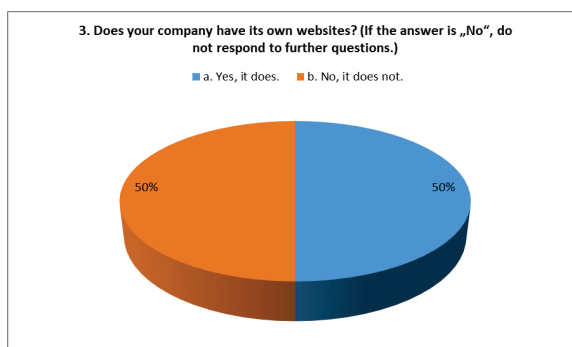
Source: Self-surveyed research, January, 2017

**Figure 2** On line and off line advertising of the cluster members, question and answers



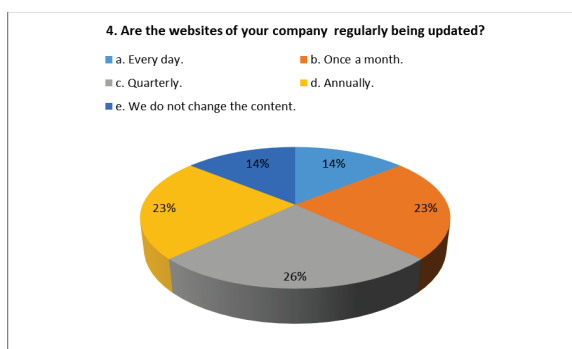
Source: Self-surveyed research, January, 2017

**Figure 3** Web sites of the cluster members, question and answers



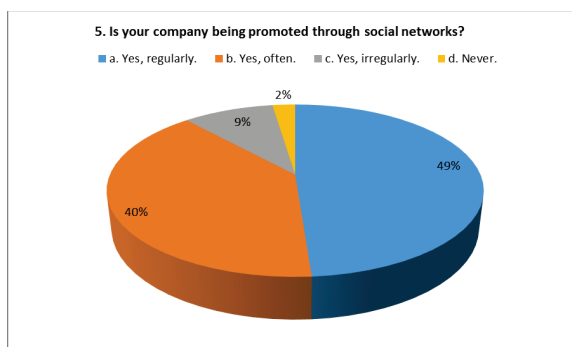
Source: Self-surveyed research, January, 2017

**Figure 4** Updating of the web sites of the cluster members, question and answers



Source: Self-surveyed research, January, 2017

**Figure 5** Promotion of the cluster members through social networks, question and answers



Source: Self-surveyed research, January, 2017

The results of the study, some of them presented in the above figures, showed the following:

- largest number of the respondents, 44% of them, when it comes to forms of promotion, during 2016 practiced off line and on line advertising, and this in almost equal extent; 32% of them applied direct marketing (Figure 1 and Figure 2); 65% of them used the possibility of promoting done by the cluster, while 69% undertook the secondary promotional activities as well, such as design, packaging and other,
- 56% of respondents said that during 2016 did not promote sufficiently, with lack of resources (60% of them) as the main reason,
- although almost all of the respondents (95% of them) have e-mail address and regularly (91% of them) respond to e-mail inquiries, only half of the respondents have their own web sites (Figure 3); with texts only in the Croatian language by 77% of them; the sites made by the web designers by 67% of them and maintained by the designers by 51% of them, and having the sites, as presented in the Figure 4, updated in daily or monthly intervals by little more than a third of them,
- 40% of respondents used during 2016 Google Analytics; 37% of them took into account the position of their web sites on web browsers, while 98% of them, as showed in the Figure 5, promoted via social networks.

## 6. Conclusion

From the organizational, and economic point of view, the Tourism Cluster "Slavonska košarica" is a good example of networking and joint marketing activities of various stakeholders of tourism development in the region of Slavonia (Loncaric, B., 940). The marketing program of the cluster "Slavonska košarica", as well as all other economic operators, is basically a setting of optimum combination of marketing mix in order to achieve set marketing objectives (Meler, M., Nebula, S. 147), or combination of control marketing variables used by the company to achieve the required level of sales in the target market (Kotler, Ph. 82). The term „marketing mix“ was introduced in 1948 (Senečić, J., 40), wherein the most frequently used as a basic variables are the product, price, promotion and distribution, so-called „the four P“, with the possibility of including other elements (Ruzic, D. 144 ).

The promotional mix consists of advertising, sales promotion, public relations and personal sales (Kotler, Ph., Bowen, J., Makens, J., 489 ), and two large groups of promotional activities are the primary (basic) promotional activities such as advertising, sales promotion, personal sales, public relations and publicity, and secondary (borderline) promotional activities such as design, packaging, consumers services, propaganda "by word of mouth" (Sudar, J., 10).

Although the members of the cluster "Slavonska košarica" in their marketing programs combine all elements of the marketing mix, as showed by the results of previously conducted studies, the emphasis is still placed on the promotion, in various forms. What is encouraging is the fact that most of the surveyed cluster members use the possibility of promotional activities undertaken by the management of clusters, while is worrying that half of the surveyed cluster members does not have its own websites, and of those who have them, only 37% of them regularly update the contents regularly. Since the marketing activities of individual companies on the Internet are not possible without the existence of the website (Ruzic D., 75), cluster management will continue to invest significant efforts in organizing business workshops at which the cluster members will be educated how to create their own web sites at the simplest and most economic way, but certainly not to the detriment of their effectiveness.

## REFERENCES

- Asheim, B., Isaksen, A. (2001): *Regional Innovation Systems: the Integration of Local Sticky and Global Ubiquitous Knowledge*, Journal of Technology Transfer
- Bagarić, L. (2010): *Tourism Destination Management and public-private partnership*, in: 20th Biennial International Congress: Tourism and Hospitality Industry 2010 – New Trends in Tourism and Hospitality Management, Faculty of tourism and hospitality management Opatija, Opatija, May, 6-8, 2010, pp. 237-254
- Bartoluci, M., Budimski, V. (2010): *Managing entrepreneurial project sin toruism of the Republic of Croatia*, Acta turistica, Faculty of Economics and Business, University of Zagreb, Vol. 22, No. 2, pp. 179-200
- Brown, K., Geddes, R. (2007): *Resorts, Culture and Music: The Cape Breton Tourism Cluster*, Tourism Economics, Vol. 13, No. 1, pp. 129-141
- Christensen, P., McIntyre, N., Pikhholz, I. (2002): *Bridging Community and Economic*

***Development – A Strategy for Using Industry Clusters to Link Neighborhoods to the Regional Economy***, Shorebank Enterprise Group

Dragičević, M., Obadić, A. (2013): ***Klasteri i politike razvoja klastera***, Ekonomski fakultet Sveučilišta u Zagrebu, Zagreb

Gučik, M., Gajdošik, T., Lencsesova, Z., Medvedova, M.: (2015): ***Tourism clusters and their activities in Slovakia***, Research Papers of the Wroclaw University of Economics, Issue 379, pp. 237-246

Iordache, C., Ciochina, I., Asandei, M. (2010): ***Clusters – Tourism Activity Increase Competitiveness Support***, Theoretical and Applied Economics, Vol. 17, No. 5, pp. 99-112

Ivaniš, M. (2011): ***Tourism cluster as a model of small entrepreneurship development increasing competitiveness of Labin – Rabac Tourist Destination***, in: International Scientific Conference, Juraj Dobrila University of Pula „Dr Mijo Mirković“, Pula, pp. 1660-1680

Kotler, Ph. (1988): ***Upravljanje marketingom I***, Informator, Zagreb

Kotler, Ph., Bowen, J., Makens, J. (1998): ***Marketing for hospitality and tourism, second edition***, Prentice Hall, Upper Saddle River, NJ

Lagos, D., Curtis, P. G. (2008): ***Business Clusters Formation as a Means of Improving Competitiveness in the Tourism Sector***, European Research Studies, Vol. XI, Issue 1 - 2

Lončarić, B. (2016): ***Marketing program of the cluster „Slavonian basket“, new challenges***, in: 5th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, June, 2-4, 2016, pp. 931-942

Lončarić, B. (2012): ***Marketing u turizmu Slavonije i Baranje, doktorska disertacija***, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Loncaric, B.(2016): ***Program „Croatia 365“ in a function of better market positioning of the tourist destinations during the pre- and post-season***, 5th International M-Sphere Conference for Multidisciplinarity in Business and Science, M-Sphere, Dubrovnik, October, 27-29, 2016, pp. 167-175

Lončarić, B., Petrović, T. (2015): ***Cluster „Slavonia basket“ as the backbone of tourism development in the region of Slavonia***, in: 4th International Scientific Symposium – Economy of eastern Croatia – vision and growth, University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, May, 21-23, 2015, pp. 97-111

Loncaric, B., Ružić, D. (2015): ***Program „Croatia 365“ in a function of stronger market positioning of the continental part of Croatia on foreign tourism markets***, in: 4th International M-Sphere Conference for Multidisciplinarity in Business and Science, M-Sphere, Dubrovnik, October, 22-24, 2015, pp. 282-291

Malakauskaite, A., Navickas, V.: (2010): ***The role of clusters in the formation process of tourism sector competitiveness: conceptual novelties***, Economics and Management, pp. 149-

Meler, M., Maglica, S. (1986): *Marketing u turizmu – poslovno gostoprimstvo*, RO „Zagreb“, Samobor

Ministry of Tourism (2016): *Public tender for co-financing of programs and projects of professionals associations in the tourism and/or hospitality industry in 2016*

Morrison, A.M. et al. (2004): *International Tourism networks*, International Journal of Contemporary Hospitality Management, Vol. 16, No. 3, pp. 197-202

Novelli, M. et al. (2006): *Networks, clusters and innovations in tourism: Networks, clusters and innovations in tourism: A UK experience*, Tourism Management, Vol. 27, No. 6, pp. 1141-1152

Porter, M.E. (1998): *Clusters and New Economics of Competitions*, Harvard Business Review, Reprint Number, pp. 78-89

Ružić, D. (2009): *e-Marketing, II. izmijenjeno i prošireno izdanje*, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Ružić, D. (2007): *Marketing u turističkom ugostiteljstvu*, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek

Scott, N., Baggio, R., Cooper, C. (2008): *Network Analysis and Tourism: From Theory to Practice*, Channel View Publications, Clevedon

Senečić, J. (1979.): *Marketing planiranje i strategija u OUR-ima*, Informator, Zagreb

Sudar, J. (1984.): *Promotivne aktivnosti 2, drugo izdanje*, Informator, Zagreb

Tourism cluster „Slavonska košarica“ (2017): *Report on the work and on financial performance in 2016*, Slavonski Brod

Tourism cluster „Slavonska košarica“ (2017): *Work program and financial plan in 2017.*, Slavonski Brod

Tourist Board of the Istria County (2015): *Master plan of Tourism of the Istria County in the period 2015 – 2025*, Poreč

[http://www.europe.eu/pol/index\\_en.htm/](http://www.europe.eu/pol/index_en.htm/), European Union, Publications Office (2016): *Politics of the European Union*, March, 2016

<http://www.Hgk.hr/o-zajednici-11/>, Croatian Chamber of Economy (2015): *Work program of the Clusters\* Community*, April, 2015

<http://www.tk-lonjsko-polje.hr/>, Tourism cluster „Lonjsko polje“, March, 2016.

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## **IMPACT OF REGIONAL INEQUALITIES ON THE EXERCISE OF HUMAN RIGHTS WITH REFERENCE TO THE SITUATION IN THE EASTERN CROATIA**

### **UTJECAJ REGIONALNIH NEJEDNAKOSTI NA OSTVARIVANJE LJUDSKIH PRAVA S OSVRTOM NA STANJE U ISTOČNOJ HRVATSKOJ**

#### ***ABSTRACT***

*The aim of this paper is to investigate the impact of regional disparities on the exercise of human rights. Human rights are one of the fundamental values of the democratic system and a necessary requirement for the development and life in territorial communities. According to the basic tenets of human rights, they are innate (every human being acquires them at birth), inalienable (cannot be taken away from anyone) and universal (they belong to all people). Constitutional documents and international documents on human rights put man and his rights at the centre of attention and guarantee their protection.*

*The territory of a certain territorial community is the starting point for the realization of human rights and political, economic and social activities of people. In fact, ability to exercise human rights by every person is dependent on the development of territorial communities.*

*The Universal Declaration of Human Rights provides that there should be no difference in rights on the basis of territory to which a person belongs. In view of the significant regional differences in the Croatian territory, there are no equal opportunities for the realization of human rights. This is especially pronounced in the area of the Eastern Croatian, where individual rights are more difficult to exercise compared to developed areas. The existence of regional disparities in particular affects the realization of economic, social and cultural rights. These rights constitute a condition for human dignity. But in some cases, regional differences also affect other generations of rights. Human rights are interdependent and interrelated. The level to which an individual human right will be exercised depends on the realization of other rights.*

*The author concludes that the unevenness of regional development of the country's territory contributes to unequal opportunities for the realization of guaranteed human rights and to unequal opportunities for development, as the basis for the realization of all rights. On the other hand, the author tries to show how balanced regional development is the basis for the exercise of rights in the entire territory of a certain territorial community.*

**Key words:** *equal opportunities, human rights, balanced regional development, regional disparities, territory.*



## SAŽETAK

*Cilj ovoga rada je istražiti utjecaj regionalnih nejednakosti na ostvarivanje ljudskih prava. Ljudska prava predstavljaju jednu od temeljnih vrijednosti demokratskih sustava i nužnu pretpostavku za razvoj i život u teritorijalnim zajednicama. Prema temeljnim postavkama o ljudskim pravima, ona su urođena (svako ljudsko biće ih stječe svojim rođenjem), neotuđiva (ne smiju se nikome oduzeti) i univerzalna (pripadaju svim ljudima). Ustavni dokumenti te međunarodni dokumenti o ljudskim pravima stavljaju čovjeka i njegova prava u središte pozornosti te jamče njihovu zaštitu.*

*Teritorij određene teritorijalne zajednice predstavlja polazište za ostvarivanje ljudskih prava te političkih, gospodarskih i društvenih aktivnosti ljudi. Upravo, od mogućnosti ostvarivanja ljudskih prava svakoga čovjeka ovisi i razvoj teritorijalne zajednice.*

*Opća deklaracija o ljudskim pravima propisuje kako se ne smije praviti nikakva razlika u pravima zbog područja kojemu neka osoba pripada. S obzirom na izražene regionalne nejednakosti na teritoriju Republike Hrvatske, ne postoje jednake mogućnosti za ostvarivanje ljudskih prava. To je posebice izraženo na prostoru Istočne Hrvatske, gdje su pojedina prava teže ostvariva, nego u razvijenim područjima. Postojanje regionalnih nejednakosti posebice utječe na ostvarenje gospodarskih, socijalnih i kulturnih prava. Ta prava čine uvjet za ljudsko dostojanstvo. No u pojedinim slučajevima, regionalne nejednakosti utječu i na ostale naraštaje prava. Ljudska prava su međusobno ovisna i povezana. O tome u kojoj mjeri će biti ostvareno pojedino ljudsko pravo, ovisi o ostvarenju drugih prava.*

*Autor zaključuje kako neravnomjernost regionalnog razvoja državnog teritorija doprinosi nejednakim mogućnostima za ostvarenje zajamčenih ljudskih prava te nejednakim mogućnostima za razvoj, kao temelju za ostvarivanje svih prava. S druge strane, autor nastoji dokazati kako ravnomjeran regionalni razvoj predstavlja temelj za ostvarivanje prava na cjelokupnom teritoriju određene teritorijalne zajednice.*

***Ključne riječi:*** jednake mogućnosti, ljudska prava, ravnomjeran regionalni razvoj, regionalne nejednakosti, teritorij.

### 1. Introduction

While certain Croatian regions exceed the Croatian average, or are in the European development average (for example Zagreb), others are far below it (for example Eastern Slavonia).

Eleanor Roosevelt, in her speech on the 10<sup>th</sup> anniversary of the Universal Declaration of Human Rights, 1958, on the question where do human rights begin answered: "In small places, close to home - so close and so small that they cannot be seen on any maps of the world. Yet they are the world of the individual person; the neighbourhood he lives in; the school or college he attends; the factory, farm, or office where he works. Such are the places where every man, woman, and child seeks equal justice, equal opportunity, equal dignity without discrimination. Unless these rights have meaning there, they have little meaning anywhere."

Some authors point to problems in exercising human rights, such as:

- Human rights and fundamental freedoms are normatively spreading, but they are still repressed and often threatened or violated (Smerdel, 2011, 4).

- Expansion of government power in a crisis directly leads to a reduction in the scope of human rights - in emergency situations (Gardašević, 2011, 74). Indeed, one of the aggravating circumstances of the exercise of human rights in territorial and political community are regional disparities.

The Charter of Fundamental Rights of the European Union, in Article 45, guarantees freedom of movement and freedom of residence, under which every citizen of the Union has the right to move and reside freely within the territory of a Member State. Similar guarantees are ensured by the Constitution of the Republic of Croatia, regarding the Croatian territory (Article 32). However, due to regional differences, the inhabitants of Eastern Croatia rarely use voluntary migration, but are more often forced into migration to rich regions (within the Croatian territory) and the richer countries, leaving their country, often due to lack of development of the territory in which they live.

## **2. Human Rights in General**

Respect for human rights is explicitly defined as the highest value in the EU Treaty (Article 2) and the Croatian Constitution (Article 3). Human rights are necessary in every political community, for the benefit of all individuals and the whole community.

The basic tenets of human rights are: a) innateness -every human being acquires them at birth; b) inalienability – they must not be taken from anybody; and c) universality – they belong to all people around the world. Human rights are the presumptions of life on the entire territory of a country. These are the rights that democratic systems guarantee to all people, regardless of their place of residence.

Contemporary legal basis for the recognition and protection of human rights, on a worldwide basis, is primarily in the acts occurred under the auspices of the United Nations: Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights. In legal terms, rights' protection is the most developed in Europe. Here the most important are legally binding international documents: the Treaty on European Union, the Charter of Fundamental Rights of the European Union, as well as the European Convention for the Protection of Human Rights and Freedoms of 1950. In general, European countries today not only accept international documents on the rights, but also recognize human rights and freedoms in their constitutions and laws. For example, the Croatian Constitution devotes more than one-third of the constitutional text to human rights.

## **3. Territory - a Framework for Exercising Human Rights**

The fact is that the citizens exercise their human rights within the territory of a territorial community, i.e. where they live. The previous statement is confirmed by Article 2, paragraph 1 of the Residence Act which reads: "A residence is a place and address in the Republic of Croatia where the person has permanently settled for the exercise of his/her rights and obligations related to the vital interests such as family, professional, economic, social, cultural and other interests."

The right to vote, as a fundamental human right, it is also related to territory and is exercised in constituencies that make up a particular territorial area. Citizens cannot vote in several constituencies (Smerdel, 2009, 241). For example, in accordance with Articles 5 and 6 of

Constituencies Act for the election of representatives in the House of Representatives of the Croatian Parliament, IV constituency includes Virovitica-Podravina County and Osijek-Baranja County, in its entirety, while V. constituency, entirely covers Požega-Slavonia County, Brod-Posavina County and Vukovar-Srijem County.

Guiding Principles for Sustainable Development of the European Continent in its preface, emphasize "the territorial dimension of human rights and democracy". Their goal is to determine the extent of territorial development policy by which people in all member states of the Council of Europe can achieve an acceptable standard of living. Exercising human rights of every person in the political community leads to the development of a political community as a whole.

It is safe to say that development of the territory affects the sufficiency of meeting the needs of the people who live on it. If parts of the national territory are underdeveloped and if they are dominated by poverty and social exclusion, the exercise of human rights is difficult.

#### 4. The Existence of Regional Inequalities and Their Impact on the Exercise of Human Rights

Zvonimir Lauc lists three ontological revolution: 1.) equality before God, 2) equality before the law and 3) equity in development (Lauc, 2012, 120). Source of great inequalities in Croatia is a place of residence. For example, citizens of Zagreb and Istria have quality of life comparable to the EU, whereas the vast majority of the population of Eastern Croatia, especially in rural areas, live at the poverty line.

The decision on the classification of local and regional self-governments according to development is being applied since January 1<sup>st</sup> 2014 and classified units into several groups (Table 1).

*Table 1 The Differences in Development between Croatian Counties*

| County  | % of development July 15 <sup>th</sup> 2010 | % of development December 27 <sup>th</sup> 2013 | Difference |
|---|---|---|------------|
| <b>Counties of the Eastern Croatia (up to 75% of development)</b> |   |   |            |
| 1. Virovitica-Podravina County                                    | 20,51                                       | 5,56  | -14,95     |
| 2. Brod-Posavina County   | 33,36                                       | 18,43   | -14,93     |
| 3. Vukovar-Srijem County  | 20,57                                       | 18,73   | -1,84      |
| 4- Požega-Slavonia County   | 43,95                                       | 33,81   | -10,14     |
| 5. Osijek-Baranja County  | 52,88                                       | 46,07   | -6,81      |
| <b>Counties over 125% of development</b>                          |   |   |            |
| 6. Primorje-Gorski Kotar County                                   | 142,32                                      | 139,21  | -3,11      |
| 7. Istrian County   | 156,13                                      | 156,80  | 0,67       |
| 8. The City of Zagreb   | 187,54                                      | 186,44  | -1,1       |

*Source: Excerpt from the Assessment and Classification of Counties Based on Development, calculation by the County January 15<sup>th</sup> 2010, Assessment and Classification of Counties Based on Development, calculation by the County December 27<sup>th</sup> 2013*

From the table above it is clear that all five counties of the Eastern Croatia represent undeveloped units (up to 75% of the Croatian average). On the other hand, three Croatian counties exceed 125% of the Croatian average.

#### **4.1. Unequal Opportunities for Exercising Human Rights with Regard to Regional Disparities**

Branko Smerdel, in several places asks the question of equal opportunities for exercising human rights (Smerdel, 2013, 102, 108 and 393). The Eastern Croatia is an example where its inhabitants do not have equal opportunities for exercising human rights, due to regional disparities in the whole territory of the Republic of Croatia. Closely related to this are also restrictions regarding internationally recognized human rights. These constraints are typical for the Eastern Croatia.

#### **4.2. Restrictions on Internationally Recognized Human Rights as a Result of Delays in the Development**

The Universal Declaration of Human Rights provides:

- There are to be no distinctions in rights on the basis of the territory to which a person belongs (Article 2, paragraph 2) and
- In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law (Article 29, paragraph 2).

The Constitution of the Republic of Croatia also regulates the restrictions according to which the human rights guaranteed by the constitution can be limited: in a state of war or imminent threat to the sovereignty and integrity of the country and large-scale natural disasters "(Article 17, paragraph 1). As a rule, there is no legal possibility of limiting guaranteed human rights and fundamental freedoms, outside the certain prescribed restrictions.

Vienna Declaration (1993) makes it clear that developmental delay cannot be justification for limiting the internationally recognized human rights. However, in addition to limitations determined by the legislation, limitations of human rights outside the prescribed legislation occur due to regional disparities.

#### **I. First-Generation Rights (personal and political rights)**

##### **▪ The Right to protection of human dignity**

Human dignity is the value highlighted in the basic documents on a global, European and national level. The preamble to the Vienna Declaration confirmed that all human rights derive from the dignity and values inherent in every man.

Human dignity is limited by regional inequalities that cause: poverty, social exclusion, dependency, unemployment and significantly lower standard of living.

##### **▪ The Right to life**

The right to life is guaranteed in all the founding documents that protect human rights. In the underdeveloped areas this right is often limited, especially in the absence of adequate mechanisms to ensure security of people.

The Strategy for the Defence of the Republic of Croatia (point 1.2.) points out that unequal economic development is the main source of security threats from the economic and social aspects".

Uneven regional development can benefit to development of terrorism, which also endangers human life. In this respect, the National Strategy for Prevention and Suppression of Terrorism (Chapter III., Point 19) states that of prevention and suppression of terrorism on a global, regional and national level includes troubleshooting, such as weak economic development. Another person warning about the dangers is Saša Šegvić, noting that economic inequality represents a fertile ground for terrorism and strengthening of organized crime (Šegvić, 2009, 671).

- **The Right to Liberty and the Issue of Dependence**

Article 6 of the Charter of Fundamental Rights of the European Union guarantees the right to freedom to everyone, and according to Article 3 of the Croatian Constitution, freedom is a fundamental constitutional values.

All that deprives one of freedom constitutes one's dependence. In underdeveloped areas people are dependent on a variety of assistance. Radovan Radonjić claims that the exercise of human rights and the dependence of any kind do not go together. Human rights and poverty are incompatible. Economically dependent and socially vulnerable person is not the one who freely and consciously decides, not even when voting at the polling station. In this case such person, consciously or unconsciously, expresses the will and interests of those he/she is dependent on (Radonjić, [www.ffzg.unizg.hr/hre-edc/11.pdf](http://www.ffzg.unizg.hr/hre-edc/11.pdf)). Regional disparities cause dependence and thus lead to a restriction of freedom.

- **Political Rights**

In general, political rights should guarantee to every person unimpeded participation in political life, as part of its political community, which is essentially important for its development. In unfavourable socio-economic conditions in a particular territory, people are not subjectively turned towards exercising their civil and political rights. In underdeveloped regions we see passivation of the population in political life, which leads to the alienation of individuals from the political power and the limitations of human rights.

- **The Right to Equal Access to Services of General Interest**

The Declaration on the Right to Development, in Article 8 obliges States to take all necessary measures for the realization of the right to development and ensuring to all its inhabitants equal access to essential resources. One of the fundamental problems of underdeveloped areas is that the population has limited access to services of general interest.

The problem of uneven development especially brings into question the enjoyment of the right to health care. This is also underlined by the Constitution of the World Health Organization which states: "Uneven development of different countries raises difficulties in controlling the diseases, especially infectious diseases".

- **The Right of Citizens to Participate in the Conduct of Public Affairs**

The right of citizens to participation in public affairs, under equal conditions is stipulated by Article 44 of the Constitution of the Republic of Croatia. However, while people in developed areas have a great opportunity to make decisions, at the same time many in underdeveloped regions are devoid of almost any possibility of personal initiative and responsibility.

The regional organization (which has not yet taken hold in Croatia) improves realization of fundamental political right to participate in public affairs. It is an integral part of a framework for managing regional development policy and largely determines solutions regulated in constitutions, European law and the laws on regional development.

- **The Right to Local Self-Government**

The right to local self-government is guaranteed by the European Charter of Local Self-Government (Article 3) and the Constitution of the Republic of Croatia (Article 133, paragraph 1). It is completely identified with other human rights and is realized through the representative bodies of local government units.

However, underdeveloped local units are not able to sufficiently realize the citizens' needs and interests of the local population, and they are limited with regard to this right.

## **II. Second-Generation Rights (economic, social and cultural rights)**

As previously mentioned, the realization of economic, social and cultural rights is a condition for human dignity.

A document by the Council of Europe entitled "Access to Social Rights in Europe, refers to" disadvantaged areas" and "Communities that suffer shortage ". The document pointed out: "In all the work on access to social rights it is pointed out the existence of disadvantaged regions and localities in the member states. The factors which are at the root of this situation vary considerably. In many cases it is the infrastructure, but also the lack of public services."

### **▪ Entrepreneurial and Market Freedom**

Entrepreneurial and market freedom is the foundation of the economic system of democratic countries. In the underdeveloped areas we also see prevention and limitation of business activities, and market activities also circumvent these regions.

### **▪ The Right of Ownership**

The right of ownership is guaranteed by the Croatian Constitution (Article 48, paragraph 1) includes the real right to certain property that entitles its holder to do what he/she pleases with the said property and all proceeds linked to it.

In accordance with Article 5, paragraph 5. Of the Regulation on the Assessment of Property, economic and demographic development of the region significantly affects the value of the property. In this way, property owners in the underdeveloped areas are unequal in relation to the owners who have properties in developed areas. Therefore, it is not the same whether the real estate is in Slavonia, Zagreb, or Istria.

### **▪ The Right to a Standard of Living**

This right is stipulated in the Article 25 of the General Declaration of Human Rights, according to which everyone is entitled to a standard of living adequate for the health and well-being of himself and of his family. It includes a sufficient standard for a man and refers to the entire territory.

In fact, the existence of sufficient living standards is one of the most desired traits of life in a territorial community. In underdeveloped regions most people are limited on this point.

### **▪ The Right to Marriage and Founding a Family**

Although the Constitution of the Republic of Croatia guarantees the right to marry and founding a family (Article 62), in underdeveloped areas, due to poverty, the realization of this right is limited.

### **▪ The right to Work**

In addition to the documents of international and European law, the right to work is guaranteed by the Croatian Constitution (Article 55). Underdeveloped areas have low employment, therefore many residents of these areas cannot exercise the right to work and go to more developed areas to find work.

### **▪ The right of Employed to Profit**

The Croatian Constitution, in Article 56, paragraph 1 specifies that every employee is entitled to remuneration with which he/she can ensure for himself/herself and his/her family a free and adequate life. However, it is not necessary to special prove that the levels of earnings are low, and their payments are irregular, in underdeveloped regions.

### **▪ Children's Rights**

The Convention on the Rights of the Child obliges the parties to abide by its provisions and includes the right to monitor the application in countries which have accepted and ratified it. In accordance with its Article 27, paragraph 1, States shall recognize for every child the right to a standard of living adequate to its physical, mental, spiritual, moral and social development. The standard of living of children is often limited in underdeveloped areas.

- **The Rights of Persons with Disabilities**

The United Nations Convention on the Rights of Persons with Disabilities, which was ratified by the Croatian Parliament in 2007, is a key document on the human rights of persons with disabilities. One of the principles of the Convention is the accessibility (Article 9), according to which States Parties to the Convention shall take appropriate measures to enable access to persons with disabilities. However, the realization of rights of the disabled in terms of accessibility of facilities and services is limited in underdeveloped areas. In Slavonia, the situation is dramatic, and is linked to the rights of people with autism. Unlike Zagreb, Split and Rijeka, which have Centres for Autism, in Osijek there is not a single specialized institution nor department (<http://www.jutarnji.hr/kci-od-2013--ne-dolazi-kuci-jer-cijela-slavonija-nema-ustanovu-za-autizam>). Namely, autism is a biological disorder of the brain development.

## **5. Balanced Regional Development - the Basis for Equal Opportunities for the Exercise of Rights**

Branko Smerdel, believes that the realization of human rights and freedom requires, inter alia, the exercise of certain economic and social conditions (Smerdel, 2011, 2). The lower the level is, the higher the chances of incidence of various limitations. Balanced regional development represents the common interest of the political community as a whole and has an impact on community life. It includes the equality of citizens in exercising their rights and development opportunities.

In the second part of the Vienna Declaration entitled "Enhancing Coordination for Human Rights within the United Nations System Adopted by the World Conference on Human Rights", "The World Conference on Human Rights recognizes the necessity for continuing adaptation of the United Nations regarding human rights for current and future needs in the promotion and protection human rights, in the context of a balanced and sustainable development for all people" (Article 17).

The fact that the balanced development is considered to be the basis of all human rights is confirmed by the Resolution of Human Rights Council No. 14/4 of 2010. The Resolution, in its Article 19, emphasizes that "economic reform programs arising from foreign debt should contribute to balanced development as basis for the realization of all human rights".

In the European Union, with the aim of achieving balanced regional development, the concept of economic, social and territorial cohesion is particularly important.

### **5.1. The Right to Development of all People and Regions**

The right to development is the fourth dimension of human rights. This right is defined in the Article 1 of the Declaration on the Right to Development, as "an inalienable human right," according to which every person and all peoples are entitled to participate, encourage and exploit the results of the economic, social, cultural and political development, which allows to the full extent the realization of all human rights and fundamental freedom". The right to development contains elements of individual („every man") and collective human rights („all nations") to participate in the development and use of the results of development.

In addition to human rights, there are the rights of territorial communities (regions). The right of regions to receive support from EU funds in order to achieve balanced development and cohesion is based on the provisions of the Treaty on the Functioning of the European Union, and in particular Article 174. For example, under paragraph 2 of said article, the Union in particular seeks to reduce disparities between the levels of development of the various regions and the backwardness of the region in the least favourable position.



The regulation of this law is elaborated by the Regulation on Common Provisions of European Funds, which stipulates that all regions of the European Union are eligible for support from European funds, and the amount of support depends on their level of development (Article 90, paragraphs 2-3).

The Charter of Fundamental Rights of the European Union also promote balanced development and cohesion of the European Union.

Zvonimir Lauc thinks that in Croatia it is urgently needed to regionalise development, stressing that every individual and all regions have equal access to sufficient development (Lauc, 2013, 119). Previously quoted author believes that democratic and social state must provide (semi) equal opportunities for all citizens and regions, and that the so-called statistical regions were not "invented" without a reason (Lauc, 2005, 2). The right to development is also present in the Croatian legal system. Thus, the Constitution of the Republic of Croatia, in the chapter on economic and social rights, in Article 49, paragraph 3, prescribes responsibility of the State to the economic development of all regions. In addition, according to the regional development, local self-government units that have gained the status of assisted areas are eligible for assistance from the state budget.

## **5.2. Interdependence of Human Rights and Equal Development Expressed in some Constitutions**

Some constitutions directly or indirectly link the balanced development with human rights. As a first example we use the Constitution of the Republic of Italy which links human rights and balanced regional development. The said Constitution, in Article 119, paragraph 5, states that "... with an aim of eliminating economic and social inequalities, to facilitate the effective exercise of the rights of citizens, and to facilitate achieving the goals that are outside of their primary jurisdiction, the State allocates additional resources and special intervention in favour of certain municipalities, provinces, cities and regions". Already mentioned Article 49, paragraph 3 of the Croatian Constitution sets the responsibility of the States for the economic development of all regions, classifying it in the chapter on Economic, Social and Cultural Rights. Similarly, according to the Article of the The Constitution of Afghanistan "the State is obliged to create a prosperous and progressive society based on ... human rights protection ... in order to ensure balanced development of all regions of the country. In the Preamble to the Constitution of Eritrea an emphasis is placed o the belief that "recognition, protection and ensuring the rights and freedoms of citizens, human dignity, and equality will guarantee balanced development".

## **6. Conclusion**

The issue of promotion, protection and realization of human rights, with the organization of government, is the most important constitutional matter. The possibility of their realization is especially important.

Connecting regional disparities to the realization of human rights is under-explored area, so this paper represents a scientific contribution in this regard.

The existence of regional disparities calls into question the basic tenets of human rights, thus the inherency, inalienability and universality in underdeveloped regions throughout Europe and the world are becoming theoretical ideals.

Considering that the realization of human rights is largely related to the territory of the political community to which a person belongs, the existence of regional disparities is a typical example of

why citizens do not have equal opportunities for their implementation throughout the territory of their own country. In addition, regional differences emerge as a limiting factor for human rights.

The realization of human rights depends fundamentally on the level of economic, social and territorial development of a territorial community. The lower the level of development, the higher are the chances of incidences of inequalities of all kinds.

On the other hand, the exercise of some human rights and community rights contributes to reducing regional disparities, such as.: the right to development, the right of citizens to participate in the management of the community, the right to a standard of living, the right to a continuous improvement of living conditions, the right to the improvement of material and spiritual development, the right of region to support from the European funds etc.

In general it can be concluded that there can be no equality of people without equal development of the country's territory. Regional disparities prevent: a) equality in rights and dignity, b) equal possibilities for realization of human rights and c) equal opportunities for development.

## REFERENCES

*Vienna Declaration and Programme of Action*, Adopted by the World Conference on Human Rights in Vienna on 25 June 1993

*Charte européenne de l'autonomie locale*, Strasbourg, October 15<sup>th</sup> 1985

*Charter of fundamental rights of the European Union*, Official Journal of the European Union 2010/C 83, 30.3.2010.

*Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union*, Official Journal of the European Union 2010/C 83, 30.3.2010.

*Constitution of the Italian Republic*, 1948.

*Constitution of the World Health Organization*., New Yorku April 7<sup>th</sup> 1948

*Declaration on the Right to Development*, December 4<sup>th</sup> 1986

Eleanor Roosevelt, USA representative in the United Nations – „*I our hands*“ (Speech on the 10<sup>th</sup> anniversary of the Universal Declaration of Human Rights, 1958).

*Eritrea – Constitution*, adopted on: July 1996.

Gardašević, B.: *Ustav Republike Hrvatske i „stanja izuzetka“*, u Smerdel, B., Gardašević, B.: Izgradnja demokratskih institucija Republike Hrvatske, Hrvatska udruga za ustavno pravo, Zagreb, 2011, str. 61.-87.

*Convention on the Rights of the Child*, Adopted and opened for signature, ratification and accession by General Assembly resolution 44/25 of 20 November 1989

*The Convention on the Rights of Persons with Disabilities and its Optional Protocol* (A/RES/61/106) was adopted on 13 December 2006 at the United Nations, New York

*The Convention for the Protection of Human Rights and Freedoms*, the Council of Europe, Rome, 1950.

Lauc Z.: *Odgovornost lokalne demokracije*, u Ustavna demokracija i odgovornost, Okrugli stol održan 22. studenoga 2012., Knjiga 19., Hrvatska akademija znanosti i umjetnosti, Znanstveno vijeće za državnu upravu, pravosuđe i vladavinu prava, Zagreb, 2013.

Lauc, Z.: *Kako pisati, čitati, tumačiti i primjenjivati ustav*, str. 119.-143., str. 120., u Bačić, A., et.al.: Ustavi i demokracija – strani utjecaji i domaći odgovori, Okrugli stol održan 7. prosinca 2011. u palači Akademije u Zagrebu, Zagreb, 2012.

Lauc, Z.: *Pravo na lokalnu i regionalnu samoupravu, građanima jamči Ustav*, Informator, broj 5364–5365, 3. i 6. 8. 2005.

*Nacionalna strategija za prevenciju i suzbijanje terorizma*, Narodne novine br. 139/08.

Očajni roditelji „*Kći od 2013. ne dolazi kući jer cijela Slavonija nema ustanovu za autizam*“, Available at: <http://www.jutarnji.hr/kci-od-2013--ne-dolazi-kuci-fer-cijela-slavonija-nema-ustanovu-za-autizam/1306260/> published: 03.03.2015., accessed: 09.03.2017.

*The Universal Declaration of Human Rights*, United Nations General Assembly on 10 December 1948.

*Access to Social Rights in Europe* (Social Co-Operation in Europe) Paperback – January 1, 2002

Radonjić, R.: *Socijalna kohezija i ljudska prava*, Available at: [www.ffzg.unizg.hr/hre-edc/11.pdf](http://www.ffzg.unizg.hr/hre-edc/11.pdf), accessed: 24.01.2014.

*Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006*, Official Journal of the European Union, L 347/ 320, 20.12.2013.

Resolution adopted by the Human Rights Council 14/4 *The effects of foreign debt and other related international financial obligations of States on the full enjoyment of all human rights, particularly economic, social and cultural rights*, United Nations, General Assembly, 23 June 2010.

Smerdel, B., Sokol, S.: *Ustavno pravo*, 4. izmijenjeno izdanje, Narodne novine, Zagreb, 2009.

Smerdel, B.: *Hrvatska ustavnost u Europskoj uniji*, Informator, broj 6015 - 6016., 02. 11. 2011.

Smerdel, B.: *Ustavno uređenje europske Hrvatske*, Narodne novine, Zagreb, 2013.

Smerdel, B.: *Zadaće pravne znanosti i pravničke struke na dvadesetu obljetnicu „Božićnog ustava“*, u Smerdel, B., Gardašević, B.: Izgradnja demokratskih institucija Republike Hrvatske, Hrvatska udruga za ustavno pravo, Zagreb, 2011.

*Strategija obrane Republike Hrvatske*, Narodne novine br.33/02.

Šegvić, S.: *Antiterorizam u kontekstu borbe protiv organiziranog kriminala*, Zbornik radova Pravnog fakulteta u Splitu, god. 46, 4/2009., str. 667.-685.,

*The Constitution of Afghanistan*, Year 1382 (2003)

*Uredba o procjeni vrijednosti nekretnina*, Narodne novine br. 74/14

*Ustav Republike Hrvatske*, Narodne novine br. 85/10- consolidated text, 05/14

Guiding Principles for Sustainable Spatial Development of the European continent), „CEMAT”, Hanover, 2000.

*Zakon o izbornim jedinicama za izbor zastupnika u Zastupnički dom Hrvatskog državnog sabora*, Narodne novine br. 116/99.

*Zakon o prebivalištu*, Narodne novine br. 144/12, 158/13.

*Zakon o regionalnom razvoju Republike Hrvatske*, Narodne novine br. 147/14.

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**DEFINING SLAVONIAN BRANDS AS A VEHICLE OF ECONOMIC DEVELOPMENT****DEFINIRANJE SLAVONSKIH BRANDOVA U FUNKCIJI RAZVOJA GOSPODARSTVA****ABSTRACT**

*Purpose and goal: The research topic, from an economic point of view, includes exploring the preconditions for creating a brand in the food industry based on the theoretical and historical insights into the development of traditional products, as well as designing marketing strategies in the process of brand development.*

*Methodology: Analysis of existing research into brand equity in the food industry and the values characterizing the brand in the hierarchy of factors influencing the purchase decision process.*

*Main results: Replacing the 4P concept (product, price, place, promotion) with the “consumer is everything” concept, i.e. the consumer's perception of the product.*

*Implications: Based on the insights gained, effective marketing strategies for the development and monitoring of the brand will be devised.*

*This work has been fully supported-supported in part by Croatian Science Foundation under the project (3396).*

**Keywords:** *defining a brand, brand creation, brand management, regional identity of brands, Slavonia.*

**SAŽETAK**

*Svrha i cilj: Istraživačka tema s ekonomskog aspekta obuhvaća istraživanje preduvjeta za kreiranje branda u industriji hrane s aspekta teorijskih spoznaja i povijesnih činjenica u razvoju tradicionalnih proizvoda te definiranje marketinških strategija u procesu razvoja branda.*

Korištena metodologija: *Analiza dosadašnjih istraživanja u području vrijednosti branda (brand equity) u industriji hrane te vrijednosti koje karakteriziraju brand u hijerarhiji utjecaja na proces donošenja odluke o kupnji.*

Glavni rezultati: *Promjena koncepcije 4P (Proizvod, cijena, distribucija, promocija) u koncepciju „potrošač je sve“ odnosno potrošačevu percepciju o proizvodu.*

Implikacije: *Na temelju spoznatog izabrat će se učinkovite marketing strategije u izgradnji i praćenju branda.*

*Ovaj rad je financirala-sufinancirala Hrvatska zaklada za znanost projektom (3396).*

**Ključne riječi:** *Definiranje branda, Izgradnja branda, Vođenje branda, Regionalni identitet brandova, Slavonija.*

## **1. Introduction**

To achieve the goal of this paper, we first need to define the terms product, mark and brand. Adopting the definition according to which “a product is the aggregate of tangible and intangible properties including social, psychological and functional benefits and satisfaction” (Medić M et al., 2009, p. 88), while a mark is a “name, term, symbol or design or a combination of them (Kotler et al., 2006, p. 555) intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors, we can say that brand is “a fashion statement or a lifestyle” (Medić M et al., 2009, p. 94), i.e. a belief. Furthermore, the term brand as a name, term, sign, symbol, or “a system of fundamental, visual, verbal and written characteristics is aimed at identifying the product or service of one producer as distinct from those of others. A brand is far more than its outward representation, i.e. more that one can see, hear or touch; it represents the quality of a company, the business management and communication within a company as well as interaction with the market” (Medić, M. et al., 2009, p. 94).

There has been a marketing paradigm shift from product being developed into a brand to the brand being defined by the features of the product and the mark. If we look at a product in terms of its functional and rational features that define its benefits, which can be copied, the main features of the brand are emotion, promises based on trust, consistent experiences, expectations and originality.

### **1.1. Preconditions for building a brand**

To identify the preconditions for building a brand in the food industry based on theoretical and historical insights into the development of traditional products and devise marketing strategies for brand development (positioning) we need to identify:

- a) brand essence – a phrase or a sentence expressing the essence of a brand that cannot be copied or attacked by the competition because it is unique to that brand;
- b) brand promise - a promise that the brand gives to the target group or groups;
- c) brand personality - a set of human characteristics attributed to a brand, i.e. brand personalization, which is a precondition for creating an emotional connection with consumers (Brand personalization - Branddoctor).

To explore the topic further, we have used the research carried out by Anić, Piri Rajh and Rajh (2010), which assessed the impact of quality and price on mark loyalty, which, in this case, can be considered synonymous with the brand. The paper proposed three hypotheses:

“H1: There is a correlation between preference towards quality and mark (i.e. brand, author’s note) preference

H2: There is a negative correlation between price sensitivity and mark (i.e. brand, author's note) preference

H3: There is a positive correlation between mark preference and mark (i.e. brand, author's note) loyalty" (pp. 140-141).

The mentioned research was based on several statements of which we have selected the ones relevant for our research:

- When deciding on a purchase, high quality is important to me;
- When deciding on a purchase of a product, I am trying to make the best or the perfect choice;
- I have very high standards and expectations for products that I purchase;
- I try to find the best value for money;
- I have my favourite marks which I keep buying;
- Once I find the product or the mark I like, I stick to it (Anić et al., 2010, p. 149).

The mentioned research "provides a deeper insight into the impact of quality and price on brand loyalty" (Anić et al., 2010, p.146), which has been confirmed by the proposed hypotheses.

The research results can be applied equally well to the branding of food products. Namely, according to Vranešević et al. (2004), the problem with branding is that "many producers believe that by fulfilling the legal requirements with regard to the content of their products such as meat quality, the type and amount of preservatives and other additives, a sufficiently reliable guarantee is provided for the quality of their products." However, "for foodstuffs, a possible solution could be to reduce the amount of, or completely remove, preservatives and they would be sure that their product was of higher quality than others" (p. 80).

## **2. Defining Brand Equity**

Product quality is not enough for brand development, especially the development of brand equity. More specifically, the product as the basic element of the traditional marketing mix must be distinct not only in terms of its quality, but also in terms of its market-perceived quality. The Profit Impact of Marketing Strategy (PIMS) study undertaken in the 1960s and 1970s, which concluded that "market-perceived quality is the attitude of the customer to a product or service compared to the competition, while value to the customer is the market-perceived quality compared with the relative price of the product", has provided the basis for the development of brand equity (Vranešević et al., 2010, p. 81). PIMS study results have shown that "it is possible to find a high correlation between market-perceived quality and profitability" (Vranešević et al., 2010, p. 81).

Brand equity can be defined from two aspects: cognitive psychology and information economics. It has been empirically demonstrated that brand equity plays an important role in the determination of price structure and, in particular, firms are able to charge price premiums that derive from brand equity after controlling for observed product differentiation

According to cognitive psychology, brand equity lies in consumer's awareness of brand features and associations, which drive attribute perceptions.

According to information economics, a strong brand name works as a credible signal of product quality for imperfectly informed buyers and generates price premiums as a form of return to branding investments.

Brand equity assessment methods are proprietary, i.e. owned by several research agencies that have developed them and use them in their research:



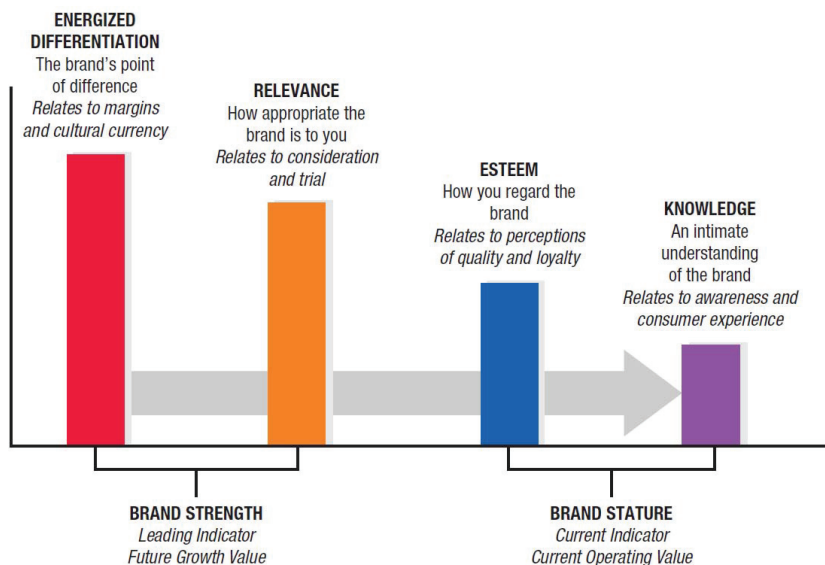
1. Brand Asset Valuator
2. Wunderman Brand Experience Scorecard
3. Millward Brown Brand Dynamics
4. Conversion Model
5. Substitutability Method (Vranešević & Marušić, 2003, p. 103).

For the purposes of this paper, we have used the Brand Asset Valuator (BAV), a method developed by the Young & Rubicam agency, with the help of which it builds and manages brands. It is based on the largest global database of consumer brand perceptions which was developed as a result of one of the most extensive studies in this field. The study has shown that successful brands are built in four stages (four support pillars):

1. *Differentiation* is the starting point in brand development. Brands are built with the help of differentiation, and the first question asked by researchers is: *are people familiar with the brand?*
2. *Relevance* refers to product or service use - *is it important to people?* There is a strong correlation between the relevance of a product or service and market penetration.
3. *Esteem* refers to the way consumers perceive the brand's reputation: does the brand keep its promises; how do consumers perceive them; *how much do they like the brand?* Two factors affect esteem: product/service quality perceptions and brand popularity.
4. *Knowledge* refers to consumer experiences - *what do they know?* It is the extent of the consumer's awareness of the brand and understanding of what it represents. Brands can be valued using these individual factors; however, the true reflection of brand health is the relationship between the internal brand value, i.e. the ability to withstand a high price and the ability to protect itself from competitors. This is why the model combines the first two pillars (differentiation and relevance) into a summary parameter called "brand strength" (Vranešević & Marušić, 2003, 134).

Figure 1 shows the BAV model which we consider to be most commonly used in professional and scientific literature.

**Figure 1** Brand Asset® Valuator model



Source: Kotler, P., Keller K.L., (2012) *Marketing management, 14<sup>th</sup> ed.*, Upper Saddle River, N.J.: Prentice Hall, p. 246

The Brand Asset Valuator Model serves as a diagnostic tool for building and managing brands. Brand strength shows the strengths and weaknesses of the brand and identifies the strategic direction in which it should develop.

The results of the research carried out at the Faculty of Agriculture in Osijek as part of the international research project *Scientifically Branded Pork (SCIBRAPORK)* have shown that “all of the meat quality traits differed significantly between the investigated pork chains with the exception of Warner-Bratzler shear force measured on *longissimus dorsi* muscle” (Komlenić, et al., 2017, p.1). “The quality of pork meat is to a great extent dependent on the breed, genotype, feeding regime, pre-slaughter treatment and other interacting factors but also on certain features of a production system” (Olsson & Pickova 2005). Bonneau & Lebret (2010) reported more than 80 pork production systems in European countries: about half of them are considered conventional, while the other half can be regarded as alternative based on claims on eating quality, animal welfare, environment, local, etc. The claims on higher meat quality rely on the fact that it can be improved by choosing the appropriate pig breeds, rearing system and feeding strategy. For example, some production systems are based on local breeds kept in extensive rearing conditions, whereas in some systems conventional hybrids in intensive rearing are used with only limited specifications such as prolonged fattening period or specified minimum age at slaughter, improved housing etc. In present study, the most influential factors (breed, age at slaughter, slaughter weight, feeding regime, rearing system) are combined into the pork chains aimed at the production of meat which could be claimed to be of higher quality, hence suitable for the production of *Baranjski kulen* (PGI)” (Komlenić et al., 2017, p. 2).

The discussion presented in this paper relates to the above-mentioned project in which we looked at the topic from the economic aspect, based on theoretical and historical insights into traditional products, and selected the most appropriate marketing strategies. In developing the brand, we used the appropriate approaches, i.e. models that will be applied to the results of the project, i.e. high quality pork products with regional identity, with the aim of developing the local

agribusiness. Based on the insights gained we have selected effective marketing strategies for brand management, and we will monitor its market positioning.

### 3. Conclusion

This paper aims to highlight that in eastern Croatia (Slavonia and Baranja region) there are optimal conditions for development of new approaches to food production that can be taken advantage of through brand building in the food industry based on the development of traditional products using new marketing strategies in the food product development process. This is supported by the results of research projects carried out at the Faculty of Agriculture and the Faculty of Economics in Osijek.

Consumers are becoming increasingly aware of the need to pay more attention to the food they consume. Positive perceptions of local products should be exploited more fully, while developing a strategy for branding of traditional products. Combined research in both fields, agriculture and economics, can bring about synergies in creating brand equity in the food industry.

### Acknowledgments

*This work has been fully supported-supported in part by Croatian Science Foundation under the project (3396).*

### REFERENCES

- Anić, I., Piri Rajh, S., Rajh, E. (2010). UTJECAJ KVALITETE I CIJENE NA LOJALNOST MARKI. *Ekonomski preglad*, 61(3-4), 137-150. Preuzeto s <http://hrcak.srce.hr/52259> (accessed: 1 March 2017)
- Bonneau, M & Lebret, B 2010, 'Production systems and influence on eating quality of pork', *Meat Science*, vol. 84, pp. 293–300.
- Gale, B., & Wood, R. C. (1994). *Managing customer value: Creating quality and service that customers can see*. Simon and Schuster.
- Komlenić, M. et al (2017) Carcass composition and meat quality of pigs from different pork chains in the production of Baranjski kulen (PGI), rad u postupku objave.
- Kotler, P., Keller K.L., (2012) *Marketing management*, 14 ed, Upper Saddle River, N.J. : Prentice Hall
- Kušec, Goran; Đurkin, Ivona; Petričević, Antun; Kralik, Gordana; Maltar, Zlata; Margeta, Vladimir. (2009) **Carcass leanness of pigs in Croatia estimated by EU referent method.** // *Italian Journal of Animal Science*. 8, Suppl. 3; 249-251
- Kušec, Goran; Dovč, Peter; Karolyi, Danijel; Čandek Potokar, Marjeta. (2015) **Local pig breeds and pork products in Croatia and Slovenia – unexploited treasure.** // *Poljoprivreda (Osijek)*. 21, S1; 16-21
- Lukić, Boris; Cimerman, Emilija; Raguž, Nikola; Djurkin Kušec, Ivona; Rowe, Suzanne; Kušec, Goran. (2016) **Nerastovsko svojstvo - mogućnosti i rješenja u uzgoju svinja.** // *Poljoprivreda (Osijek)*. 22 , 2; 57-63

Medić, M., Pancić, M. et al. (2009) Osnove marketinga, Ekonomski fakultet u Osijeku, Osijek  
Personaliziranje branda – Branddoctor, <http://branddoctor.com/services/pozicioniranje-branda/>  
(accessed: 28 February 2017)

Pugliese, C & Sirtori, F 2012, 'Quality of meat and meat products produced from southern European pig breeds', *Meat Science*, vol. 90, pp. 511–18.

Schlegelmilch B.B. (2016) *Global Marketing Strategy*, Springer International Publishing

Schroeder, J. Salzer Morling, M. (2006) *Brand Culture*, Routledge,

Vranešević, T; Marušić, M. (2003.): Mjerenje vrijednosti marke, Zbornik Ekonomskog fakulteta u Zagrebu, godina 1, broj 1, str. 133.

Vranesevic, T., Vignali, C., & Vignali, D. (2004). Consumer perception of perceived value and satisfaction in marketing management. *Journal of Food Products Marketing*, 10(3), 61-89.

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## **DEVELOPMENT OF THE MARKET FOR MODERN, COMMERCIAL WAREHOUSE SPACES AS THE LOGISTICS INFRASTRUCTURE FACILITIES OF THE REGION – EXPERIENCES FROM POLAND**

### **RAZVOJ MODERNOG TRŽIŠTA KOMERCIJALNOG SKLADIŠNOG PROSTORA KAO OBJEKATA LOGISTIČKE INFRASTRUKTURE U REGIJI – ISKUSTVO IZ POLJSKE**

#### ***ABSTRACT***

*The logistics and transport infrastructure is a factor influencing the cohesion and integration of regions, and the same time creating conditions for business activities. One of its significant elements nowadays are modern warehouse facilities. They are used both to perform logistics functions and also for manufacturing activities to a larger and larger extent. Over the last several decades, a significant increase in the modern, commercial warehouse space market resources has been seen in Europe and beyond. It applies also to Poland which, similarly to many Central and Eastern European countries, was characterized by significant backwardness in this respect, due to historical and geopolitical reasons. The dynamic development of this market in Poland began in the early years of this century, and gained specific momentum after Poland's accession to the EU in 2004. Currently, the modern, commercial warehouse and industrial space resources are more than 11.2 million m<sup>2</sup>. In the next decade it is forecasted that this space will double due to the needs of tenants from various sectors, including in particular e-commerce. Therefore, the main objective of the article is to show the experience gained from the development of the modern, commercial warehouse space market in Poland. This development and its effects, also in regional terms, are discussed from the quantitative and qualitative viewpoint. Research of literature, analysis of statistical data, analysis of reports and information published by agencies and consultants operating in the real estate market and by warehouse developers were conducted to accomplish the main objective of the article. The performed analysis has made it possible to discuss, inter alia, changes in the size of the warehouse space market resources in Poland and its regions. The number of warehouse space developers and their share in the market resources has been indicated in respect of the supply. Regularities related to the share of individual sectors in the volume of market transactions have been outlined in respect of the demand. From the qualitative perspective, the analysis has made it possible to outline factors which have influenced the existing development of the Polish warehouse market and those that will set its direction in the future. The analysis reveals also universal regularities that may serve as examples for other countries.*

**Key words:** *modern, commercial warehouse space market; logistics infrastructure; warehouse space developers; regions; warehouses.*

## SAŽETAK

*Infrastruktura transport no-logistična je faktor kohezije, regionalne integracije i istovremeno širokog stvaranja uvjeta za gospodarsko poslovanje. Danas je jedan od bitnih elemenata modernog skladištenja. Oni se koriste kako za provedbu logističkih funkcija, ai u sve većem obimu za proizvodne djelatnosti. Tijekom posljednjih nekoliko godina, u Europi i izvan nje, je napravljen značajan porast resursa modernog komercijalnog skladišnog prostora. To se odnosi i na Poljsku, koja je, zbog povijesnih i geopolitičkih uvjeta, kao mnoge zemlje srednje i istočne Europe, ima u tom smislu značajajne zaostalosti. Dinamičan razvoj ovog tržišta je započeo u Poljskoj početkom ovog stoljeća, a stekao je posebni zamah nakon ulaska u EU 2004. godine. Trenutno površina modernog, komercijalnog, industrijsko- skladišnog prostora iznosi više od 11,2 milijuna m<sup>2</sup>. U sljedećem desetljeću predviđa se udvostručenje veličine prostora zbog potrebe umajmitelja iz različitih sektora, a posebno e-trgovine. Glavna svrha članka je, dakle, pokazati iskustvo razvoja tržišta komercijalno skladišnog prostora u Poljskoj. Ovaj razvoj i njegovi efekti, također u regionalnom kontekstu, izloženi su sa stanovišta kvantitete i kvalitete. Za realizaciju glavnog cilja članka proučena je literatura, analizirani statistički podatci, analizirani izvješća i informacije objavljene od strane agencija i konzultantskih tvrtki koje posluju na tržištu nekretnina i skladišta. Provedena analiza je omogućila iz. ost. utvrđivanje veličine skladišnog prostora na tržištu u zemlji i njezinim pojedinim regijama. S obzirom na stranu ponude - označava broj developera skladišnog prostora i njihov udio na tržištu. S obzirom na stranu potražnje, utvrdio bliže sudjelovanje pojedinih sektora u volumenu transakcija na tržištu. Analiza iz aspekta kvalitete, omogućila je usklađivanje čimbenika koji su utjecali na dosadašnji razvoj poljskog skladišnog tržišta i onih koji će mu određivati smjer u budućnosti. Iz analize vidimo općie obrazace koji mogu biti primjeri za druge zemlje.*

**Ključne riječi:** tržište modernog komercijalnog skladišta; logistika infrastrukture, programeri skladišnog prostora; regija; skladišta.

### 1. Introduction

The logistics infrastructure is a factor of significant importance for the regional development. In the reference publications the term logistics infrastructure is defined by two standard groups of elements - transportation and communication infrastructure (Vilko, Karandassov, Myller, 2011, 1154). From the viewpoint of regional development we need to pay attention to a linear infrastructure of particular transport modes and nodal infrastructure<sup>1</sup>. The latter is also defined as logistic nodal infrastructure and consists of several main types of facilities: "ports, transshipment terminals, warehousing centres and logistics centres" (Fechner, 2009, 1).

While analysing the relation between the proper logistics infrastructure existing in the region and its attractiveness for the location of business activity we need to refer to various studies in the reference publications. Some analyse the relations between logistic infrastructure and regional accessibility and regional competitiveness (Vilko, Karandassov, Myller, 2011, 1152). Moreover, the presented research results indicate that the improvement in logistics infrastructure exerts impact on vertical FDI, in particular in sectors highly dependent on the logistics services (Blyde, Molina, 2015, 329). Therefore, we need to emphasize the relation between the logistics infrastructure existing in a particular area and the regional economic development (Vilko, Karandassov, Myller, 2011, 1152). It is also determined that the crucial function of logistics

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<sup>1</sup> Infrastructure (trade and transport infrastructure) constitutes important component of Logistics Performance Index (LPI) (aside from: Customs, Ease of arranging shipments, Quality of logistics services, Tracking and tracing, Timeliness) (The World Bank, 2016).

infrastructure involves „improving the regional level of socioeconomic development (...)” (Bychkov, Kazakov, Lempert et al., 2016, 332).

Taking into account the aforementioned suggestions we need to indicate that the modern<sup>2</sup> warehouse facilities are used by business entities from various sectors to perform the logistics processes (in general, warehouse processes) and more frequently they are used in production (the so-called light production). Taking a decision to locate business activity in a particular region, the entrepreneurs of various specialities are guided by e.g. the existence of modern transport linear infrastructure and possibility to build or the already existing proper warehouse premises. They may include buildings constructed for them for their own purposes. Another more and more popular solution involves renting warehouse space (customised for future users) on the market of commercial warehouse space.

Over the last several decades, we have observed significant increase in the commercial warehouse space market resources in Europe and beyond. The warehouses facilities are supplied by specialized developers. In most cases, the warehouses they build include large *multi user*<sup>3</sup> warehouses also called logistics parks. The tenants share the space with other entrepreneurs, and warehouses space is used under lease agreements. The warehouse developers provide also large facilities dedicated to one user (called *build-to-suit*<sup>4</sup>). They are built on the developers' plots of land – for lease or on the clients' plots of land to constitute their property, namely *build-to-own* (Panattoni Europe, 2017).

At present, using warehouse space under lease agreement constitutes convenient alternative for numerous entrepreneurs. Such option involves no need to incur significant capital expenditure to purchase the land and build own warehouses, and run the whole investment process. It also ensures better flexibility in the future since after the expiry of lease amounting usually to 3 to 5 years or even 7 to 10 years (JLL, 2017, 23) if need be, it is possible to change the location of business activity. Therefore, the available modern commercial warehouse space resources are so important in the region.

## 2. The development of commercial warehouse space market in Poland - quantitative aspects

Poland is a country with important position on Europe's economic map. The country has 38.4 million inhabitants and its GDP per capita totals over 11.000 EUR (Central Statistical Office, 2016b, 206, 694 ). Nowadays, it is one of the most attractive places in Europe for business activity, in particular the production activity. It is determined by the vicinity of markets for products: Central and Eastern Europe with ca. 100 million consumers and the European Union with ca. 500 million consumers (JLL et al., 2016, 5). Nowadays, one of the indisputable advantages regarding the location of business activity in Poland is the developed warehouse facility market. We need to emphasize that the development of warehouse space resources we have been observing for several years in Poland results from investments conducted by entrepreneurs building warehouses for their own needs and those provided by developers for lease. In total, the indoor warehouse space resources in the country (at the end of 2014)

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<sup>2</sup> The experts of Cushman&Wakefield define the term *modern industrial stock* (modern warehouse space) – as “total warehouse space delivered after the year 2000” (Cushman&Wakefield, 2017, 4). I. Fechner indicates: „modern warehousing space is constructed as a warehouse of the net height of minimum 10 m, with a floor loading capacity of 5t/m<sup>2</sup>, equipped with smoke control dampers and sprinklers and with minimum one dock with a swing ramp per each 1000 m<sup>2</sup> of storage space” (Fechner, 2009, 5). More detailed classification of warehouse space is provided taking into account the division by warehouses of class A,B,C. From the viewpoint of subject-matter of the article, which fails to involve technical issues, referring to more detailed classification has been considered unnecessary.

<sup>3</sup> With size from tens to even 100.000 m<sup>2</sup>.

<sup>4</sup> The term *built-to-suit* also defines warehouse to let adjusted to the needs of particular clients existing in *multi user* facilities.



amounted to ca. 84.2 million m<sup>2</sup><sup>5</sup> (Fechner, 2016, 113), and the total commercial warehouse space at the end of 2016 reached 11.2 million m<sup>2</sup> (JLL, 2017, 7). Taking into account the total volume of modern commercial warehouse space and their quality, the Polish market resources (as per volume) rank eighth in Europe and at the same time are regarded as one of the most modern (JLL et al., 2016, 32). The continuous development of the volume of commercial warehouse market resources has been observed in Poland since the end of 1990s. It became more dynamic when global warehouse developers entered into the Polish market (e.g. in 1997 – Prologis; in 2005 – Panattoni) (Prologis, 2017; Panattoni Europe, 2017). We need to emphasize that in 2002 in Poland there was only ca. 500 thousand square meters of warehouse space to let and in 2004 it was already over 1 million m<sup>2</sup>, in 2005 ca. 1.8 million m<sup>2</sup>, and in 2007 already nearly 4 million square meters (EMMERSON, 2008, 2). In 2009 the commercial warehouse space resources amounted to ca. 6 million square meters whereas the volume of 10 million square meters was exceeded in 2016. The related information, including division by regional markets was presented in table 1.

**Table 1** Volume of commercial warehouse space resources in selected regions in Poland between 2008 and 2016 (in million m<sup>2</sup>; % share in total stock)

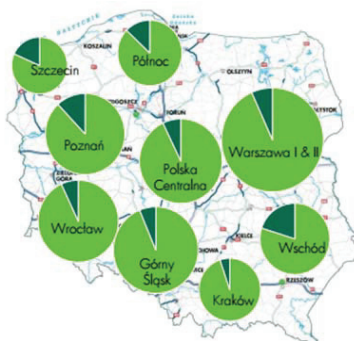
| Regions                          | 04.2008        | 2009           | 2010           | 2011           | 2012           | 2013           | 2014           | 2015           | 2016           |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Warsaw region                    | 1.900<br>(45%) | 2.483<br>(41%) | 2.611<br>(40%) | 2.630<br>(38%) | 2.710<br>(36%) | 2.797<br>(35%) | 2.773<br>(31%) | 2.900<br>(30%) | 3.164<br>(28%) |
| Upper Silesia region             | 0.590<br>(14%) | 1.076<br>(18%) | 1.183<br>(18%) | 1.386<br>(20%) | 1.470<br>(20%) | 1.553<br>(20%) | 1.639<br>(19%) | 1.701<br>(17%) | 1.955<br>(17%) |
| Central Poland                   | 0.550<br>(13%) | 0.915<br>(15%) | 0.942<br>(14%) | 0.942<br>(14%) | 1.000<br>(13%) | 1.032<br>(13%) | 1.167<br>(13%) | 1.298<br>(13%) | 1.565<br>(14%) |
| Poznań region                    | 0.660<br>(16%) | 0.861<br>(14%) | 0.901<br>(14%) | 0.946<br>(14%) | 1.027<br>(14%) | 1.059<br>(13%) | 1.215<br>(14%) | 1.587<br>(16%) | 1.806<br>(16%) |
| Wrocław region                   | 0.310<br>(7%)  | 0.520<br>(9%)  | 0.610<br>(9%)  | 0.649<br>(9%)  | 0.730<br>(10%) | 0.870<br>(11%) | 1.266<br>(14%) | 1.270<br>(13%) | 1.394<br>(12%) |
| Tricity region                   | 0.80<br>(1,9%) | 0.100<br>(2%)  | 0.120<br>(2%)  | 0.140<br>(2%)  | 0.180<br>(2%)  | 0.200<br>(3%)  | 0.254<br>(3%)  | 0.307<br>(3%)  | 0.393<br>(4%)  |
| <b>Total resources in Poland</b> | <b>4,19</b>    | <b>6,00</b>    | <b>6,50</b>    | <b>7,00</b>    | <b>7,53</b>    | <b>7,94</b>    | <b>8,85</b>    | <b>9,77</b>    | <b>11,2</b>    |

Source: own elaboration of the author based on reports: (EMMERSON, 2008, 2; Cushman&Wakefield 2010-2015; JLL, 2016, 12-20; JLL, 2017, 13-20).

Particular regional warehouse markets have been developing at different pace in Poland due to various factors which will be discussed in the other part of the article. For many years, the major share of warehouse space resources (over 80%) has been gathered in five regions: in the vicinity of the capital city – Warsaw, Łódź, (Central Poland) and Upper Silesia (near Katowice), Poznań and Wrocław (Figure 1). The largest warehouse space resources can be found on the Warsaw market. Over the years, the market share as per resources in total has decreased (from ca. 45% in 2008 to 28% in 2016), whereas other regions have been gaining importance (e.g. region of Wrocław). In recent years, more and more popular among the tenants are the newly-built warehouses in the north of Poland (Tricity region) – thanks to the vicinity of seaports in Gdańsk and Gdynia, and foreign trade cargo handling. At the current stage of the Polish warehouse space market maturity we can also observe the development of new regional warehouse markets specified as emerging markets. They include the region of Szczecin (thanks to the vicinity of seaport and the western border of Poland), Bydgoszcz and Toruń (closer to the centre of the country) and to the east of Poland (regions of Rzeszów and Lublin). In total, the warehouse space resources on emerging markets amount to ca. 407 000 m<sup>2</sup> (JLL, 2017, 21).

<sup>5</sup> As per information provided by the Institute of Logistics and Warehousing (Fechner, 2016, 113).

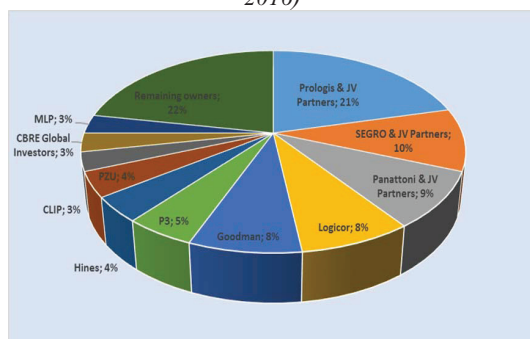
**Figure 1** Commercial warehouse space resources in particular regions in Poland (in 2015)



Source: <http://www.logistyczny.com/aktualnosci/glos-z-rynku/item/950-sektor-magazynowy-w-doskonalej-kondycji> (accessed 10.03.2017)

The providers of modern warehouse space onto particular regional markets include the developers<sup>6</sup> of warehouse space. In Poland there are tens of operating developers - both the largest world concerns and domestic companies. They also constitute the main group of warehouse space owners. With the current market development, five of them own significant share in its resources (i.e. from 8% to 22% - Figure 2.) We need to emphasize that for several years, given the attractiveness of the Polish market, the purchase of ready-made warehouse facilities to let has become popular among investment funds (also those with real estate development companies as shareholders). Every year, the purchase and sale transactions are concluded for hundreds of millions of EUR. As a result of such approach, apart from developers, the main groups of owners of warehouse facilities to let include investment funds (over 10%) and private investors (over 10%) (Fechner, 2016, 115).

**Figure 2** Ownership structure of commercial warehouse space in Poland (as at fourth quarter of 2016)



Source: JLL, 2017, 11

<sup>6</sup> Investments are implemented as the said BTS (build-to-suit) projects – differently adjusted to the needs of particular tenants; „pre-let” projects secured under preliminary contracts and „speculative” built without particular order. The dominance of selected solutions depends *inter alia* on the current situation on the warehouse market. At the beginning of the Polish market development, when we could observe high demand for warehouse space the share of speculative investments was significant. During the downturn on the market, when developers observed high percentage of empty premises, their number decreased. Today, BTS and pre-let solutions are dominant, whereas speculative investments cover ca. 30% of newly-built space (AXI IMMO, 2016, 5).

Using facilities to let is part of business approach in some sectors. The types of the tenants also change in time. On the Polish market warehouses are leased by entities from various sectors. Over the years (2009-2016) the logistics operators were the main group of tenants. Their share in the volume of transactions changes (e.g. depending on the economic situation on TSL market) and varies between ca. 30% and ca. 40%. Other, significant tenants (in terms of the volume of leased space), at the same time, include: representatives of store chains (9%-29%), light industry (6%-11%), automotive sector (4%-11%), food sector (3%-13%) and electronic industry (2%-9%). Demand for warehouse space can also be observed among the representatives of e-commerce (in 2013 their share in the volume of transactions totalled as much as 16%) (Cushman&Wakefield 2010-2014; JLL, 2016, 4; JLL, 2017, 4). The dominance of tenants from particular sectors is diversified by regions; the said issue has been analysed further in p.3. The current stage of attractiveness of particular regional warehouse markets is reflected in the amount of rates for rent. In the most attractive locations (Warsaw Inner City) the effective rates amount to ca. 3.50-4.60 (EUR/m<sup>2</sup>/month). In other parts of the country, on „old” main markets they amount to ca. 2.10-2.90 (EUR/m<sup>2</sup>/month), whereas on emerging markets they fall within the range of 2.45-3.50 (EUR/m<sup>2</sup>/month) (Cushman&Wakefield, 2017, 3). It proves that the emerging regional markets, thanks to their new available advantages, become attractive locations on the warehouse space lease market in Poland.

### **3. Qualitative perspective and regional implications of the development of Polish commercial warehouse space market**

The current state of the Polish commercial warehouse space market, both in general terms and with reference to particular regions, was affected by numerous factors. At the beginning, the attractiveness of the Polish market resulted from:

- central location of Poland in the Central and Eastern Europe (convenient for the distribution of goods on an international scale),
- development of many store chains and shopping centres in the biggest cities in Poland at the end of 1990s,
- Polish accession to the European Union in 2004 and removal of trade barriers,
- continuous development and modernization of road transport infrastructure,
- existing available capacity of free land for the construction of warehouse premises,
- existing human capital (Waśniewska, Skrzyszewska, Vrdoljak Raguż, 2016, 605),
- extending the area of Special Economic Zones (SEZs) (Miklińska, Klopott, 2016, 947).

The location of warehouse facilities in the country and the development of main regional markets were affected by two factors: availability of linear road transport infrastructure and vicinity of large municipal agglomerations which constitute the centres of selected regions (Fechner, 2009, 5). Therefore, the main warehouse facilities were established near large (rather centrally located) municipal agglomerations (Warsaw, Katowice, Poznań, Wrocław, Łódź), with good access to the constructed motorways (A1, A2 and A4) and express roads<sup>7</sup>. At present, the roads have almost been totally completed. In Poland, there are in total 1627.3 km of motorways (in 2000 there was only 358 km) (Central Statistical Office, 2006, 523). and 1533.7 km express roads (GDDKiA, 2017). And exactly in their vicinity and at the main crossroads<sup>8</sup> the warehouse facilities have been located. We need to add that the main sections of newly-built road transport infrastructure (motorways and express roads) and modernized railway lines are part of the two core network

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<sup>7</sup> They are also regions where the network density („Hard Surface public roads per 100 km<sup>2</sup> of total area”) is the highest and amounts to 80km-180km/100km<sup>2</sup> (Central Statistical Office, 2016a, 315).

<sup>8</sup> We need to emphasize that only few have access to railway lines – therefore they fails to meet the requirement of multimodality and are not located in transport nodes.

corridors across Poland, TEN-T – the Baltic-Adriatic Corridor and the North Sea – Baltic Corridor (Figure 3).

*Figure 3 TEN-T core network corridors across Poland*



Source: <http://ec.europa.eu/transport/themes/infrastructure/doc/ten-t-country-fiches/ten-t-corridor-map-2013.pdf> (accessed 10.03.2017)

The factors, such as modernization of transport infrastructure, labour costs remaining at relatively low level, and possibility to obtain public aid (in particular regarding the location of business activity in SEZs) determine the high level, on the European context, of foreign direct investments (FDI) in Poland. In 2015 the net inflow of FDI to Poland amounted to 50.8 billion PLN (ca. 12 billion EUR), mainly from countries such as the Netherlands, Great Britain and Germany. They referred mainly to entities dealing with industrial processing (in amount of 11.8 billion PLN) (NBP, 2016, 2). Such industrial specificity of FDI is dominant in most of the regions in Poland, although near Poznań and Cracow the trading sector share is predominant, whereas near Warsaw and Gdańsk the banking and financial sectors (NBP, 2015, 6-7, 22). These are investments generating demand for commercial warehouse space. Moreover, over the years in Poland we have been observing numerous examples of greenfield type FDI in the transport and warehouse management sectors (Andrzejczak, 2012, 265).

The aforementioned factors and a number of additional ones had impact on developing certain specificity of particular regional warehouse markets in Poland. Due to the limited size of this article it is difficult to sufficiently refer to each of them. For years the Warsaw market (capital city of Poland) has got the biggest potential for development. Taking into account the large population (today over 1.7 million inhabitants), concentration of trade, location of seats of numerous companies and high FDI share, there is here significant demand for commercial warehouse space. The warehouses are built here in two zones, Warsaw Inner City and Suburbs. Closer to the city centre smaller (but more expensive) warehouse space on average ca. 1.400 m<sup>2</sup> called Small Business Units, is leased, whereas in the suburbs larger space (even over 20 000m<sup>2</sup>) leased by e.g. logistics operators and store chains (JLL, 2017, 13).

For the development of Upper Silesia region (main city Katowice), as an important warehouse market, the transformation of the Polish economy was very important. With the existing good transport infrastructure, in place of the liquidated heavy industry, light production began to be introduced. The development of Katowice SEZ and its specialization related to automotive industry is highly important for the region since it generates significant number of jobs and demand for modern industrial and warehouse space (in SEZ or in their vicinity) (JLL, 2016, 13). In Central Poland (near Łódź) – region located at the intersection of A1 and A2 motorways, the

warehouses house mainly store chains, entities dealing with product distribution around Poland and logistics operators. In western Poland there are two other main regional markets – around Wrocław and Poznań, with warehouses of entrepreneurs, such as the biggest e-commerce operators, managing their distribution on the European scale (vicinity of Polish western border). Further to the north, thanks to the construction of S3 road along the western border, new warehouses are under construction around Szczecin (JLL, 2017, 15-18).

At present, new factors affecting the location of warehouse facilities gain in importance. One of them is the availability of employees. The most attractive warehouse markets faced the issue of limited labour resources (Fechner, 2016, 124); however, it is not observed in less attractive locations, e.g. in eastern part of the country. Therefore, further development of transport infrastructure in the outskirts and the related development of SEZs in those areas (JLL, 2017, 20) affect the development of emerging markets, *inter alia*, in Eastern Poland. The advantage of the outskirts includes the availability of significant volume of free land which is no longer available on such a large scale on the main regional markets.

The development of commercial warehouse space market resources is also affected by tendencies on the market (Jartom Real Estate, 2016, 4-20) resulting these days from the evolution of the function of warehouses in business processes. Apart from logistics processes they also perform the production and trade related functions. We can observe the increase in the popularity of warehouse facility lease in regions which specialize in various types of production. Recently, significant interest in warehouse space can also be observed among the representatives of e-commerce sector. It generates new requirements, *inter alia*, as for location and warehouse equipment. In warehouses larger number of loading bays is required, larger space of the warehouse (even threefold, compared to other types of business activities). Moreover, for the purpose of distribution, on the national scale, we need larger number of smaller, dispersed warehouse space located closer to the final consumers (Prologis, 2014, 4-6). Therefore, the needs of e-commerce sector may become important for generating demand for warehouse space in less attractive regions. The development of warehouse resources in various regions may also be affected by growing demand for facilities with some „green” solutions or even ecological certified (Colliers International, 2016, 5). In Poland such warehouses are already being established, e.g. for logistics operators. Another factor generating the demand for new facilities now and in the future involves the ageing of warehouses built in the past (Prologis, 2015, 1-8). The facilities failing to meet the current demands may be allocated for other purposes. Soon we will observe the increased tenants' interest in facilities of more excellent technical solutions, e.g. fully automated where the role of employees is limited to the minimum.

#### 4. Conclusions

As regards the pace of commercial warehouse space growth, Poland is becoming one of the European leaders these days. The experience gained over the years indicates that the commercial warehouse facilities constitute important element of logistics infrastructure in the whole country and its regions, important for their development. The development of commercial warehouse space market occurs parallel to locating various types of business activities and supports the creation of industry specializations in the regions. The said fact affects the increase in investment attractiveness of the regions and constitutes a factor attracting other entrepreneurs encouraged also by the existing SEZs. It results in the employment growth, increase in tax income leading to the social and economic development of the regions. The experience resulting from the development of the Polish market makes it possible to observe that at every stage other factors affected the success of particular regional warehouse markets. At the beginning, for more attractive markets, also in terms of transport linear infrastructure facilities, it was the main central location and vicinity of the sales markets. While the Polish commercial warehouse space

market has already reached certain level of maturity, the emerging markets are becoming more important and their previous drawbacks may now become their advantages. The improved infrastructure, the existing availability of employees and free land attract investments of warehouse space developers.

## REFERENCES

Andrzejczak B. (2012): *Bezpośrednie inwestycje zagraniczne w Polsce w zakresie usług transportowych i gospodarki magazynowej*, Logistyka No 5; pp. 262-268, [http://www.logistyka.net.pl/bank-wiedzy/pozostale-zagadnienia/item/download/78695\\_04ce239884173725ef32a6af52b8a007](http://www.logistyka.net.pl/bank-wiedzy/pozostale-zagadnienia/item/download/78695_04ce239884173725ef32a6af52b8a007) (accessed 10 March 2017)

AXI IMMO (2016): *Raport 2016. Podsumowanie roku 2016 na rynku powierzchni magazynowych w Polsce*, [https://axiimmo.com/wp-content/uploads/2017/02/AXI\\_IMMO\\_Raport\\_rynek\\_magazynowy\\_2016\\_prognozy\\_2017-1.pdf](https://axiimmo.com/wp-content/uploads/2017/02/AXI_IMMO_Raport_rynek_magazynowy_2016_prognozy_2017-1.pdf) (accessed 10 March 2017)

Blyde J., Molina D. (2015): *Logistic infrastructure and the international location of fragmented production*, Journal of International Economics, Vol. 95, Issue 2, pp. 319-332 <http://www.sciencedirect.com/science/article/pii/S0022199614001421> (accessed 10 March 2017)

Bychkov I.V., Kazakov A. L., Lempert A. A., Bukharov D. S., Stolbov A. B. (2016): *An Intelligent Management System for the Development of a Regional Transport Logistics Infrastructure*, Automation and Remote Control, Vol. 77, No. 2, pp. 332-343 <http://link.springer.com/article/10.1134%2FS0005117916020090> (accessed 10 March 2017)

Central Statistical Office (2006): *Statistical Yearbook of the Republic of Poland*, Warsaw.  
Central Statistical Office (2016a): *Concise Statistical Yearbook of Poland*, Warsaw.

Central Statistical Office (2016b): *Statistical Yearbook of the Republic of Poland*, Warsaw.

Colliers International (2016): *Green buildings in Poland. Certification in numbers*, Warsaw, [http://www.colliers.com/-/media/files/emea/poland/reports/2016/colliers\\_green\\_buildings\\_in\\_poland\\_2016.pdf?la=en-pl](http://www.colliers.com/-/media/files/emea/poland/reports/2016/colliers_green_buildings_in_poland_2016.pdf?la=en-pl) (accessed 20 February 2017)

Cushman&Wakefield (2010-2015): *Marketbeat. Raport o rynku nieruchomości w Polsce (Polish Real Estate Market Report)*, Wiosna (reports for 2009-2014); <http://www.logistyka.net.pl/bank-wiedzy/raporty-i-analzy> and <http://www.cushmanwakefield.pl/> (accessed 10 March 2017)

Cushman&Wakefield (2017): *Poland Industrial Market 2016 summary*, <http://www.cushmanwakefield.pl/en-gb/research-and-insight/2017/robust-occupier-and-developer-activity-on-the-polish-industrial-and-logistics-market/#> (accessed 6 Feb. 2017)

EMMERSON (2008): *Rynek magazynowy w Polsce*, Czerwiec, [http://www.logistyka.net.pl/images/articles/5839/Rynek\\_Magazynowy\\_w\\_Polsce\\_2008.pdf](http://www.logistyka.net.pl/images/articles/5839/Rynek_Magazynowy_w_Polsce_2008.pdf) (accessed 10 March 2017)



Fechner I. (2009): *Determinants of warehouse space market development in Poland*, "LogForum" Vol 5, No 3, pp. 1-10, [http://www.logforum.net/pdf/5\\_1\\_3\\_09](http://www.logforum.net/pdf/5_1_3_09) (accessed 10 March 2017)

Fechner I. (2016): *Rynek powierzchni magazynowych [in:] Logistyka w Polsce. Raport 2015*, pod red. I. Fechnera, G. Szyszki, Instytut Logistyki i Magazynowania, Poznań.

GDDKiA (2017): (Generalna Dyrekcja Dróg Krajowych i Autostrad), <https://www.gddkia.gov.pl/pl/926/autostrady> (accessed 10 March 2017)

Jartom Real Estate (2016): *Trendy w 2016 na rynku magazynowym. Raport z komentarzem Kamili Braneckiej – Dyrektora JARTOM Real Estate*; <http://www.jartom.com/Raport-rynku-powierzchni-magazynowych-2016> (accessed 12.07.2016)

JLL (2016): *Poland's Industrial Market in 2015*, February; [http://warehousefinder.pl/media/plugins/report\\_file/Poland\\_Industrial\\_Market\\_in\\_2015\\_Report\\_1.pdf](http://warehousefinder.pl/media/plugins/report_file/Poland_Industrial_Market_in_2015_Report_1.pdf) (accessed 10 March 2017)

JLL (2017): *Poland's Industrial Market in 2016*, February; [http://www.jll.pl/poland/en-gb/Research/Poland%20Industrial%20Market%20Report%20-%20Q4%202016\\_JLL.pdf](http://www.jll.pl/poland/en-gb/Research/Poland%20Industrial%20Market%20Report%20-%20Q4%202016_JLL.pdf) (accessed 10 March 2017)

JLL, Invest in Poland, HAYS, EY (2016): *Made in Poland. An Investment Guide for Manufacturing Sector Companies*, <http://made-in-poland.live.jll.com/wp-content/uploads/sites/478/2016/02/MIP-final-1.pdf> (accessed 10 March 2017)

Miklińska J., Klopott M. (2016): *Special Economic Zones as an instrument of regional development support – experiences from Poland*, 5<sup>th</sup> International Scientific Symposium Economy of Eastern Croatia – Vision and Growth, Sveučilište Josipa Jurja Strossmayera u Osijeku. Ekonomski fakultet u Osijeku, Osijek.

NBP (2015): Narodowy Bank Polski, *Zagraniczne inwestycje bezpośrednie w Polsce i polskie inwestycje bezpośrednie za granicą w 2014 roku*. Warszawa, [https://www.nbp.pl/publikacje/ib\\_raporty/raport\\_ib\\_2014.pdf](https://www.nbp.pl/publikacje/ib_raporty/raport_ib_2014.pdf) (accessed 10 March 2017)

NBP (2016): Narodowy Bank Polski, *Zagraniczne inwestycje bezpośrednie w Polsce w 2015 roku*, [http://www.nbp.pl/publikacje/zib/zib\\_2015\\_n.pdf](http://www.nbp.pl/publikacje/zib/zib_2015_n.pdf) (accessed 10 March 2017)

Vilko J., Karandassov B., Myller E. (2011): *Logistic Infrastructure and Its Effects on Economic Development*, China-USA Business Review, Vol 10, No 11, pp. 1152-1167 <http://www.davidpublishing.com/davidpublishing/Upfile/11/27/2011/2011112779611441.pdf> (accessed 10 March 2017)

Panattoni Europe (2017): <http://www.panattonieurope.com/en/country/poland/> (accessed 10 March 2017)

Prologis (2014): *Inside the Global Supply Chain: E-Commerce and a new Demand Model for Logistics Real Estate*, [https://www.prologis.com/sites/default/files/documents/2017/02/E-Commerce\\_Logistics\\_Real\\_Estate\\_Final\\_July2014.pdf](https://www.prologis.com/sites/default/files/documents/2017/02/E-Commerce_Logistics_Real_Estate_Final_July2014.pdf) (accessed 20 February 2017)



Prologis (2015): *Starzenie się obiektów: Konsekwencje dla globalnego rynku nieruchomości logistycznych*, Marzec, <http://www.renews.pl/uploads/Raporty/prologistarzenie.pdf> (accessed 20 February 2017)

Prologis (2017): <http://www.prologis.com/pl/country/central-and-eastern-europe/about-us/poland.html> (accessed 10 March 2017)

The World Bank (2016): <http://lpi.worldbank.org/international> (accessed 10 March 2017)

Waśniewska A., Skrzyszewska K., Vrdoljak Raguž I. (2016): *A comparative analysis of chosen determinants of the Croatian and Polish human capital in the context of the Strategy Europe 2020*, 5<sup>th</sup> International Scientific Symposium Economy of Eastern Croatia – Vision and Growth, Sveučilište Josipa Jurja Strossmayera u Osijeku. Ekonomski fakultet u Osijeku, Osijek.

<http://www.logistyczny.com/aktualnosci/glos-z-rynku/item/950-sektor-magazynowy-w-doskonalej-kondycji> (accessed 10.03.2017)

<http://ec.europa.eu/transport/themes/infrastructure/doc/ten-t-country-fiches/ten-t-corridor-map-2013.pdf> (accessed 10.03.2017)

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**THE IMPLEMENTATION OF THE STORYTELLING CONCEPT IN THE  
PROCESS OF BRANDING EASTERN CROATIA TOURIST  
DESTINATION**

**IMPLEMENTACIJA KONCEPTA STORYTELLINGA U PROCES  
BRENDIRANJA TURISTIČKE DESTINACIJE ISTOČNE HRVATSKE**

**ABSTRACT**

*Among scholars is widely accepted that storytelling is one of major processes in crafting and executing branding strategy. The storytelling is an effective channel for brand communication, both for countries and tourist destinations as well. Country branding promotes economic, commercial and political interests at home and abroad and country brands can serve as an umbrella under which further sub-brands can be developed. Destination branding serves to attract visitors and boost tourism development. For each region, being already developed tourist destination or it tends to become one, it is important to have the portfolio of attractive, positive stories and effective storytelling channels in destination brand communication for any destination brand. The aim of this paper is to estimate and give a deeper insight of stakeholder willingness to implement storytelling in the brand strategy of the Eastern Croatia region. The result of this research is a creation of the conceptual model which generates destination image and tourist products based on myths and legends of the Eastern Croatia.*

**Key words:** *storytelling, country branding strategy, destination branding, myths and legends, Eastern Croatia.*

**SAŽETAK**

*Znanstvenici prihvaćaju storytelling kao jedan od važnijih procesa u osmišljavanju i provođenju strategije brendiranja turističke destinacije. Storytelling je učinkovit kanal za komunikaciju*

*brenda, za zemlje, pojedine regije ali i turističke destinacije. Brendiranje zemlje promiče ekonomske, trgovinske i političke ciljeve u zemlji i inozemstvu, a brendovi zemlje mogu poslužiti kao kišobran pod kojim se daljnji podbrendovi mogu razvijati. Brendiranje destinacije služi da bi se privukli posjetitelji i podržao razvoj turizma. Za svaku je regiju, bila ona razvijena turistička destinacija ili to željela postići, važno da ima portfelj atraktivnih, pozitivnih priča i učinkovitih kanala za plasiranje istih putem komuniciranja brenda destinacije za svaki pojedinačni brend destinacije. Svrha ovog rada je da da procjenu i pruži dublji uvid u spremnost relevantnih dionika da implementira storytelling u strategiju brendiranja regije i destinacije Istočne Hrvatske. Rezultat ovog istraživanja je prijedlog konceptualnog modela kreiranja imidža turističke destinacije i turističkog proizvoda temeljenog na mitovima i legendama Istočne Hrvatske.*

**Ključne riječi:** *storytelling, strategija brendiranja zemlje, brendiranje destinacije, mitovi i legende, Istočna Hrvatska*

## **1. Introduction**

The tourist destination branding process is widely recognized as a critical issue for successful destination development (Cai (2002), Risitano (2006), Balakrishnan (2009), Qu et al. (2011). Destination branding is a process of strategic importance because it "requires focus and commitment of time, people, resources and changes in policies, culture and mindset." Balakrishnan (2009, 622). Among scholars (Yavuz et al, 2016, Choi, 2016, Mathisen (2014) are widely accepted that storytelling is one of the major processes in crafting and executing destination branding strategy. The storytelling is an effective channel for brand communication, both for countries and tourist destinations as well. Country branding promotes economic, commercial and political interests at home and abroad and country brands can serve as an umbrella under which further sub-brands can be developed (Sznodi, 2007, 9)

Destination marketing and/or management organizations (DMO) are emphasized as a key stakeholder in branding process (Pike (2005), Cai (2002), Risitano (2006), Wagner et al. (2009). The region of eastern Croatia comprises five counties and in all of them, there are regional and local tourist boards that are together with the local government responsible for tourism promotion and development e.g. play the role of DMO. In these counties, there are growing awareness of branding process importance what can be seen from research papers and tourism development strategies. But many authors (Wagner (2009), Hall (2010) point out that place branding and destination branding are two connected but yet different concepts. Tourist boards in Eastern Croatia region are organized on a same administrative basis as municipality, city, and county tourist boards, regardless of the fact that tourist destinations in most cases stretch across two or more administrative areas.

The aim of this paper is to estimate and give a deeper insight of stakeholder willingness to implement storytelling in the brand strategy of the Eastern Croatia region. Following Hankinson, (2007, 247) that the key role of the DMO is "to establish a clear vision for the destination brand and to develop a set of core brand values which link positive aspects of the place's heritage to a realistic vision of what can be achieved in the future", in this paper tourist boards are considered the main stakeholders in crafting and executing place and destination brand strategy. For that reason, a questionnaire about stories and storytelling in their destinations was sent to them. A separate questionnaire about appropriate stories identification was sent to museums because they are institutions with the specialists in local material and immaterial heritage. The result of this

research is a creation of the conceptual model which generates destination image and tourist products based on myths and legends of the Eastern Croatia. This paper consists of five parts: a literature review that brings the theoretical background about destination branding process and storytelling concept application in the tourist destination branding process, research methodology with proposed conceptual model followed by results and conclusion at the end of the paper.

## 2. Literature review

### 2.1. Destination branding process

Balakrishnan (2009, 613) states that destination branding process revolves around the vision and stakeholder management, target customer and product portfolio matching, positioning and differentiation strategies using branding components, communication strategies and feedback and response management strategies. According to Nicolaisen & Blichfeldt (2012, 8) destination branding is a process *“by which destinations seek to express their unique identity through a positive projected image that is clear and well positioned in relation to competitors”*. Oliveira & Panyik (2015, 54) defined destination brand as *“the sum of all narratives and experiences”* and Yavuz et al. (2016, 65) emphasized that *“the brand is the identifier of the destination and is used to support destination communication”*. According to Cai (2002, 722) a brand element comes in the form of a name, term, logo, sign, design, symbol, slogan, package, or a combination of these, of which the name is the first and foremost reference and the name of a destination brand is relatively fixed by the actual geographical name of the place. Wagner (2009, 277) stated that geographic location, in the tourism context, includes (or is) a destination brand and Cai (2002, 722) pointed out that the name is typically absent in destination image studies because of its given nature and people's unconscious awareness that it cannot be changed.

Hanna & Rowley (2015) developed the model of place brand architecture with DMO as a leader in place branding and Kemp et al. (2012) use the same theoretical lenses for the place and destination branding. Risitano (2006) proposed the model of destination branding based on place branding literature review, but there are authors like Zenker (2017) and Hall (2010) who differentiate between place and destination branding. According to Zenker et al. (2017, 15) destination branding targets solely tourists, while place branding describes the general branding of places for all target groups such as residents, companies and tourists and because of that place branding could be understood as the family tree, with destination branding as one of the branches Hall (2010, 68) on the case of New Zealand analysed how tourism and non-tourism place brands are integrated under an umbrella national brand and concluded how the tourism brand may have little value or even prove negative for other industry sectors.

Cai (2002, 722-723) argued that image is the core of brand and source of its equity but image formation is not branding and stated that *“image building is one step closer, but there still remains a critical missing link: the brand identity.”* According to Risitano (2006, 9), brand image is *„described by the consumer's perception of the drivers associated with the destination brand“* and that *„perception is determined by the attribution of values as well as significant particularities of the DMO's value proposition.“* Cai, 2002 (722) destination branding defined *“as selecting a consistent element mix to identify and distinguish it through positive image building”*. Qu et al. (2011, 467) stated that strong and distinctive destination image should not only be a goal of branding practices in capturing consumers' minds but also as a mediator to influence consumer behaviors, directly related to the success of the tourist destinations. Ryan & Cave (2005, 144) referred to Govers and Go (2001) that image of the place is very much associated with storytelling.

Saraniemi&Ahonen (2008, 442) stated that destinations brands should be managed by utilizing corporate branding concepts. Nicolaisen& Blichfeldtm (2012, 14) doubt that destinations can be managed and controlled in the same way as tangible products because destinations are far more multidimensional than consumer goods, lack of control of the destination product, and destination marketing “*only seems to play a confirmatory role in relation to positive image building*”. According to Kemp et al. (2012, 508), the branding of places and destinations can be more intricate and challenging process than the branding of goods and services and Balakrishnan (2009, 612) argued that destinations need different brand development approach than corporation branding because destinations have the unique characteristics of destinations.

## **2.2. The role of local stakeholders in the destination branding process**

Risitano (2006, 1) argues that different „*local stakeholders could have different goals and strategies, different visions of the destination’s growth, different resources, competencies and knowledge base*“ Pike& Page (2014, 16) emphasized the importance of collaboration among different stakeholder as well as need for “*an impartial coordinator to pool destination resources to create a bigger collective impact in the market*”. Kemp et al. (2012, 508) referred to Pike (2005) that examination of the needs of internal stakeholders (local businesses, government, and residents) plays an important part examines the role of internal branding in destinations of creating an effective branding strategy for a place or destination. Wagner et al, (2009, 280) differentiate primary and secondary stakeholders. Primary stakeholders show a high level of interactivity and are vital for the survival of a destination and secondary stakeholders are not directly involved in the development of a destination. In this paper, we consider DMO, residents and local business to be the major stakeholders regarding the implementation of storytelling concept in destination branding.

DMO is an acronym that is used both for destination marketing and/or management organizations. DMOs are emphasised as a key stakeholder in branding process (Pike, 2005, Cai (2002), Risitano (2006),Wagner (2009)<sup>1</sup>. Gretzel et al. (2006, 123) emphasize the role of networks among DMOs and their need to develop partnerships with one another in order to develop core competencies and connections. Pike& Page (2014) stated that collaboration is required for design and implementation of DMO strategies and according to Wagner et al, (2009, 279) destination stakeholders are often ignored when DMOs initialise new branding strategies. Zenker et al. (2017, 16) emphasize the role of residents in place branding and state that residents “*are not only part of the place as such, but also directly benefit from positive developments or perceive the negative social and environmental effects of tourism*”. According to Kemp et al. (2012, 512), destination management organizations should design marketing programs “*with residents in mind*” in order to foster positive attitudes toward the brand as well as communicate the quality and uniqueness of the brand. Local businesses are especially interested in destination branding. Huang (2015, 109) emphasized the purpose of a regional brand is to attract more outside investments, revitalize local industries, increase regional product sales, strengthen

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<sup>1</sup> Gretzel et al. (2006, 120) pointed out that one of the main challenges for destination marketing organisations is to become destination management organisations e.g. to switch “*from their focus from external marketing to participating in local community*”. Pike&Page (2014, 6) argues that DMOs shouldn’t be called destination management organizations because “*it is inappropriate and potentially misleading when used as a blanket descriptor*” because “*the term management implies control*” and “*very few DMOs have either the mandate or resources to effectively manage their destination*”. Hankinson, (2007, 247) is also aware that among others one of important handicaps of the DMO is lack of line authority over their organisational partners, but states that the key role of the DMO is “*to establish a clear vision for the destination brand and to develop a set of core brand values which link positive aspects of the place’s heritage to a realistic vision of what can be achieved in the future.*”

external exchanges and tourism, introduce talents, and ultimately achieve the purpose of developing the regional economy as a whole.

### **2.3. Destination and brand number issue**

In destination branding process the important questions are how many destinations should be branded with one brand and how many brands should be developed for each destination? Pike&Page (2014, 6) emphasized the difference in defining destination between tourism supply and demand side: DMO defines destination by a political boundary, ranging from a continent, a country, a state, a province, to a city or town or even a specific micro scale place and demand side may define destination as a geographic space in which a cluster of tourism resources exist. Murphy et al. (2007) proposed that when similar and geographically close destinations are branded by DMOs more detailed investigation is required to determine whether subtle differences in communicated brand personality are perceived by visitors, and, more important, whether these perceptions influence destination choice. Cai (2002, 738) pointed out that existing regions in many states are formed arbitrarily, and are numbered or named by their compass locations, such as southwest and north central and suggested cooperative branding, especially for the rural regions, as a solutions to the obstacles for successful implementation a unified theme due to geographical heterogeneity. According to Cai (2002, 738) cooperative branding is a step-up version of the strategy in that it goes beyond image building and removes the restriction of geographic names associated with individual cities and towns and provides a rare opportunity to give the newly defined regional destination a unique name and to build a unique identity as a result.

Rowley&Hanna (2013, 4) stated that place branding theory and practice assume that for any given place entity there is only one brand, typically promoted by DMO and argued that place is unlikely to be fully represented by one brand, and may be captured and represented differently in the identities associated with the different brands associated with a place. According to the same authors, place should be branded by different agencies in different ways, to suit the audiences that those agencies are designated to engage with.

### **3. The storytelling concept in destination branding process**

In literature there are three different concepts of storytelling regarding tourist destination: (1) the implementation of storytelling concept in tourist destination branding process; (2) the tourist products and services offer based on storytelling; (3) the visitors' storytelling about destinations.

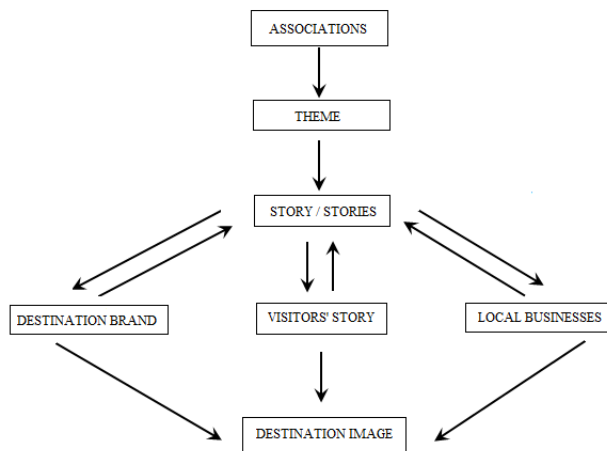
Yavuz et al. (2016, 72) on a case study of Adana city concluded that stories can be a base for strategic destination identity development, branding, and marketing. Woodside et al. (2008, 25) stated that *"crafting a story whereby the brand is a supporting actor enabling the protagonist to achieve conscious and/or unconscious goals likely helps build very favorable consumer-brand relationships.* Lee& Shin (2015, 286) stated that *"a story, on which a storytelling approach is founded, has to be: a) accepted by those who are involved in the storytelling process, b) location-based and, c) subject to conceptualization and commercialization."* According to (Lee& Shin 2015, 286) a representative story *"encompasses a landscape and geography that are visible, where unique activities are available only at the place with certain symbolic values."* Choi (2016) in the case of Seoul identified that tourism storytelling impacts on tourists behavioral and that return visit intentions and recommendations will increase if the destinations have a story which is educational in terms of a society, culture, and history with stimulating sensibility and attractions.

Mossberg et al. (2011, 4) emphasized that storytelling is a multi-actor and multi-level process and meeting of interests, ideas and knowledge may lead to a common storytelling concept that works in the interests of the individual stakeholder as well as the destination as a whole. According to Pulizzi (2012), storytelling is a key to attract and retain customers and there is a raising awareness that content marketing is a critical issue in branding strategy. Besides brand storytelling, scholars research consumer storytelling as well (Woodside et al. 2008) Woodside (2010, 536) states that “consumers' thoughts and actions involving tourism behavior frequently include elements of good stories”. Hsu et al (2009, 1224) argued that “visitor own storytelling about their own experience often describe myth enactments/climaxes uniquely relevant to specific destinations” and “such storytelling closes with advocating future visitors by oneself and others, or the avoidance of such visits”.

#### 4. Methodology

Following Qu et al. (2011, 467) that consumers build a destination image in their minds based on the brand identity projected by the destination marketers we have created the conceptual model of storytelling in the destination. According to Qu et al. (2011, 467) “destination image is critical to create the positive and recognizable brand identity.” Balakrishnan (2009, 619) emphasized that emotional component of the destination image is responsible for the majority of the variance of the personality of the destination. Our model starts with associations because a positive brand image is achievable through emphasizing strong, favorable, and unique brand associations (Qu et al., 2011, 467).

**Figure 1** The conceptual model of storytelling in destination branding process



Source: made by authors

According to Kemp et al. (2012, 509) “strong and positive brand associations may lead consumers to develop connections with the brands that best enable them to convey their self-concepts.” After deciding about desirable associations DMO should choose a theme of storytelling. Lee & Shin (2015, 286) defined that theme is “a symbolic system that represents the



*place that can stimulate a visitor's emotion to understand or remember the place*". We created a questionnaire in order to find desirable associations, to identify the theme and to select a representative story for branding destination of Eastern Croatia. According to Lee & Shin (2015, 286) the story identification process consists of next steps: making a list of stories related to a certain places, finding a representative story, exploring the best way to deliver representative story, in case of absence of special story to deliver, new stories can be delivered, identifying the theme of the place, developing the ways of delivering story. Following the findings of Yavuz et al. (2016, 65-66) we asked tourist boards and museums to indicate the main characters, places, meanings/experiences and objects in the stories of their town/county/region that could be used in branding process. We also asked tourist boards and museum to indicate historical, mythological, epic and fantastic stories that could be used in branding process because destination storytelling is often based on myths and legends.

## 5. Results

From a total of thirty questionnaires made in Google docs sent via e-mail to the tourist boards of counties, cities, and municipalities of Eastern Croatia, we received back nine of them after. We have sent questionnaires several times during March 2017 and conducted many phone calls with tourist board staff in order to get answers. Tourist boards claimed that they are overwhelmed with numerous questionnaires on daily basis and that they have a lack of staff and were occupied with many promotional and organizational activities. Questionnaires filled out tourist boards of Osijek – Baranja County, and city boards: Virovitica, Požega, Lipik, Slavonski Brod, Donji Miholjac, Vinkovci and Bilje municipality. Also, from a total of fifteen questionnaires sent to the city and heritage museums of the Eastern Croatia, only two of them fulfilled it – Valpovština museum and Požega city museum.

In the first question, tourist boards needed to specify which associations tourist should have when they mention their town/county/region. Answers about desired tourist associations about the respective destination have common historical, cultural, natural, gastronomic and active aspects, which actually comprises rural tourism experiences. It is especially important to emphasize cycle tourism in the field of active destination aspects. On the question about the intensity of attention of which should be paid on functional, emotional and social aspects of destination brand, respondents assigned intensity by a number from 1 (the least) to 7 (the most). None of the tourist boards assigned intensity of attention less than grade five for the functional aspect of destination brand. Four tourist boards assigned grade five, two tourist boards assigned grade six and three tourist boards assigned grade seven. Moreover, two tourist boards assigned grade five, four of them assigned grade six and three of them assigned grade seven for the emotional and social aspects. Therefore, even higher grades were assigned for the emotional and social aspects of destination brand. On the next question, respondents have to give at least one example for themes, feelings, beliefs, phenomena, aspects of excitement and unique quality that should be emphasized during the branding process of their destination. According to the average category rank, *beliefs* with the average 5,8 rank is the most important category in the branding process followed by the *aspects of excitement* with the 5,0 average rank. The least important category is *a theme* with 2,8 average rank. Generally, respondents assign quite different ranks to the categories such as *phenomena*, *unique quality* and *feelings* so we cannot adequately rank all of them.

Respondents stated that in the branding process should be included all stakeholders while they especially emphasize cultural institutions. It is also important to point out that single tourist board explicitly state local citizen as important participants in the branding process. Definitely,

respondents consider that storytelling is an important branding tool due to the fact that three tourist boards gave grade four and even six of them grade five. Even more, tourist boards consider storytelling as a potential tool for attracting more investors, tourists and other business opportunities to their town/county/region. According to the responses, there are many (at least 22) historical, mythological, epic and fantastic stories that could be used in the branding process of the Eastern Croatia.

## **6. Conclusion**

This research showed that the branding process based on storytelling process can be implemented in branding strategy of the Eastern Croatia region. This region has a variety of stories together with other material and immaterial heritage that could be turned into tourist attractions. The local governments of counties, cities, and municipalities as well as county and local tourist boards first should decide about criteria of establishing particular destinations regardless of administrative borders. One of the criteria could be a unique story that connects tourist attractions of the respective place. We propose that according to answers from the questionnaire, unique theme for the whole Eastern Croatia region or particular destination could be “continuance” of extraordinary living, crafting and food producing since in this region is the oldest European settlement. Storytelling could be used for the creation of destination brand identity and local business could produce various products based on local stories. Residents and tourist may use local stories and create their own story about the destination in "digital space". Using local stories, DMO for destination branding process, residents and visitors on the internet, particularly on social networks, and local business for production and promotion of local products, all of these stakeholders impact on destination image creation and destination positioning. But they also impact on choice and alteration of representative destination story or stories.

Restriction of this work is that all of the stakeholders weren't included in research and without their involvement; it is not possible to see all the possibilities and boundaries of storytelling concept in Eastern Croatia destination branding and development as well.

## **REFERENCES**

- Balakrishnan, M. S. (2009). *Strategic branding of destinations: a framework*. *European Journal of Marketing*, 43(5-1), 611-629.
- Cai, L. A. (2002). *Cooperative branding for rural destinations*. *Annals of tourism research*, 29(3), 720-742.
- Gretzel, U., Fesenmaier, D. R., Formica, S., & O’Leary, J. T. (2006). *Searching for the future: Challenges faced by destination marketing organizations*. *Journal of Travel Research*, 45(2), 116-126.
- Hall, C. M. (2010). *Tourism destination branding and its effects on national branding strategies: Brand New Zealand, clean and green but is it smart?*.
- Hankinson, G. (2007). *The management of destination brands: Five guiding principles based on recent developments in corporate branding theory*. *Journal of Brand Management*, 14(3), 240-254.

- Hsu, S. Y., Dehuang, N., & Woodside, A. G. (2009). *Storytelling research of consumers' self-reports of urban tourism experiences in China*. *Journal of business research*, 62(12), 1223-1254.
- HUANG, Y. (2015). *A Thought on the Integrated Development of Regional Brands*. *Canadian Social Science*, 11(11), 107-111.
- Kemp, E., Childers, C. Y., & Williams, K. H. (2012). *Place branding: creating self-brand connections and brand advocacy*. *Journal of Product & Brand Management*, 21(7), 508-515.
- Lee, Y. S., & Shin, W. J. (2015). *Marketing tradition-bound products through storytelling: a case study of a Japanese sake brewery*. *Service Business*, 9(2), 281-295.
- Mossberg, L., Therkelsen, A., H Huijbens, E., & Björk and Anna-Karin Olsson, P. (2011). *Storytelling and destination development*.
- Murphy, L., Moscardo, G., & Benckendorff, P. (2007). *Using brand personality to differentiate regional tourism destinations*. *Journal of travel research*, 46(1), 5-14.
- Nicolaisen, J., & Blichfeldt, B. S. (2012). *Destination branding: Mission impossible*. TRU–Tourism Research Unit PROGRESS Aalborg University, Denmark, WORKING PAPER NO, 9, 1-22.
- Oliveira, E., & Panyik, E. (2015). *Content, context and co-creation: Digital challenges in destination branding with references to Portugal as a tourist destination*. *Journal of Vacation Marketing*, 21(1), 53-74.
- Pike, S. (2005). *Tourism destination branding complexity*. *Journal of Product & Brand Management*, 14(4), 258-259.
- Pike, S., & Page, S. J. (2014). *Destination Marketing Organizations and destination marketing: A narrative analysis of the literature*. *Tourism Management*, 41, 202-227.
- Pulizzi, J. (2012). *The rise of storytelling as the new marketing*. *Publishing research quarterly*, 28(2), 116-123.
- Ryan, C., & Cave, J. (2005). *Structuring destination image: A qualitative approach*. *Journal of travel research*, 44(2), 143-150.
- Qu, H., Kim, L. H., & Im, H. H. (2011). *A model of destination branding: Integrating the concepts of the branding and destination image*. *Tourism management*, 32(3), 465-476.
- Risitano, M. (2006). *The role of destination branding in the tourism stakeholders system. The Campi Flegrei case*. Department of Business Management Faculty of Economics-University of Naples Federico II. Naples.
- Saraniemi, S., & Ahonen, M. (2008, June). *Destination branding from corporate branding perspective*. In *Proceedings of the conference on corporate communication* (pp. 435-448).

Szondi, G. (2007). *The role and challenges of country branding in transition countries: The Central and Eastern European experience*. *Place Branding and Public Diplomacy*, 3(1), 8-20.

Woodside, A. G. (2010). *Brand- consumer storytelling theory and research: Introduction to a Psychology & Marketing special issue*. *Psychology & Marketing*, 27(6), 531-540.

Woodside, A. G., Sood, S., & Miller, K. E. (2008). *When consumers and brands talk: Storytelling theory and research in psychology and marketing*. *Psychology & Marketing*, 25(2), 97-145.

Yavuz, M. C., Sumbul, M., Ergeç, N. E., & Derdiyok, I. C. (2016, May). *Storytelling in Destination Brand Communication: A Qualitative Analysis*. In *international interdisciplinary business-economics advancement conference* (p. 12).

Zenker, S., Braun, E., & Petersen, S. (2017). *Branding the destination versus the place: The effects of brand complexity and identification for residents and visitors*. *Tourism Management*, 58, 15-27.

Wagner, O., Peters, M., & Schuckert, M. R. (2009). *Internal branding in tourism destinations: implications for tourism policy and research*. *International Journal of Tourism Policy*, 2(4), 274-288.

Choi, S. S. (2016). *A Study on Effect of Tourism Storytelling of Tourism Destination Brand Value and Tourist Behavioral Intentions*. *Indian Journal of Science and Technology*, 9(46).

Hanna, S., & Rowley, J. (2015). *Towards a model of the place brand web*. *Tourism Management*, 48, 100-112.

Mathisen, L. (2014). *Storytelling and story staging. Co-creating value in tourism.*, A dissertation to the degree of Philosophiae Doctor, The Arctic University of Norway.

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**BRAND METRICS AS A TOOL IN REGIONAL PERFORMANCE**

**BREND-METRIKA KAO ALAT U REGIONALNOJ PERFORMANCI**

**ABSTRACT**

*Academic and business environment are paying much attention to different models of brand metrics and brand performance focusing on brand equity. Research based models which objectively measures the brand strength are important, since brands are believed to be strong influencers of critical business outcomes, such as sales and market share. Furthermore, strong brands help in creating greater loyalty and less vulnerability to competitive marketing actions and decrease elastic responses to price. Examples of brand metrics i. e. brand pyramid, brand strength, brand equity etc. like many other constructs; have been defined and measured in numerous ways. It is sometimes identified with tangible financial assets of a firm. However, from a marketing research perspective, brand metrics are often viewed conceptually as a framework for understanding the power of the intellectual and emotional associations consumers have with particular named products and services. In contrast to the absolute financial valuation, marketing researchers seek to measure and understand brand strength for strategic positioning and planning. Especially so in FMCG industry, since production companies can be observed as one of the main drivers of regional performance and development. The aim of this paper is to provide a theoretical framework for understanding the key concepts related to the brand metrics segment and to help create a clearer picture of Eastern Croatia production brands strength. Except secondary data from the available literature and previous research, for the purpose of this analysis, backdate of 4 research waves through 2 years (2 waves per year 2015 and 2016) were used. All of those conducted on a representative, random sample of Croatian citizens older than 15 years, (n=2.000 per wave, in total 8.000 respondents), examining (as a part of a wider study) brand strength of FMCG producers in Croatia. Special focus will be on brand strength position of production brands in Eastern Croatia in comparison to other regions in Croatia. Understanding brand metrics in combination with attitudes of the respondents with*

*regard to observed socio-demographic characteristics of the sample can be crucial for strategic planning of regional development.*

**Key words:** *brand metrics, brand equity, brand pyramid, regional performance.*

## SAŽETAK

*Tijekom posljednjeg desetljeća, primjetno je rastuće zanimanje u akademskom i poslovnom okruženju, za kontinuiranom evaluacijom metrike brenda i performance brenda. Modeli utemeljeni na istraživanjima, koji objektivno mjere snagu brenda su od velike važnosti, obzirom da se smatra da brendovi imaju snažan utjecaj na ključne ishode poslovanja kao što su prodaja i tržišni udio. Nadalje, snažni brendovi pomažu u izgradnji veće vjernosti potrošača i manje osjetljivosti na marketinške aktivnosti konkurencije te umanjuju reakcije na promjene cijena. Koncepti brend metrike kao npr. brend-piramida, brend-snaga, brend-vrijednost itd., kao i brojni drugi koncepti, definiraju se i mjere na različite načine. Ponekad se izjednačuju s opipljivom financijskom imovinom poduzeća. Međutim, iz perspektive marketinških istraživanja, brend-metrika se često promatra konceptualno – kao okvir za razumijevanje snage intelektualnih i emocionalnih asocijacija koje potrošači imaju s određenim imenovanim proizvodima i uslugama. U suprotnosti s apsolutnom financijskom valuacijom, marketing-istraživači teže mjerenju i razumijevanju snage brenda za strateško pozicioniranje i planiranje. Posebice je to važno u industriji robe široke potrošnje, obzirom da se proizvodna poduzeća mogu smatrati ključnim pokretačem regionalnih performanci i razvoja. Svrha ovog rada je pružiti teorijski okvir za razumijevanje ključnih koncepata vezanih uz brend-metriku te pomoći u stvaranju jasnije slike o snazi brendova u istočnoj Hrvatskoj. Osim sekundarnih podataka iz raspoložive literature i prethodnih istraživanja, za potrebe ovog rada koristit će se podaci iz 4 vala istraživanja provedena kroz dvije godine (po dva vala godišnje u 2015. i 2016. godini). Svi podaci su prikupljeni na reprezentativnom, slučajnom uzorku hrvatskih građana starijih od 15 godina (n=2.000 po jednom valu, što čini ukupno 8.000 ispitanika), a promatra se (kao dio šireg istraživanja) brend-snaga proizvoda široke potrošnje u Hrvatskoj. Posebna pozornost bit će posvećena pozicioniranju snage brendova iz Istočne Hrvatske, u usporedbi sa drugim regijama u Hrvatskoj. Razumijevanje brend-metrike zajedno sa stavovima respondenata u odnosu na socio-demografske karakteristike uzorka, može biti od ključne važnosti za strateško planiranje regionalnog razvoja.*

**Ključne riječi:** *brnd-metrika, brend-snaga, brend-piramida, regionalne performance.*

### 1. Brand Equity as a Brand Metrics Core Concept

In order to understand, develop and manage brands as an important intangible assets of the company, managers should have a clear understanding of the equity of their brands and how one can be measured. Brand equity is very commonly used marketing concept in both academia and practice since 1980s., but has risen considerably in the third millennium. Many different definitions and ways to measure brand equity have been proposed in literature and practice. The two most influential conceptualizations of brand equity are Aaker and Keller. Aaker an authority on branding, defines brand equity as a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers (Aaker, 1991., 15). These categories of brand assets are: brand loyalty, brand awareness, perceived quality, brand associations and other proprietary assets such as patents, trademarks, and channel relationships. According to Aaker, a particularly important concept for building brand equity is brand identity the unique set of brand associations

that represent what the brand stands for and promises to customers. Aaker's framework of brand identity consists of 12 dimensions organized around 4 perspectives: brand-as-product (product scope, product attributes, quality/value, uses, users, country of origin), brand-as-organization (organizational attributes, local versus global), brand-as-person (brand personality, brand-customer relationships), brand-as-symbol (visual imagery/metaphors and brand heritage). Aaker also conceptualizes brand identity as including a core and an extended identity where the core identity as a timeless essence of the brand is most likely to remain constant as the brand travels to new markets and products, and the extended identity includes various brand identity elements, organized into cohesive and meaningful groups. Based on Aaker work, Keller develops the behavioural concept of consumer-based brand equity (CBBE) as the differential effect of brand knowledge on consumer response to the marketing of the brand (Keller, 1993, 2). Keller emphasized that brand equity should be captured in terms of brand awareness and in the strength, favourability and uniqueness of the brand associations that individuals hold in their memories. Two interesting subareas of this topic are the measurement and valuation of brand equity at different levels: customer, product market, and financial market, and the relationship of customer equity to brand equity (Keller and Lehmann, 2006., 744). Interesting and rather used measurement concept is Identity Prism (Kapferer, 2004., 107.) which contains out of six unique elements: physique, personality, culture, relationship, reflection and self-image, giving a holistic perspective to a brand management where Kapferer furthermore attempted to link consumer based brand equity dimensions (i.e. "brand assets") to brand value (net discounted cash flow attributable to the brand after paying the cost of capital invested to produce and run the business and the cost of marketing). For Kapferer it is essential for brands to yield financial benefits if they are to claim high levels of equity.

## **2. Brand Knowledge as the Source or Foundation of Brand Equity**

Although the details of different approaches to measuring brand equity differ, they tend to share a common core: all typically either implicitly or explicitly focus on brand knowledge structures in the minds of consumers individuals or organizations as the source or foundation of brand equity (Grover, Keller, 2006., page 22.). To capture differences in brand knowledge structures, a number of hierarchy of effects models have been put forth by consumer researchers through the years, from awareness to loyalty using different concepts, models and measurement approaches. Several commercial versions are also available and commonly used on market for brand management (e.g., Young and Rubicam's BrandAsset Valuator (BAV), WPP's Brand Z, and Research International's Equity Engine). This paper will be focused on Ipsos's Brandpuls tool for brand measurement.

## **3. Brand Pyramid as a Brand Management Tool**

This paper investigates understanding and perception of brand equity observed through brand strength in FMCG industry as an example of industry with high brand equity potential and high regional strength, since production companies can be observed as one of the main drivers of regional performance and development. The aim of this paper is to help create a clearer picture of Eastern Croatia production brands strength.

### **3.1. Brand Pyramid Methodology**

For the purpose of this analysis, backdate of 4 research waves through 2 years (2 waves per year 2015 and 2016) were used. All of those conducted on a representative, random sample of Croatian citizens older than 15 years, (n=2.000 per wave, in total 8.000 respondents), examining



(as a part of a wider study) brand strength of FMCG producers in Croatia, as a part of a bigger syndicated commercial research and management tool called BrandPuls, owned by IPSOS market research agency. Special focus will be on brand strength position of production brands in Eastern Croatia in comparison to other regions in Croatia. Understanding brand metrics in combination with attitudes of the respondents with regard to observed socio-demographic characteristics of the sample can be crucial for strategic planning of regional development.

Basic analysis will be done through brand pyramid, based on relationship with customer, including conversion model. Brandpuls tool includes brand loyalty measurement as an important part of measurement of the majority of commercial brand equity models. Analysis also includes brand affinity and brand image as crucial criteria for brand strength.

### 3.1.1. Sample description

Since brand preferences differences of Eastern Croatia in comparison to whole Croatia will be observed, having in mind all socio demographic characteristics that could be relevant for brand preference, in table 1 detail socio demography description is given.

*Table 1 Socio demography sample description per country as reference target and region as a target*

|                       |                                | Croatia  |      | Eastern Croatia |      | COMPARISON  |
|-----------------------|--------------------------------|----------|------|-----------------|------|---|
|                       |                                | Column % | N    | Column %        | N    |   |
|                       |                                |          |      |                 |      | Affinity index*<br>=Target's affinity<br>toward particular<br>answer. Base =100 |
| <b>TOTAL</b>          |                                | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
| <b>Gender</b>         |                                | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                       | <b>Male</b>                    | 49,8     | 4002 | 50,82           | 684  | 102,01  |
|                       | <b>Female</b>                  | 50,2     | 4031 | 49,18           | 662  | 98,01   |
| <b>Age categories</b> |                                | 100,0    | 8031 | 100,00          | 1345 | 100,02  |
|                       | <b>15-19</b>                   | 10,3     | 826  | 11,59           | 156  | 112,63  |
|                       | <b>20-29</b>                   | 17,0     | 1368 | 15,27           | 205  | 89,67   |
|                       | <b>30-39</b>                   | 20,6     | 1654 | 17,98           | 242  | 87,32   |
|                       | <b>40-49</b>                   | 20,7     | 1663 | 23,43           | 315  | 113,13  |
|                       | <b>50-59</b>                   | 21,9     | 1763 | 22,05           | 297  | 100,50  |
|                       | <b>60-64</b>                   | 9,4      | 757  | 9,68            | 130  | 102,65  |
| <b>Education</b>      |                                | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                       | <b>DK/NA</b>                   | 1,6      | 129  | 1,88            | 25   | <b>117,50</b>   |
|                       | <b>Primary school</b>          | 22,9     | 1838 | 31,68           | 426  | <b>138,46</b>   |
|                       | <b>Secondary school</b>        | 57,7     | 4636 | 54,61           | 735  | 94,63   |
|                       | <b>College, university</b>     | 17,8     | 1430 | 11,83           | 159  | <b>66,46</b>  |
| <b>Employment</b>     |                                | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                       | <b>Yes</b>                     | 50,9     | 4090 | 43,75           | 589  | 85,94   |
|                       | <b>No</b>                      | 48,6     | 3907 | 56,05           | 754  | 115,26  |
|                       | <b>No answer</b>               | 0,5      | 37   | 0,20            | 3    | <b>43,48</b>  |
|                       | <b>DK/NA</b>                   | 0,0      | 0    | 0,00            | 0    | <b>0,00</b>   |
| <b>Region</b>         |                                | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                       | <b>Zagreb and surroundings</b> | 25,5     | 2046 | 0,00            | 0    | -   |
|                       | <b>North Croatia</b>           | 18,1     | 1457 | 0,00            | 0    | -   |
|                       | <b>Eastern Croatia</b>         | 16,8     | 1345 | 100,00          | 1345 | -   |
|                       | <b>Lika and Banovina</b>       | 8,4      | 672  | 0,00            | 0    | -   |

|                         |   | Croatia  |      | Eastern Croatia |      | COMPARISON  |
|-------------------------|---|----------|------|-----------------|------|---|
|                         |   | Column % | N    | Column %        | N    | Affinity index*<br>=Target's affinity toward particular answer. Base =100 |
|                         | <b>Croatian Littoral and Istria</b>       | 11,6     | 932  | 0,00            | 0    | -   |
|                         | <b>Dalmatia</b>                           | 19,7     | 1581 | 0,00            | 0    | -   |
| <b>Marital status</b>   |   | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                         | <b>Married</b>                            | 51,4     | 4132 | 56,46           | 760  | 109,76  |
|                         | <b>Single</b>                             | 30,4     | 2438 | 26,87           | 361  | 88,53   |
|                         | <b>Divorced</b>                           | 5,7      | 457  | 4,94            | 66   | 86,82   |
|                         | <b>Widower</b>                            | 3,5      | 281  | 4,39            | 59   | <b>125,79</b>   |
|                         | <b>Common law marriage</b>                | 6,0      | 484  | 3,27            | 44   | <b>54,32</b>  |
|                         | <b>No answer</b>                          | 3,0      | 242  | 4,06            | 55   | <b>134,88</b>   |
|                         | <b>DK/NA</b>                              | 0,0      | 0    | 0,00            | 0    | <b>0,00</b>   |
| <b>Settlement</b>       |   | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                         | <b>Village</b>                            | 38,8     | 3113 | 37,77           | 508  | 97,47   |
|                         | <b>Town</b>                               | 61,3     | 4920 | 62,23           | 837  | 101,60  |
| <b>Personal income</b>  |   | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                         | <b>DK/NA</b>                              | 5,9      | 473  | 5,11            | 69   | 86,76   |
|                         | <b>Without personal income last month</b> | 19,6     | 1571 | 25,22           | 339  | <b>128,94</b>   |
|                         | <b>Up to 2000 HRK</b>                     | 13,2     | 1061 | 14,51           | 195  | 109,84  |
|                         | <b>2001 - 4000 HRK</b>                    | 27,1     | 2174 | 28,17           | 379  | 104,06  |
|                         | <b>4001 - 6000 HRK</b>                    | 20,7     | 1660 | 18,24           | 245  | 88,24   |
|                         | <b>6001 and more</b>                      | 13,6     | 1093 | 8,75            | 118  | <b>64,34</b>  |
| <b>Household income</b> |   | 100,0    | 8033 | 100,00          | 1345 | 100,00  |
|                         | <b>DK/NA</b>                              | 9,2      | 740  | 10,06           | 135  | 109,11  |
|                         | <b>Without income last month</b>          | 1,4      | 112  | 0,83            | 11   | <b>59,71</b>  |
|                         | <b>Up to 3000 HRK</b>                     | 11,3     | 903  | 16,81           | 226  | <b>149,42</b>   |
|                         | <b>3001 - 5000 HRK</b>                    | 15,7     | 1257 | 22,24           | 299  | <b>142,11</b>   |
|                         | <b>5001 - 7000 HRK</b>                    | 18,0     | 1449 | 19,44           | 261  | 107,82  |
|                         | <b>7001 - 9000 HRK</b>                    | 16,6     | 1332 | 15,17           | 204  | 91,50   |
|                         | <b>9001 - 11000 HRK</b>                   | 11,6     | 931  | 7,53            | 101  | <b>64,97</b>  |
|                         | <b>11001 and more</b>                     | 16,3     | 1309 | 7,91            | 106  | <b>48,56</b>  |

Source: Brandpuls data, prepared by authors

It can be concluded that sample size and representative sample structure allows brand preference regional analysis. Although, it is important to have in mind regional differences which are not related to direct brand perception and preference. When analysing predefined socio demographic differences using Affinity Regional Index, calculated as target's affinity toward particular answer in comparison to reference target (whole Croatia), Eastern Croatia is in general lower in share of educated people, higher in share of people without personal income last month, and has lower household income than Croatia in average. All of this has to be taken into consideration when analysing brand preferences, since all price premium brands are less available.

### 3.1.2. Brand Pyramid explanation

Brandpuls tool allows brand analysis per different FMCG categories, primarily food and beverages, washing and cleaning products and cosmetics. For every category first step is to detect non category users, although, they can be also observed in relation to brand perception.

For every category, set of chosen brands are measured through, as earlier mentioned hierarchical model, starting with recognition of the brand (in questionnaire asked as prompted awareness), second step measuring experience with brand, followed by brand usage. Consideration of brand while conducting category purchase leads to primary brand usage, where top of the model is defined with loyal users. Conversion model per every pyramid step can be analysed as well. Furthermore, that combination of variables allows also brand loyalty segmentation. Important variable that can be combined with brand pyramid is average satisfaction.

#### 4. Eastern Croatia Brands Perception and Strength

For analysis of Eastern Croatia brands perception and strength in region, as a variable of ethnocentric and loyal behaviour, and in Croatia, as a wider potential of regional positioning on national level, having in mind that brand from region does not have to be regional brand, but nationally or internationally accepted.

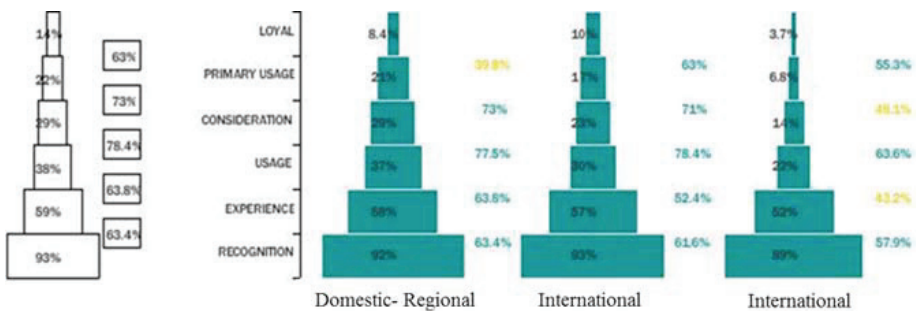
For analysis 2 FMCG categories where producer from Eastern Croatia is active and nationally available in retail. First category was non-food category - laundry detergents and second one food category - chocolates.

##### 4.1. Eastern Croatia Brands Perception and Strength - Laundry Detergents Example

On national level around 70% of all 15-65 respondents describes themselves as category users. In Laundry Detergents category there is one strong regional producer, with family of brands but clear positioning of master brand, which was chosen for comparison in Top 3 master brands of domestic or international producer available in Croatia.

Brand pyramid was observed for Eastern Croatia as target sample, and Croatia as reference target. When analysing consumers in Eastern Croatia (Graph 1.), it can be seen that the strongest brand pyramid is the one of regional producer. It has the best conversion rate from experience to usage level, which argues that the product itself has optimal quality/price/distribution elements, not only communication ones (awareness). Although all three are rather strong, first rank regional producer won due to the higher share of usage, consideration and primary usage levels. On the other hand, Regional producer has, out of top 3, a lowest loyalty conversion rate. Optimal category brand pyramid (conducted out of best conversion rates at the moment) confirms that that is possible room for improvement.

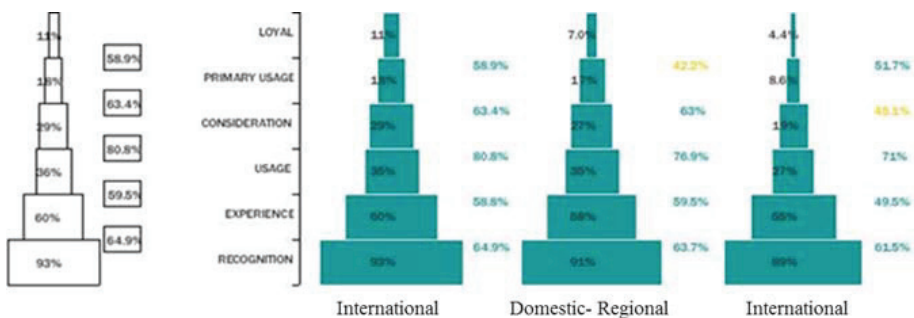
*Graph 1 Top 3 Brand pyramids Laundry Detergents category in Eastern Croatia*



Source: Brandpuls data, prepared by authors

When analysing consumers in Croatia as whole (Graph 2.), it can be seen that regional producer ranks as second brand pyramid, with pyramid rather similar per shape, just few percentages “thinner” than international leader, who on national level accomplished current maximum.

**Graph 3** Top 3 Brand pyramids Laundry Detergents category in Croatia



Source: Brandpuls data, prepared by authors

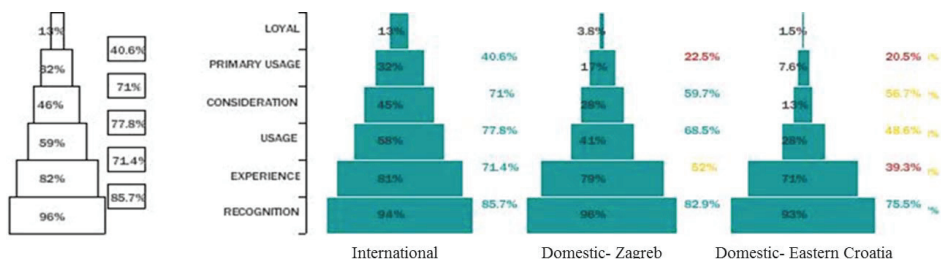
Loyalty development and better conversion from primary usage is the greatest improvement space.

#### 4.2. Eastern Croatia Brands Perception and Strength - Chocolates Example

On national level around 13% of all 15-65 respondents describes themselves as category non users. In Chocolate category there is two rather strong regional producers with clear mater brand positioning, but only one in regional level ranked in top 3 so it was furthermore compared on national level.

When analysing consumers in Eastern Croatia (Graph 3.), it can be seen that the strongest brand pyramid is the one of international producer, very strong, with great conversion rates on all levels, with even high primary usage and loyalty for the category which could be open to new, and can be used form different occasions and needs. Although having “their own” brand, second rank belong to domestic brand from other region. That brand although strong, can be optimised if conversion from experience to usage would be higher, but primarily conversion to loyalty, although as said earlier, loyalty can be driven by different needs/occasions. Our “targeted” brand ranks as third in eastern Croatia, with potential to develop: it is obvious that people are aware that brand exist, and that they even tried the brand, which means that from communication perspective there is no much room for improvement. But conversion from experience to usage is rather low, which means that brand can tried to examine availability, price/quality ratio, or some other functional elements. Optimal category brand pyramid (conducted out of best conversion rates at the moment) confirms that the international brand is at maximum of category brand potential.

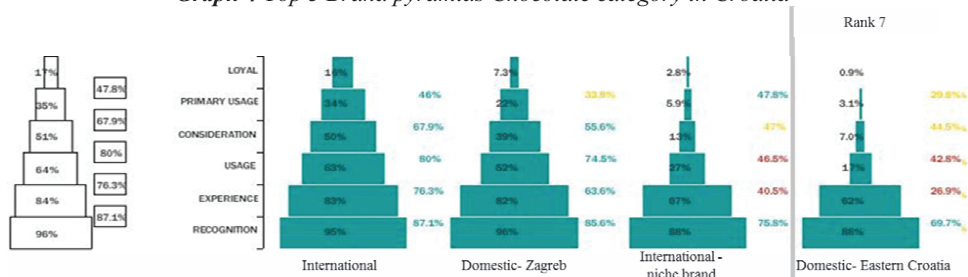
**Graph 3** Top 3 Brand pyramids Chocolate category in Eastern Croatia



Source: Brandpuls data, prepared by authors

Though it was to be expected for food to be easier positioned within domestic environment, when analysing brand pyramids on national level, international players still ranks as first, with a strong, solid position. Second place is also the same – belong to domestic player from Zagreb, with higher ranking than in eastern Croatia. Domestic brand from eastern Croatia ranks as 7<sup>th</sup> brand with high improvement possibilities on almost every level after awareness and even experience.

**Graph 4** Top 3 Brand pyramids Chocolate category in Croatia



Source: Brandpuls data, prepared by authors

That suggests that brand needs to do some functional positioning improvements in order to unlock all of its potential.

## 5. Eastern Croatia Brands Potential in Strategic Planning of Regional Development

Analysis of Eastern Croatia brands perception and strength based on two different category examples shows that regional players can be well perceived and preferred not only on regional but national level, but not (only) by „domestic“ criteria which cannot be exclusively used for (even) regional positioning. For furfure analysis it would be helpfull to analyse other defined brand equity dimensions, such as brand identity and brand associations in order to compile a strategy for maximisation of regional brands in regional and national positioning, as a drivers of regional development. Attribute analysis would help to define objective and subjective obstacles to brand building. Especially since used brand pyramid is one of the Consumer Value Models, which are developed as a means for eliminating the gap between the intangible perceptions of a brand and the revenues it generates, since brand levels related to consideration and usage are taking into consideration consumer price responsiveness. Since it clear for Eastern Croatia that

income possibilities are lower than average Croatia, for regional brands it is a “must” to position itself nationally (and if possible internationally) to have possibility not only to be consumed by users with higher income possibilities, but to drive those income through regional brand to the region and directly participate in regional development.

## REFERENCES

- Aaker, D. A.; (1991): *Managing Brand Equity: Capitalising on a value of a brand name*, New York, NY, The Free Press
- Kapferer, J-N. (2004): *The New Strategic Brand Management*, Kogan, London.
- Kaplan, R.S. and Norton, D.P. (2000): *Having trouble with your strategy? Then map it*, Harvard Business Review, Vol. 78, pp. 67-176.
- Keller, K.L. (1993): *Conceptualizing, Measuring and Managing Customer-Based Brand Equity*, Journal of Marketing, 57, 1, pp. 1-22.
- Keller, K. L.; Lehmann, D.R. (2006): *Brands and Branding: Research Findings and Future Priorities*, Marketing Science 25(6): 740-759.
- Grover, R., Vriens M. (2006): *The Handbook of Marketing Research: Uses, Misuses, and Future Advances*; Measuring Brand Equity (Keller), Chapter 26, page 22
- Rajagopal (2006): *Brand excellence: measuring impact of advertising and brand personality on buying decisions*, Measuring Business Excellence, Vol. 10, pp. 55-65.
- Tauber, E. (1988): *Brand leverage: strategy for growth in a cost-control world*, Journal of Advertising Research, Vol. 28, pp. 26-31.

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**ECONOMIC INDICATORS OF THE CROATIAN INTEGRATION IN THE  
EUROPEAN UNION**

**GOSPODARSKI INDIKATORI INTEGRACIJE REPUBLIKE HRVATSKE  
U EUROPSKU UNIJU**

***ABSTRACT***

*European Union as a regional integration for most of the European countries represents path towards economic and social progress. On their way to European Union membership, candidate countries need to pass through the certain accession negotiations in order to harmonize their regulations and laws in accordance with the requirements of the European Union. Paper deals with benefits and challenges of the Croatian integration in the European Union while the special emphasize has given to the economic effects of the integration. The aim of the paper is to present the economic effects of the Croatian integration in the European Union by the review of the relevant literature while the purpose is to point out the key problems and obstacles that do not allow stronger economic development of the Croatia as the member of the European Union. According to the research, it can be concluded that rise of export has been one of its most positive impact from its accession in the European Union until now. The export is of extreme importance for faster and stronger Croatian economic growth and development while it is important to work on its better structure and competitiveness of Croatian economy in a manner to generate its further growth.*

**Key words:** *European Union, economic integration, economy of the Republic of Croatia.*

***SAŽETAK***

*Europska Unija kao regionalna integracija za mnoge zemlje Europe predstavlja put prema gospodarskom i društvenom napretku. Na tom putu zemlje kandidatkinje prolaze kroz određene pristupne pregovore kako bi uskladile svoje propise i zakone u skladu sa zahtjevima Europske Unije. Rad se bavi analizom prednosti i izazova integracije Republike Hrvatske u Europsku Uniju pri čemu se poseban naglasak daje na gospodarske učinke integracije Republike Hrvatske*

*u Europsku Uniju. Cilj rada je pregledom relevantne literature iznijeti gospodarske učinke integracije Republike Hrvatske u Europsku Uniju dok je svrha rada ukazati na ključne probleme i prepreke koje onemogućuju snažniji gospodarski razvoj Republike Hrvatske kao članice Europske Unije. Na temelju provedenog istraživanja može se zaključiti kako je rast izvoza njezin najpozitivniji učinak od njezina ulaska u Europsku Uniju do danas. Izvoz predstavlja izuzetnu važnost za brži i snažniji gospodarski rast i razvoj Republike Hrvatske dok je potrebno poraditi na njegovoj boljoj strukturi te većoj konkurentnosti gospodarstva Republike Hrvatske kako bi se potaknuo njegov daljnji rast.*

**Ključne riječi:** *Europska Unija, gospodarska integracija, gospodarstvo Republike Hrvatske.*

## **1. Introduction**

The European Union is the common denominator of European countries whose objectives are balanced economic and social development, high level of employment and protection of the rights and interests of citizens (Rudolf et al., 2006: 33/34). In a global meaning, European Union means the overall processes of European integration (Lasić, 2015). It is a community of interest that has been obvious in fact that as a community, and each new member country, has certain benefits by its enlargement. On the other side, each new member countries has its own political, economic and cultural peculiarities which potentially carry certain issues (Mrkša, 2001: 37).

Enlargement of the European Union has been seen as a benefit that applies to all States. It has been believed how enlargement serves the interests of the Member States and accession countries by making Europe more secure and advanced, especially for promoting democracy and fundamental freedoms, the rule of law and the single market (European Commission, 2015: 3). However, one of the most important European Union instruments is actually its enlargement. European Union accession has helped Central and Eastern European countries in their transformation in modern and functional democracies. European Union sparked significant reforms in candidate countries and potential candidate countries (Musladin, 2012: 110).

European enlargement policy is the most important policy of the European Union while accession procedure for the new members has been extremely complexed and long-term. The complexity of the Union approach is obvious in all relevant areas, from detailed and long lasting application process, assessment and entrance of the candidate country, and to all effects that are the consequences of this process. Country that has submitted an application for candidacy faces with a complicated requirements (Musladin, 2012: 107).

European Union membership enables institutional and normative effects for the future member countries. While institutional effects generate changes to national institutional structures, which will be the result of transnational normative regulation, normative effects have significant impact to changes of national (normative) systems in a process of national law harmonization with the accordance to European law (Bodiroga-Vukobrat, 2000). Member states give European Union authorities by the main contracts. Lisbon agreement has clarified the division of powers between the EU and the Member States stating that the Union has exclusive powers, shared powers and authority to support coordination and complementarity (Tišma et al., 2012: 24).

Paper deals with benefits and challenges of the Croatian integration in the European Union while the special emphasize has given to the economic effects of the integration. The aim of the paper is to present the economic effects of the Croatian integration in the European Union by the review of the relevant literature while the purpose is to point out the key problems and obstacles



that do not allow stronger economic development of the Croatia as the member of the European Union.

## **2. Benefits and Challenges of Croatian integration in the European Union**

The world is getting more noticeable growing trend of regional integration. Aims of regional integration have been associated with the desire to ensure safer access to broader market, state desire to be engaged in a better political system, the pressure of globalization that forces companies and countries to seek efficiency through broader markets, stronger competition and access to foreign technologies. Benefits for the countries from the European Union integration are facilitating flows of foreign direct investment through the establishment of protocols on investments and protection, liberalization of labor movements within the regional integration, harmonization of domestic taxes, macro policy, including monetary and fiscal policy in order to achieve a stable macroeconomic framework within regional integration. Generally, benefits are associated to economic development, effective legal system, the abolition of borders, which enables greater mobility and opportunities of education and employment in the Member States of the Union (Bilas, 2008: 128).

Following a series of steps relations, between Croatia and the European Union have resulted in negotiations on Croatian accession to the European Union, their completion and signing of the Treaty of Accession to the European Union (Brigljević et al, 2012: 35). 1<sup>st</sup> July 2013. Republic of Croatia become the 28<sup>th</sup> full member of the European Union. Tišma et al. (2012:25) state that by the entrance in the European Union Republic of Croatia, through their representatives in the institutions of the Union, becomes an active co-creator of European policies. Beširević (2005) emphasizes how social effects of becoming European Union member have been reflected in the possibilities of labor mobility, more rights for ethnic and other minorities, higher quality of life, rural and regional development opportunities, higher standards of food quality and consumer protection in general, greater internal security for greater control of external borders, cooperation on combating crime and trafficking, establishing a zone of justice that allows private individuals easier access to civil courts in other member states.

By the accession of the Republic of Croatia in the European Union, in many aspects of the economic sphere started major changes. Among other things, these changes were related to the international trade. As a new full member Croatia takes the applicable trade agreements by the European Union with third countries (Ćudina and Sušić, 2013: 337). Ševgić (2011) states how the abolition of border controls ensures faster and more efficient flow of goods within a Member States and on that way reduces shipping costs. Butković et al. (2007) argues how alignment with the *acquis* in the field of industry requires restructuring, adoption of new technologies and modernization by which Croatian industry should become more competitive and focused on exports.

However, the period after Croatian accession in the EU showed that the country was successful in the harmonisation of legislation and policies and institution building in some areas, but much weaker in respect of economic and structural reforms which remained unfinished (Butković & Samardžija, 2014: 104). Croatia's next membership challenge is accession to the free movement Schengen zone and probably the largest integration step will be euro adoption whose costs and risks depend on economic conditions and policies (Tache, 2010). Koerner and Bletzinger (2013) state that Croatia most probably will not join the eurozone before 2020 due to the fiscal issues.

As a part of the European Union, Croatia shares the common challenges and future prospects. Archick, (2017:1) states that the EU faces a range of pressures including slow economic growth, persistently high unemployment, and the rise of populist, antiestablishment political parties in many EU countries and multiple crises, which have raised significant questions about the EU's future shape and character.

### **3. Economic impacts of the Croatian integration into the European Union**

Entrance into the European Union for the new Member States means a big investment, especially in infrastructure and research, increase export, substantial increase in investment, the rise of stock markets, increased investment in environmental protection and innovation, increase in tourists for about 25%, since the residents of the "old" Europe would like to discover a new Europe. In economic benefits of the EU entrance have been associated unlimited access to the single market that has about 500 million consumers, improving product quality and thus competitiveness, development and increase traffic and transport, free to participate in all tenders for public procurement announced in the EU. Entering the EU's new Member States record a significant growth of GDP (Beširević, 2005: 25).

It is possible to see through financial investments what entrance of the Croatia in the European Union meant for the Croatian economy. In the period from 1991 to 2003 Croatia received 550 million euros of financial support. Furtherly, as part of the national CARDS<sup>1</sup> program for a period from 2001 to 2004. Croatia as a potential candidate country received a total 257 million euros and in a period between 2005 and 2006 from the pre-accession funds a total 245 million euros (Beširević, 2005: 30). In the second half of 2013. Croatia has been a net recipient of the budget funds – country that gets from the European Union budget more that it pays to it (Brigljević et al., 2012).

Membership in the EU for Croatia means security, equal rights and business frameworks for the foreign investors that have an impact on increase of investments. Croatian companies have opportunity to offer their products and services to a much larger market (Ministry of Foreign and European Affairs, 2014). Entrepreneurs who operate in the Croatian market, managing and export of the goods to the other member states of the European Union would be much easier (Tišma et al., 2012: 31). Equal treatment of the Croatian products in accordance to the other products from different EU member countries should expand business trade and opportunities on the other member state markets (Pilić et al., 2009). However, European member countries have unique market that will most probably lead to the stronger competition of foreign companies on the Croatian market and will make it difficult for the survival of Croatian companies that fail to adapt to the new conditions. EU accession had also negative impact on the creation of national state budget due to abolition of customs duties that reduced revenues in the budget (Ministry of Foreign and European Affairs, 2014).

Accession to the European Union represented the prospect of faster income convergence and allowed huge inflow of foreign capital in which intervened banks. That has led to the strong growth in domestic demand. The dynamic internal demand spilled over to the imports, which have consequently increased current account deficits. A substantial increase in wages and prices undermined the competitive costs and reduced the tradable sector. The consequence was the excessive accumulation of debt, mostly external, without proper servicing capabilities, with a

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<sup>1</sup>Instrument of the financial and technical support which replaces other assistance mechanisms in Southeast Europe.

drop in competitiveness and insufficient space for the implementation of policies (European Commission, 2015: 3).

Although Croatia joined European Union since 2013, it was under the same negative macroeconomic movements in the years before the crises. The backbone of strong growth in 2008 and the global financial crisis, is the strong inflow of capital, partially directed through the Croatian banking sector, which is largely foreign owned. It is important to emphasize that the inflow of foreign direct investments, to a greater extent than in comparable economies in the region, bypassed the tradable sector. Internal demand, fueled by investments, contributed to the rapid growth of imports (European Commission, 2015: 3).

Croatia become much more financially integrated with developed European Union member countries after its accession to the European Union as compared to pre accession period (Halilović and Ergun, 2015) which on the other hand leads to greater exposure to external shocks.

#### **4. Export as the most positive economic impact of Croatian Integration into the EU**

In economic terms, Croatia is a member of the small countries group but when it comes to its resources, it is a medium-rich country. Croatian international business, above all exports of goods and services on the international market, are very important to its faster and stronger economic growth and development. Several aggravating circumstances that represent a lack of Croatian economy when it comes to exports are fragmented production of the Croatian economy, insufficient production capacity, lack of a clear national export strategy, difficult access to global capital, problems relating to the transfer of new technologies and knowledge etc. (Ling-ye & Ogunmokun, 2001; prema Kovač, 2012: 90).

Three years after Croatia become the EU member have shown that the most benefit from its integration in the unique market was the rise of exports and points to the fact that the private sector is restructured and has been turned to exports. Therefore, the most positive effect of full Croatian membership in the EU is a strong increase in exports. It is possible to conclude that Croatia finally moved forward to further economic development after six years of crisis. This shift and progress are undoubtedly a consequence of EU membership, and benefit from the areas of integration in the single European market, foreign direct investments that are re-running, as well as the possibility of using EU funds. However, Croatia still has to raise its products and services competitiveness but we should also have in mind, when we compare Croatian competitiveness with other members of the Union, that other “new members” are in Union much longer - ten years already (Grčić, 2015).

In the first four months of 2015 has been recorded growth of export for 10 percent and import for 4 percent compared to the same period of 2014. Export to the EU countries has grown for 12 percent while coverage of imports by exports in the same period increased by 3.3 percentage points (from 57.5 to 60.8 percent). Compared to 2013 total exports in 2014 increased by 8.71%, and imports by 4.28. It is also important to emphasize how negative trade balance was reduced for 1 billion kunas in 2014. Towards the European member countries export has been growing for almost 11 percent, not only to the traditional trading partners like Germany, Italy and Austria, but mostly to Latvia, Portugal and Spain what is a clear sign of Croatia integration into a common market. Although it was expected that entry into the European Union will have negative effect on

trade with CEFTA<sup>2</sup> countries, in 2014 compared to 2013 has been recorded growth of export towards that market for 11.5 percent, most of it with Montenegro, Serbia and Moldova (Government of the Republic of Croatia, 2015).

With South Eastern European countries, the greatest cooperation progress has been achieved in foreign trade while it is important to emphasize significance of the rise of exports (Broz et al., 2015). In 2016, the most important market for Croatian products remained the European Union in which it exported goods worth 5.9 billion euros or 4.8 percent more than in the first nine months of 2015 (Economic diplomacy, 2017).

The greatest contemporary challenges that faces the EU and Croatia are certainly of an economic nature. Picula (2015) state that since the Croatia joined the EU, export and production have grown while companies have great benefits from entering in large and regulated market. However, concrete progress since joining the EU Croatia should expect in 2018 considering that the result will be obvious later.

Increasing competitiveness is a basic for the Croatian exports growth, but also the possibilities of equal performances in the open market and the ability to "survive" in terms of strong competitive pressures in the domestic market which are, due to multilateral and regional liberalization, increasingly common (Kersan-Škabić, Baknović, 2008: 57).

The success of a country in the international market depends on the competitive ability of its all business subjects involved in foreign trade – international exchange. Therefore, it is essential to possess a competitive advantage that serves as a basis for higher profitability. For growth and development of the Croatian economy, in terms of the international economy, it is extremely important to increase exports, but those that has favorable structure. In such kind of exports should dominate products with high value added in relation to export of raw materials (Kovač, 2012: 87-118).

## **5. Concluding remarks**

According to the conducted research, it can be concluded that growth of the exports was Croatian most positive effect since its accession to the European Union until now. Exports represent an exceptional importance for a faster and stronger economic growth and development of the Croatian economy. However, it is necessary to work on its better structure and greater competitiveness of the Croatian economy in a manner to encourage its further growth.

The competitiveness of the Croatian economy is one of the most important preconditions related to the international exchange of the Republic of Croatia and its success and position in the international market. Thus, for many years one of the strategic goals of the Croatian economic policy is to strengthen the overall competitiveness of the Croatian economy, and thereby strengthening exports as a strategic commitment (Turčić, 2015: 168/169).

Croatian export has been weak for years and the share of exports of goods in GDP very low. European Commission (2015) states that cost and non-cost competitiveness partly contribute to the weak export base. High obligations stimulate outflow of investment income and represent source of vulnerability. Hodak and Hodak (2014) emphasize that Croatian accession to the European Union gave Croatian companies great potential to increase the placement of their products and

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<sup>2</sup> Central European Free Trade Association – multilateral free trade agreement

services. For the realization of these opportunities, it is necessary to increase the competitiveness of companies, sectors and regions, but this requires a stronger connection of public, research and development and business sector. Cluster organizations as a network of interdependent production companies can significantly affect the increase of competitiveness and innovation, which ultimately leads to increased exports of the product.

As the best way by which the Croatia could try to improve its export competitiveness is the encouragement of export-oriented foreign direct investments. For the most Croatian companies, export strategy has been based on the achievement of higher quality than those offered by the competition (Anić, I.D., i sur., 2014: 39-45). Quality represents basis for all further business activities of the companies and their further growth and development on the EU market (Miletić et al., 2014).

Currently are visible smaller but very significant economic progresses. In a manner to increase competitiveness of the Croatian economy, it is required to have continuous and concerted practices in almost all economic areas. Only by further systematic and coordinated efforts Republic of Croatia could generate in the future significant economic results. Paper mostly deals with the benefits of Croatian accession to the European Union and brings out the export as the example of the most important economic impact, while on the other hand it does not deal with the most negative economic impact of the Croatian accession to the European Union, which is a limitation of the paper.

## REFERENCES

Anić, I. D. (2014): *Kako probuditi rast hrvatskog gospodarstva?*, Ekonomski Institut, Zagreb.

Archick, K. (2017): The European Union: Current Challenges and Future Prospects, Congressional Research Service Report.  
<https://fas.org/sgp/crs/row/R44249.pdf> (accessed 07 March 2017)

Beširević, N. (2005): *Otvoranje pregovora između Hrvatske i EU: usaglašavanje o medijskim slobodama*, Medijska istraživanja, Vol. 11, No. 2, pp. 19-32.

Bilas, V. (2008): *Trendovi integriranja i položaj Hrvatske*, Ekonomska istraživanja, Vol. 21, No. 2, pp. 127-138.

Bodiroga-Vukobrat N. (2000): *Proširenje Europske unije*, Zbornik Pravnog fakulteta Sveučilišta u Rijeci, Vol. 21, No. 2, pp. 763-783.

Brigljević, K., Brnčić, A., Leppee, P., Mošnja, I. (2012): *Hrvatska na putu u Europsku uniju: od kandidature do članstva*, Ministarstvo vanjskih i europskih poslova, Zagreb.

Butković, H., Dujmović, K., A., Ondelj, I. (2007): *Hrvatska u Europskoj uniji: Što građani mogu očekivati?*, Institut za međunarodne odnose.

Butković, H., Samardžija, V. (2014): *Challenges of Continued EU Enlargement to the Western Balkans – Croatia's Experience*, Poznań University of Economics Review, 14(4): 91-108.

Ćudina, A., Sušić, G. (2013): *Utjecaj pristupanja Hrvatske Europskoj uniji na trgovinske i gospodarske odnose sa zemljama CEFTA-E*, Ekonomski pregled, Vol. 64, No. 4, pp. 376-396.

Economic diplomacy (2017): *Croatian Trade Exchange*.

<http://www.mvep.hr/hr/o-hrvatskom-izvozu/> (accessed 07 March 2017)

Europska komisija (2015): *Izješće za hrvatsku 2015. s detaljnim preispitivanjem o sprečavanju i isplavljanju makroekonomskih neravnoteža*, Bruxelles.

Grčić, B. (2015): *Hrvatska dvije godine u EU – Najpozitivniji učinci na izvoz*, 2015.

<http://www.strukturnifondovi.hr/hrvatska-dvije-godine-u-eu-najpozitivniji-ucinci-na-izvoz>

(accessed 07 March 2017)

Halilović, A., Ergun, U. (2015): *Speed of Financial Integration before and after European Union Membership*, Economic Review, Vol. 68, No. 3, pp. 252-272.

Hodak, Z., Hodak, M. (2014): *Uloga klastera u povećanju konkurentnosti Hrvatskih proizvoda i usluga na Europskom tržištu*. Zbornik radova 1. Međunarodne znanstveno – stručne konferencije Fedor Rocco. Visoka poslovna škola Zagreb.

Kersan-Škabić, I., Banković, M. (2008): *Malo gospodarstvo u hrvatskoj i ulazak u Europsku Uniju*, Ekonomska misao i praksa, Vol. 12, No. 1, pp. 57-76.

Koerner, K., Bletzinger, T. (2013): *Croatia facing challenges on the EU's doorstep*, Deutsche Bank.

Kovač, I. (2012): *Analiza međunarodne robne razmjene Republike hrvatske od godine 2001.do 2010.*, Ekonomski pregled, Vol. 63, No. 1-2, pp. 87-118.

Lasić, M., *Pravni (i politički) sustav Europske unije*. Dostupno na: <http://milelasic.com/?p=3221> (accessed 07 March 2017).

Miletić, A., Krajnović, A., Bosna, J. (2014): *Upravljanje kvalitetom hrvatskih tvrtki – izvoznica u EU*, Tranzicija, Vol. 16, No. 34, pp. 93-103.

Miloloža, I., Miloloža, H., Kuhtić, E. (2014): *Challenges of Croatian Export*, Interdisciplinary Management Research, Vol. 10, pp. 1000-1024.

Ministarstvo vanjskih i europskih poslova (2014): *Najčešće dvojbe o EU*.

[http://www.mvep.hr/custompages/static/hrv/files/pregovori/120103\\_mitovi.pdf](http://www.mvep.hr/custompages/static/hrv/files/pregovori/120103_mitovi.pdf) (accessed 02 March 2017).

Mrkša, S. (2001): *Politika proširenja Europske unije*, Pravo i porezi: časopis za pravnu i ekonomsku teoriju i praksu, Zagreb.

Musladin, M. (2012): *Europska politika proširenja i Republika Hrvatska: specifične okolnosti*, Medianali, Vol. 6, No. 12, pp. 105-122.

Picula, T. (2015): *Hrvatska je iskoristila prednosti članstva u EU*

<https://lider.media/fight-club/hrvatska-je-iskoristila-prednosti-clanstva-u-eu-2/> (accessed 07 March 2017).

Pilić, Š., Brstilo, I., Matić, A. (2009): *O priključenju Hrvatske EU: Rezultati empirijskog istraživanja u Dalmaciji*, Informatologia, Vol. 42, No. 2, pp. 100-105.

Rudolf, D. (2006): *Ustav Europske Unije*, Zbornik zavoda za znanstveni i umjetnički rad hrvatske akademije znanosti i umjetnosti u Splitu.

<http://www.hazu.hr/~azrnic/eUstav%20PDF/Ustav%201-62.pdf>

Ševgić, Š. (2011): *Šengenski režim upravljanja vanjskim granicama EU*, Zbornik radova Pravnog fakulteta u Splitu, Vol. 48, No. 1, pp. 11-31.

Tache, I. (2010): *The Challenges of Euro Adoption in Romania: Some Lessons from the Greek Experience*, European Research Studies, Vol. 13, No. 2, pp. 171-186.

Broz, T., Buturac, G., Tkalec, M. (2015): *To what extent does Croatia really cooperate with SEE countries in the fields of foreign trade, direct investment and tourism?*, Economic Research-Ekonomska Istraživanja, Vol. 28, No. 1, pp. 879-906.

Tišma, S., Samardžija, V., Jurlin, K. (2012): *Hrvatska i Europska Unija – prednosti i izazovi članstva*, Institut za međunarodne odnose – IMO, Zagreb, 2012.

Turčić, Z. (2015): *Hrvatsko gospodarstvo u vanjskotrgovinskoj razmjeni*, Poslovna izvrsnost, Vol 9, No. 1, pp. 167-190.

Vlada Republike Hrvatske (2015): **Dvije godine članstva Hrvatske u EU.**

<https://vlada.gov.hr/dvije-godine-clanstva-hrvatske-u-eu/17258> (accessed 07 March 2017).

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## **ANALYSIS OF PRIVATIZATION MODEL IN SLAVONIA**

### **ANALIZA MODELA PRIVATIZACIJE U SLAVONIJI**

#### **ABSTRACT**

*Various models and methods of privatization will be the subject of this paper. After collecting the professional literature, the study of the same leads to the conclusion that there is a definite unambiguous model that could be applied in the implementation of privatization in some countries. The aim of this study is to prove that each country is unique and that in the selection of the privatization method must be taken to ensure the fact that no existing model will not be able to implement completely and without the necessary changes. For a start it is necessary to explain the very notion of privatization and the difference between privatization in countries with socialist economy (which must fully reconstruct its economy) from privatization in countries with a capitalist economy (in which there is already a private capital which can take state property). Subsequently will be explained the method of privatization, which may be implemented through free distribution or by selling. When choosing a model is also necessary to keep in mind if one wants to implement privatization at once or gradually, over a longer period of time. It is important to decide whether the state property share or sell only to employees of those companies, or if the population and foreign investors will be included in the process. A brief review of previous privatization in Slavonia will be shown at the end and due to failure of its implementation will be presented major shortcomings in the process of converting the state into private ownership. During research of facts and possibilities that currently exist, for the formulation of the research results in this paper, the following research methods are used in a different combination: historical method, the method of analysis and synthesis, classification and description method.*

**Key words:** Privatization, Socialist economy, Slavonia, Markovic model, East European model



## SAZETAK

*Razni modeli i metode privatizacije bit će predmet ovog rada. Nakon prikupljanja stručne literature te proučavanja iste dolazi se do zaključka: ne postoji nekakav jednoznačan određen model koji bi se mogao primjenjivati pri provođenju privatizacije u pojedinim zemljama. Cilj ovog rada je dokazivanje da je svaka zemlja jedinstvena te da pri odabiru privatizacijske metode mora se voditi računa o tome da nijedan postojeći model neće moći u potpunosti i bez nužnih izmjena primijeniti. Za početak je potrebno objasniti sam pojam privatizacije te razlike između privatizacije u zemljama sa socijalističkom privredom (koje moraju u potpunosti rekonstruirati svoju privredu) od privatizacije u zemljama sa kapitalističkom privredom (u kojem već postoji privatni kapital koji može preuzeti državno vlasništvo). Nakon toga se pristupa objašnjavanju metoda privatizacije, koja se može provoditi putem besplatne raspodjele ili putem prodaje. Pri odabiru modela je također nužno voditi računa o tome želi li se privatizaciju provesti odjednom ili postupno, u dužem vremenskom razdoblju. Važno je odlučiti hoće li se državna imovina dijeliti ili prodavati samo zaposlenicima tih kompanija ili će se u taj proces uključiti stanovništvo i inozemni investitori. Na kraju se pristupa kratkom pregledu dosadašnje privatizacije u Slavoniji te se zbog neuspješnosti njene provedbe iznose glavni nedostaci u tom procesu pretvorbe državnog u privatno vlasništvo. Pri istraživanju činjenica i mogućnosti koje trenutno postoje; a za formuliranje rezultata istraživanja u ovom radu su u različitoj kombinaciji korištene sljedeće znanstvene metode: povijesna metoda, metoda analize i sinteze, metoda klasifikacije te metoda deskripcije.*

**Ključne riječi:** Privatizacija, Socijalistička privreda, Slavonija, Markovićev model, istočno Europski model

### 1. Introduction

The privatization process, respectively process of transformation of state property into private ownership is an important and complex process that represents a problem to all countries that are going through it. This paper will illustrate how this process should be carried out, respectively the way it should be accessed. Different methods that some authors define are applicable in different countries. The purpose of this paper is a systematic review of methods of privatization and description of these methods. Structure is divided into two sections. The first section clarifies the concept of privatization and the process of privatization and possibilities that are differently carried out in the countries of socialist economy than in countries with a capitalist economy. The second section presents various methods of privatization. Privatization can be implemented through the distribution or through the division of state property. Within each of these two methods of privatization there are different types respectively different views on its implementation. At the end, it will be shown the current course of privatization in Croatia, and with the aid of examples also the privatization process in the region of Slavonia.

### 2. The concept of privatization

Privatization can most easily be explained as a process or procedure of transforming companies that are state-owned into companies which owners are legal and natural persons, ie transfer of state property to private owners. Privatization is closely related with the transition." Each country in transition has, regardless of the universality of the process and the similarity of causes and motives, developed a relatively original model of privatization of state capital - critical phase of the transition process. (...) Thus, a number of countries preferred a gradual privatization, and the others, the "shock" therapy. Some are sought to keep privatization within the national

framework, and others were more or less open to investors from abroad. In addition, most countries defined the institutional framework and privatization models emphasizing primarily targets at the macroeconomic level." (Polić, 2009:397)

Although the privatization process affected the whole world economy, and although many countries passed this process, it is almost impossible to find a general theory of privatization, or a generally accepted model that could be followed. "Difficulties begin already from the fact that this process takes place in two completely different economic systems, capitalism and socialism. What applies for one can not be applied in second." (Buvač, 1990:11) The three main features that distinguish the process of privatization in capitalist economies on the one hand and socialist economies on the other hand, according to Buvač (1990) are:

1. In capitalism, private ownership is dominant over means of production, while in socialist economies vice versa, state ownership is dominant.
2. For privatization in capitalism there is more private capital that is ready and willing to absorb the state ownership. Unlike capitalism, socialism has neither the money nor the customer, and not even the market that would determine the price of a radical privatization (even assuming if all depositors of a country bought shares that would not be enough to purchase the entire state ownership).
3. And in case if socialism had enough money and capital for privatization of its property, there would still appear a new problem. When you buy something, it has to be paid to someone, and in the case of purchase of social or state ownership there is no one else other than the State to pay to and the money goes to the new state funds. In capitalism is a different case because the money from the sale of state property goes to the state budget, and it decreases the deficit or reduces the tax burden on citizens.

## 2.1. Privatization in Post-Socialism

The privatization process can be carried out with the distribution of state property or with the sale of the same. Accordingly privatization can take place with "one stroke" or gradually. The following table will show the size of the state sector in the production of selected (at the time) socialist countries.

**Table 1** Size of the state sector in the production of selected (at the time) socialist countries (%)

| Country               | Production | Employment |
|-----------------------|------------|------------|
| Czechoslovakia (1986) | 97.0       | -          |
| E. Germany (1982)     | 96.5       | 94.2       |
| SSSR (1985)           | 96.0       | -          |
| Poland (1985)         | 81.7       | 71.5       |
| Hungary (1984)        | 65.2       | 69.9       |

Source: Čengić, 1995:20

As can be seen from Table 1, production in the then socialist countries was mostly in state ownership. Czechoslovakia had the highest rate, which stood at 97.0%, while Hungary had the lowest share of state sector in production, which amounted to 65.2%. The largest share of employment, from the available data, was in E. Germany, where it amounted to 94.2%, and the lowest again in Hungary, 69.9%.

According to Čengić (1995), the main objectives of privatization in Central and Eastern Europe are:

- Economic - efficiency, profit maximization, shareholding, filling the budget, financial growth, the strengthening of competition, the stabilization of the economy,
- Political - deetatization, the strengthening of democracy, social stability, elimination of "nomenclature",
- Social - social integration, social peace.

According to Kalogjera (1993) objectives of privatization in post-socialist countries are formulated in various ways, and boil down to the following main groups:

- By privatization initiate the transition to a market economy and in particular the development of financial and capital markets; Privatization is only microeconomic change, and change of the macroeconomic environment and an element of stabilization and development policies.
- By privatization create a new management structure and new entrepreneurial motives that are based on capital ownership, maximizing profits and market competition. These motives will start company restructuring and increase the economic efficiency of each economic entity and the national economy as a whole.
- Increase revenues of the state budget by selling companies to private owners, as the basic technique of privatization.
- Provide additional funds for rehabilitation and development of enterprises (recapitalized with fresh funds)
- To establish democracy, the rule of law and ensure political freedoms.

## 2.2. Privatization in capitalism

Privatization in capitalism is different from one in the socialist or post-socialist economies by the fact that in capitalist economies dominant private ownership is over capital, which is able to take over the remaining portion of state ownership."(...) privatization of public enterprises in the western countries was carried out within a system in which private ownership is the dominant form of ownership. Various economic analyzes shows that private equity already existed for privatization of state property in the western, capitalist, countries (capital markets), willing to be absorbed, while in the former socialist countries simply was no money, no customers, no market, which would determine price privatization. Thus, while this process in the developed countries presupposes institutional, market and a proprietary defined capitalist mode of production, privatization in post-socialist countries intended to abandon a planned economy toward market, by introducing the new ownership structure." (Šokćević, Dugalić, 2009:108)

**Table 2** Size of the state sector in the production of selected countries with a market economy (%) (Čengić, 1995:20)

| Country           | Production | Employment |
|-------------------|------------|------------|
| France (1982)     | 16.5       | 14.6       |
| Sweden (1990)     | -          | 10,6       |
| G. Britain (1978) | 11.1       | 8.2        |
| W. Germany (1982) | 10.7       | 7.8        |
| USA (1983)        | 1.3        | 1.8        |

Source: Čengić, 1995:20

As can be seen from Table 2, the share of state sector in the production of selected countries with market economies is low. The lowest proportion, both in production (1.3%) and in employment (1.8%) has the United States, while the highest occurring in France as follows 16.5% in manufacturing and 14.6% in employment. If we compare the data from the table for countries with market economies, with the data shown in Table 1, which refers to countries with socialist

economies, we could conclude that these values are almost the contrary, it gives us insight into the differences between the two economies.

According to Čengić (1995), sources of changes that led to the changes of the relationship between the economy in the developed capitalist societies are:

- The crisis of "fiscal state," and crisis of "welfare state",
- Economic and ideological breakdown of the countries of "real socialism",
- The globalization of the world economy and the new requirements for competitiveness of enterprises as well as national economies.

### **3. Methods of privatization**

"Unlike the privatization strategy, privatization method considers certain types of transfer of assets, which are based on various (economic, political and technical) positions applied in the particular case of privatization. The choice of privatization procedures significantly affects the course of privatization and determines the allocation cost and future ownership structure of privatized companies. According to the allocation of property rights two concepts can generally be distinguished: the sale or free distribution. (...) Some methods thereby are not excluded, but practice shows that the privatization of public sector enterprises can combine different privatization methods or procedures." (Kušić, 2007:93-94)

Models and techniques of privatization according to Kalogjera (1993):

- Public sale of shares through a public supply, available to all;
- private sale of shares to a predetermined range of customers;
- sale of companies property, not companies;
- sale of state-owned parts of enterprises, which are previously restructure by fragmentation (spin off)
- recapitalization by private capital;
- managers and employees redemption, management employee buy out, abbreviated MEAT technique;
- distribution of shares to managers and employees free of charge, in whole or in part;
- privatization through vouchers, special remittance or certificates that are given to all citizens free of charge, which thus acquired the rights to claim the stocks of companies in conversions;
- contract granting for managers and employees in the lease (leasing)

#### **3.1. Privatization by free distribution**

Public ownership is expressed in countries with a socialist economy. In these countries, there is no capital which could redeem this public ownership during the privatization. If all the savings of the population were used during the privatization this still would not be enough for the purchase of public ownership and the transition to private ownership. It therefore takes into account the privatization of free distribution. "If it is a quick process, with the greatest possible participation of the population (mass privatization), into account comes free distribution by using vouchers or coupons. Shares in companies then transmittes to a particular group of people for free or for a symbolic fee, which means that privatization instance, ie country gives up the sales revenue." (Kušić, 2007:94)

### 3.1.1. The privatization through vouchers

As a general model of privatization (in Yugoslavia, in which the state ownership is dominant), according to Buvač (1990) the following model, called "shock therapy" is offered. Social ownership is actually a property of all citizens. If such property should be privatized, the most logical way would be, according to the principles of "law and justice", to give each citizen his part in public ownership. It would be best if every citizen received shares of each company (both good or bad). Because of the impracticality of the previous model it is necessary to find something simpler. The total value of public property could be converted into shares and all citizens of the country could get investment coupons or coupons in the form of vouchers in that value. In such a manner everyone could buy shares of companies that wants with their voucher and in this way would began market game. Everyone would chose the companies in which they want to invest. This would create owners and the capital market at one stroke.

### 3.1.2. Giersch idea of privatization

"For such a model of privatization of state property under socialism, through its free distribution to citizens, inspired me in January 1990, leading West German economist Herbert Giersch. (...) His idea of privatization boiled down to following: In Germany DR would be established immediately, for example, a dozen "investment trusts"; more of them, so that no one would have a monopoly. Between them would share all state property, especially property bulky industrial conglomerates. Then the stock "investment trusts" would be free distributed to all the citizens of East Germany. Everyone would thus gained their share of former state property, and could freely sell the stocks to domestic and foreign investors and entrepreneurs. Capitalists would come from abroad and buy these stocks. Production and management in enterprises would be reorganized. The value of shares would grow. Citizens of East Germany would be advised to be patient, not to sell their shares immediately, rather to wait until their prices rise." (Buvač, 1990:18-19)

### 3.1.3. Friedman's idea of privatization

According to Buvač (1990), American Nobel laureate Milton Friedman had similar views as Herbert Giersch. The main problem, according to him, was crossing the socialist economy into "free market economy", ie the means of production should be transferred from state to private ownership. He realized immediately that into socialist countries there is no money to purchase state property, and would not be advisable to sold state property to foreign (Western) capital. The only way to solve this problem would be the division of state property to citizens. It is technically difficult to carry out (that every citizen receives shares of each company). Companies in the country should be divided, for example, into a hundred or more groups (conglomerates) and that the citizen gets share of each of these groups. Thus would result sort of mutual funds and at the same time none of them would have a monopoly position. Companies would be reorganized into joint-stock companies whose shares would be sold on the stock exchange. For Yugoslavia Friedman laid to divide shares to workers in proportion to their share into income because there already existed some experience with workers' self-management because the owners were somehow property owners of their companies. Thereafter shares would be freely sold on the stock exchange.

## 3.2. Privatization by sales

Privatization through sale would be difficult to implement in countries with socialist economy because in those countries there is no capital to redeem state property. In countries where it is

possible to sell social property to private individuals, there are two possibilities: internal and external privatization. Below will be explained the differences between the two models.

### 3.2.1. Internal privatization

"With internal privatization, shares of the company are provided only to employees (current and former). They can also get stocks gradually: borrowing money from banks to buy shares, and gaining their effective ownership upon loan repayment (ESOP) model." (Cengic, 1995: 40) Because of the low stock prices, using this model the state does not receive a lot of revenue.

#### 1. "Employee stock ownership"

Many companies, according to Buvač (1990) fell into business difficulties and their owners had sold them to managers or employees. Managers were afraid of people "from outside" that they sought to seize administration and management, and the workers were afraid of unemployment or the purchase of shares sought greater security for retirement. In these cases they were borrowing bank loans for the purchase of these companies. Part of the profits and earnings of employees were paid to the special "trust fund". Following the repayment, the corresponding part of the property was turned into shares of employees. If the employee left the company, he would have to sell shares to his own company. Shares were usually cashed upon starting the retirement. In market economies, people are trying to distribute the sources of their income to ensure financial security. If the company would have collapsed in which they work and whose shares they own, they would lose the salary and the capital. That is why many people choose to invest in other companies.

#### 2. "Profit Share"

According to Buvač (1990), motivating employees through stock ownership and share in the revenue (profit) are not the same methods of privatization. American economist Martin Weitzman presented theoretical fundamentals "of the economy share", which would alleviate stagflation. As one of the causes of the problems seen in the system fixed, inelastic wage, which in the period of recession represents a cost that is passed on price increases and why managers fire workers. Weitzman proposes binding fixed salary with total income of the company. The salary would thus be less in times of recession and at a time when the economy revives these same salaries grew. Revenue would be in this case deployed without affecting the ownership relations.

#### 3. "Marković privatization"

Ante Marković, Yugoslavia's prime minister at the time, in 1990, presented his "Law on social capital", which according to Buvač (1990) is based on two principles:

- State capital can be transformed into all forms of property - except return to the state property (which turned out to be inefficient and even of society).
- The property can not be transferred without compensation (nothing will be given away).

"The backbone of Markovic project of privatization of public property makes, in fact, employee shareholding. The company first sells their internal shares at favorable conditions to them. In the course of arguing about percentage discount, the original government proposal has changed several times. (...) Based on the registered share owners are entitled Management. Dividend is given on the equal part of the deposit. The value of the subscribed shares must be paid within ten years. The shares are internal. This means that they can not be traded outside the company, while this does not get special approval from the Agency for restructuring. Within the company, among the workers, they can be sold." (Buvač, 1990: 34-35)

### 3.2.2. External privatization

"External privatization is a model in which the founding shares (primary emissions) of the company are sold to the highest bidder / purchaser. Customers can be divided into several, mutually non-competitive groups. This would be a way to avoid monopolization of shares in the hands of only one category of customer. And here are provided special regulations and rebates for small investors, so that they remain and survive in the "privatization game" (...). " (Čengić, 1995: 41)

#### 1. Kornais privatization

According to Buvač (1990), the Hungarian economist Janos Kornai considers that between private property and market there is a strong connection, and between state ownership and market weak connection because state ownership has a stronger affinity to bureaucratic coordination. According to him, the socialist countries can not implement their reforms until they convert to private ownership as dominant. Kornais program "organic process", in which he builds his model of privatization proceeds from the private sector. He believes that the private sector should rapidly "conquer" state property. Privateer should be placed in an equal position with the state sector and guarantee his long-term security. The new entrepreneurial class should first buy small and then big giant companies of the socialist sector, and should be joined by foreign capital. But Kornai is against the uncontrolled sale of state enterprises to foreign capital. According to him, private entrepreneur does not need to have immediately the money for the purchase of state property, but the purchase can be done through loans with the guarantee that is common in developed market economies or mortgage on their property. State ownership should be transferred to the more efficient private sector so that it is known who buys it.

#### 2. Privatization "case by case" in the example of England

According to Čengić (1995), the Labor Government in 1975 established Golding company that nationalization should gradually recover state sector enterprises. It also failed to materialize and the general public was convinced that public corporations do not follow the "general interests". At the time, the sale of state property seemed the best way out of the crisis. In the UK privatization carried out gradually, the process is adapted to the particularities of each state enterprise. Buying time and within a certain period, on successful cases of privatization have won the public to continue the realization of the privatization program. According to J. Moore on privatization in the UK, we can conclude the following: "First, privatization has encouraged more efficient use of resources throughout the economy. Second, privatization has expanded individual property. Within the nation and so positively changed the attitude of the population with regard to private property and free entrepreneurship. (...) Third, privatization has prompted the government to once again review the role of the state in the global economy: it should be regulatory, not a directive." (Čengić, 1995: 32)

#### 3. Holding company model

"Something different situation with privatization through holding companies. In this model of privatization of enterprises to be privatized first become the property of one or more holding companies. (...) holdings can be owned by the state and property of citizens. Holding-company sells companies on the market or on auctions (as in the outer privatization) and / or share their shares certain categories of people." (Čengić, 1995: 31)

#### 4. Mixed ownership

According to Buvač (1990) model of joint stock company in mixed ownership with the authorities of internal investors gave Gojko Stanic (in cooperation with a group of experts from



various fields of economic and legal science), in his project "my share" which gives its solution of transformation of social to mixed ownership. The starting point "my shares" is the shareholding of employees, where are offered various forms of purchase and use of stocks. Control layer preferred in buying preferred shares, and even decisions on major rights of some of these securities. In doing so, the control layer had greater responsibilities and risks. Answer to the problem, "no one's property", because the workers over workers' council appeared as "guardians" of the undivided state ownership. In capitalism is a different case with mixed ownership. "Every part of mixed ownership in capitalism has its precisely defined holder: mostly privately, then more or less state and only marginally cooperative. Even in seemingly mixed shareholder, banking or property investment, insurance or mutual funds, regularly you will be able to trace end titular, in the main private property. In the Yugoslav model "mixed ownership" there are still socially "no-man's" property, without a specific holder. " (Buvač, 1990: 59)

#### **4. Privatization in Slavonia**

Structure and economic system, which originated in the former Yugoslavia have the following significant features of the privatization according to Kalogjera (1993):

- The decentralized system of national economy, which gave companies a higher degree of autonomy in managing development and business policy, especially as independently decide on what, how and for whom to produce.
- The success of the company is not dependent only on the situation in the economic and financial system, but also a success in the market of goods, which in the absence of capital and labor still functioned.
- Organizations are able to autonomously dispose of larger or smaller part of the profits. However, unlike the system with developed market and private-ownership economy, there was no capital market and no private-ownership relations and transactions, which precluded the mobility of capital and the rational use of resources

The privatization process in Slavonia can not be analyzed separately from the processes in other parts of the Croatia. The only thing we can take as an aggravating circumstance of war events in Slavonia that were of greater intensity than they have been in other regions. Conducted privatization is difficult to classify in a model, because a clear model of those war years did not exist. The transformation of social enterprises in the private enterprises was accompanied by a wave of bankruptcy proceedings in which the assets of social enterprises turned into private property without clear goals and plans. At that time Slavonia as a region has lost a complete production, giants like "Djuro Djakovic" Jasinje "Slavonia DI, Oriolik, Modna Industrija Brod, Veterinary stations, PIK Đakovo, KIO Orahovica, PIK Novska, Lipik Staklo etc. A large list of companies which have disappeared from the market or have minor role in the market. Thousands of jobs in manufacturing were lost, and we know that one job in manufacturing creates four jobs in the productive sectors. It will remain an open question whether the privatization process is done in right time or the transformation should have waited for calmer times. Should the public property be converted into the state and then sold on the stock markets will also remain an open question.

#### **5. Conclusion**

By studying the literature on the issue of privatization leads to the conclusion that it is not possible to present a straightforward model that could later be applied in all countries. Countries with a socialist economy do not have the necessary capital to be redeemed social ownership, and would in those economies most logical choice was privatization through the distribution of state



property or through the sale with great discounts. This raises the question of who distribute state property, should be in the process to include only workers from these companies or assets should be allocated to the population? If the process involves the residents there is a new problem: wih residents embrace this distribution (all adults, or only those who work). In countries with a capitalist or developed market economies there already is a private capital that can buy out state property, and in these economies privatization through sale is applied. This sale may be conducted by internal privatization, when state property is sold only to employees of companies in which they work or external privatization when they are in the process with the employees involved and other private individuals and / or foreign investors.

## REFERENCES

Buvač, D. (1990): *Povratak u kapitalizam*, Zagrebačka poslovna škola, Zagreb

Čengić, D. (1995): *Manageri i privatizacija*, Alinea d.o.o., Zagreb:

Kalogjera, D. (1993): *Privatizacija u stabilizaciji i razvoju hrvatskog gospodarstva, Društvena istraživanja*. Vol. 2 No. 1(3), str. 51-86

Kušić, S. (2007): *Institucionalni i evolucijski aspekti privatizacije u srednjoj i istočnoj Europi, Ekonomski pregled*. Vol. 58 No.1-2, str. 91-105

Polić, N. (2009): *Model privatizacije i transformacija vlasništva privatiziranog kapitala, Ekonomski pregled*. Vol. 60 No. 7-8, str. 396-410

Šokćević, Š., Dugalić, V. (2009): *Privatizacija društvenog/državnog vlasništva – (ne)uspjeli tranzicijski proces? Socijalno-etička prosudba, Diacovensia*. Vol. 19, No. 1, str. 103-154

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## **INNOVATIONS AS A PERFORMANCE FACTOR FOR MICRO-ENTERPRISES IN THE REGION OF SLAVONIA AND BARANJA**

### **INOVACIJE KAO ČIMBENIK USPJEŠNOSTI MIKRO PODUZEĆA U REGIJI SLAVONIJA I BARANJA**

#### **ABSTRACT**

*Innovations represent one of the sources of growth and development of SMEs and therefore the purpose and objective of this paper is to examine the type and number of innovations in micro-enterprises in the region of Slavonia and Baranja, and explore whether innovations can be considered as performance factors of micro-enterprises. The paper analyses the results of the empirical research on a sample of 112 micro-enterprises from the processing industry, construction industry and agriculture, forestry and fisheries from Slavonia and Baranja region. Appropriate statistical and mathematical methods have been used for the generation and interpretation of research results. The results showed statistically significant positive correlation: between the number of innovations and business performance of micro-enterprises, between the individual factors of business success and financial indicators of business efficiency and overall business performance, as well as between investments in improving organizational or business processes and financial indicators of business success. Scientific and applicative contribution of this paper is reflected in the findings of empirical research.*

**Key words:** performance factors, innovations, micro-enterprises, region of Slavonia and Baranja

#### **SAŽETAK**

*Inovacije predstavljaju jedan od izvora rasta i razvoja malih i srednjih poduzeća i zbog toga je svrha i cilj ovog rada istražiti vrste i broj inovacija u mikro poduzećima u regiji Slavonija i Baranja, te istražiti mogu li se inovacije smatrati čimbenikom uspješnosti poslovanja mikro poduzeća. U radu se analiziraju rezultati provedenog empirijskog istraživanja na uzorku 112 mikro poduzeća iz prerađivačke djelatnosti, djelatnosti građevinarstva i djelatnosti poljoprivrede, šumarstva i ribarstva, iz regije Slavonija i Baranja. Za generiranje i interpretaciju rezultata istraživanja korištene su odgovarajuću statističke i matematičke metode. Dobivenim rezultatima utvrđena je statistički značajna pozitivna povezanost: između broja inovacija i uspješnosti poslovanja mikro poduzeća, između pojedinih čimbenika uspješnosti poslovanja i financijskih indikatora uspješnosti poslovanja i ukupne uspješnosti poslovanja, te između ulaganja u poboljšanje organizacijskih ili poslovnih procesa i financijskih indikatora uspješnosti poslovanja. Znanstveni i aplikativni doprinos ovog rada očituje se u nalazima empirijskog istraživanja.*

**Ključne riječi:** čimbenici uspješnosti, inovacije, mikro poduzeća, regija Slavonija i Baranja

## 1. Introduction

Micro-enterprises play a crucial role in the Croatian economy and pursuant to the Small Business Development Promotion Act, which is in compliance with Commission Recommendation 2003/361 / EC of 6<sup>th</sup> of May 2003, represent natural or legal persons that yearly employ less than 10 workers, realize a total annual income in the amount equivalent to EUR 2,000,000.00, or have total assets if they are profit tax payers, i.e. fixed assets if they are income tax payers in the amount equivalent to EU 2,000,000.00. (Štavlić, 2016a).

The importance of micro-enterprises for the Croatian economy is reflected in the following (Privredni vjesnik, 2015: 6, 8, 9, 14; 2016: 47):

- They have a growing share in the overall number of enterprises in the Republic of Croatia (83.7%, in 2013, 89.28%, in 2014, 89.05% in 2015.),
- In 2014 they employed 24.38% of the overall number of employees in small, medium and large enterprises, and in 2015 they recorded an increase in employment of 1.26% and have employed a total of 24.44% of the overall number of employees in the enterprise,
- In 2015 compared to 2014 they have recorded an overall revenue growth of 1.89%, which represents 10.49% of overall entrepreneur's turnover
- In 2015 compared to 2014 they have reduced the overall realized negative consolidated financial result of 3.20%, which amounts to HRK -2,344,403,000.00.

The above data indicate the growing contribution of micro-enterprises to the Croatian economy, but also to the fact that a large number of micro-entrepreneurs operate at a loss. This suggests the need for research into the causes of achieving positive financial results in order to improve factors of success of successful micro-enterprises and apply them to less successful enterprises. One of the performance factors are innovation and, therefore the aim of this paper is to examine the type of innovation in micro-enterprises, and to explore is there a connection between innovations with business performances of micro-enterprises. Based on the obtained results, conclusions will be adopted on whether innovations can be regarded as one of the performance factors of micro-enterprises.

## 2. Entrepreneurial and Macroeconomic Environment of Micro-Entrepreneurs in Slavonia and Baranja Region

For a better understanding of the conditions in which micro-entrepreneurs operate in the Republic of Croatia and the region of Slavonia and Baranja, the following passages describe entrepreneurial and macroeconomic environment in the Republic of Croatia and in the region of Slavonia and Baranja.

In Croatia, in the last 15 years, major changes in securing and strengthening the business infrastructure have been made. New laws have been adopted and existing laws, strategic documents, operational plans have been amended, new support institutions have been set up and existing ones have been strengthened, and different strategic documents adopted aimed at strengthening the competitiveness of the Croatian economy have been adopted. However, according to the

information set out in the Strategy for entrepreneurship development in Croatia 2013 – 2020, there is still room for improvement.

Institutional support to Croatian entrepreneurs is provided by different institutions. Ministry of Entrepreneurship and Crafts (MINPO) is responsible for providing the appropriate legal framework and creation of policies to support SMEs. Under their jurisdiction is the Croatian Agency for Small Business and Investments (HAMAG BICRO) which is responsible for the implementation of policies and investments in SMEs. With MINPO and HAMAG BICRO, support for entrepreneurs through various activities is also provided by other relevant ministries, including for example, the Ministry of Economy and Ministry of Tourism. In addition, support services are also provided by the Croatian Chamber of Economy, Croatian Chamber of Crafts, Croatian Employers' Association, the Croatian Bank for Reconstruction and Development and many other institutions.

Entrepreneurial infrastructure in the Republic of Croatia consists of enterprise zones and entrepreneurial support institutions. There are 15 free zones in the Republic of Croatia, 3 of which are in the region of Slavonia and Baranja. There are 110 enterprise zones in the Republic of Croatia, 24 of which are in the region of Slavonia and Baranja, which represents a share of 21.8% (author's calculation according to the data provided by the Ministry of Economy, 2016). The number and types of business support institutions are shown in the following table.

**Table 1** Number and types of business support institutions in the Republic of Croatia and the region of Slavonia and Baranja in 2016

| Type of business support institution | Total in the Republic of Croatia | Total in the region of Slavonia and Baranja |
|--------------------------------------|----------------------------------|---|
| Development Agency                   | 52                               | 13  |
| Entrepreneurship centre              | 31                               | 9   |
| Business incubator                   | 34                               | 11  |
| Entrepreneur accelerator             | 3                                | 0   |
| Science and Technology Park          | 3                                | 0   |
| Competence centre                    | 4                                | 1   |
| Total                                | 127                              | 34  |

*Source: Table drafted by the author based on the data from Central Government Portal (2016)*

Entrepreneurial infrastructure in Croatia consists of a total of 127 support institutions, 110 entrepreneurial zones and 15 free zones. In the region of Slavonia and Baranja entrepreneurial infrastructure consists of: 34 support institutions, 24 entrepreneurial zones and 3 free zones. In the region of Slavonia and Baranja there is still no entrepreneurial accelerators and scientific and technological parks established. Entrepreneurial accelerators are important for supporting enterprises in the development and business expansion, while science and technology parks encourage collaboration between scientists and entrepreneurs and assist in the commercialization of scientific results. The existence of these institutions would allow the development of cooperation between entrepreneurs and various scientific and other institutions, which could result in improved commercialization of innovative products and creating a supportive innovation environment as a basis for a more competitive commerce.

Due to the fact that in empirical research for this study participated micro-enterprises from the region of Slavonia and Baranja, with the entrepreneurial environment, it is necessary to mention the

macroeconomic environment of micro-entrepreneurs. Given that for the purposes of empirical research we have analysed financial data of micro-entrepreneurs for the period from 2013 to 2015, we also make a reference on available macroeconomic indicators in that period.

Human resource is the holder of all commercial activities and it is necessary, in addition to economic data, to monitor and analyse the data on the population and labour force. The region of Slavonia and Baranja has 805,998 inhabitants, which represents a share of 18.81% in the total Croatian population according to 2011 census. There is a negative migration balance, which represents 72% of the total negative net migration in Croatia in 2014. In the analysed period there was a decrease in population through departures / moving to another county or in another country, which in the future may constitute a potential problem through the formation of an imbalance in the labour market. The region of Slavonia and Baranja achieved a GDP per capita below the average for the Republic of Croatia, but there was an upward trend in the value of GDP per capita. The total value of GDP in 2013 was lower compared to 2009, which indicates a still weak recovery from the global economic crisis. (Štavlić, 2016b) Comparing the region of Slavonia and Baranja with data for the Republic of Croatia it can be concluded that entrepreneurs are operating in an unfavourable macroeconomic environment, because this region is lagging behind on all displayed indicators when compared to the average for the Republic of Croatia. By improving cooperation between companies with all stakeholders in entrepreneurial and macroeconomic environment that are used to encourage, supervise and implement economic and innovation policy, it is possible to encourage the creation of a better business environment for the purpose of a more competitive commerce and future results that may be visible when measuring economic growth and development of selected macroeconomic indicators.

### **3. Innovations – a Performance Factor**

In the Republic of Croatia the policy of encouraging and strengthening competitiveness based on an innovative business is increasingly active. In order to achieve innovative business you need to create an effective innovation system which provides a stimulating environment that encourages research and development (R&D), the creation of new or improved products and services, production processes, organizational methods and patents. The innovative system is based on a variety of legislative and institutional frameworks. The legislative and institutional framework for research, development and innovation in the Republic of Croatia is largely in line with the systems of other European countries.

The Republic of Croatia is still in the process of strengthening the policy of investment in R&D and strengthening competitiveness, which is evident when comparing the Republic of Croatia with other EU countries and the world. Investments in R&D in Croatia account for only 0.18% of total investments in R&D in the EU. Countries with high intensity investment in R&D have the highest amount of investment in R&D, such as: Germany, France, Netherlands, Sweden, Finland, UK, Switzerland, USA, China, South Korea and Russia. (Eurostat, 2016). In Croatia in 2014 the intensity of investment in R&D was below 1% (0.79%), which is below the target value of 3% set in the strategy document Europe 2020, and according to the Report by the European Commission for 2014, it is under the EU average of 2.03%, which represents a low level of investment. According to data from Eurostat on the intensity of investment in R&D by NUTS 2 regions, in Croatia the intensity of investment in R&D in the Adriatic Croatia region is less than 0.5%, while in the Continental Croatia region this investment is between 1 and 2% (Eurostat, 2016).

Innovations are one of the sources of growth and development of SMEs and therefore this paper explores whether there is an influence of innovations on success of micro-enterprises, and whether the innovation in business can be considered as one of the performance factors of business success of micro-enterprises. One of the components for increasing innovation and competitiveness is investing in research and development. According to data in the Report by the Observatory of SMEs in the Republic of Croatia (2013: 9) in Croatia investments in research and development of micro-enterprises represent only 1.1% of total investments in R&D (research and development) in the business sector, and investment in small enterprises represents another 6.6%. These figures are among the lowest figures recorded in European countries. Because of the low investment in research and development we can assume that there is a high level of innovation in successful micro-enterprises in the Republic of Croatia. Due to the fact that according to the theoretical data, innovative companies have a higher rate of growth of revenues than non-innovative companies, it was assumed that successful micro-enterprises have a higher level of innovation than less successful micro-enterprises.

Innovations as a performance factor for success were the subject of much current research. Some authors (Kay (1996), Hamel and Prahalad (1990), Porter (1998), Berkham et.al. (1996), Joyce et.al. (1996), Daraboš (2015) - detailed explained Štavlić (2016b)) stressed innovation as one of the key factors in the success of an enterprise. Given that in the Republic of Croatia no research has been conducted on factors of success of micro-enterprises, and that the results of previous research on success factors list innovation as one of the key factors of success, in this study we used the assumption that there is a connection between the level of innovation and business performance of micro-enterprises.

Since there are different approaches in the literature to defining the concept of innovation, for this study we used a definition by the European Commission "innovation happens when a company introduces a new or significantly improved product, service, process, marketing strategies or organizational method. Innovation can be developed by the company itself or can be originally developed by another company"(European Commission, 2015: 7).

#### **4. Empirical Research - Methodology and Results**

For the purpose of this paper empirical research was carried out using highly-structured questionnaire to determine the association of innovation with the level of success of micro-enterprises. The method of interviewing was used which includes procedures that allow investigating and gathering information, views and opinions, as well as indicators on the subject of research via a questionnaire.

The survey questionnaire was designed for micro enterprises from five Croatian counties that make up the region of Slavonia and Baranja. The sample was made of micro-enterprises from the processing industry, construction industry and agriculture, forestry and fisheries. A total of 112 micro-enterprises responded to the questionnaire, a survey was conducted by phone in June and July 2016. For the generation and interpretation of research results we used appropriate statistical and mathematical methods (descriptive statistics with graphical presentation of data, parametric and non-parametric statistics tests).

The survey questioned owners / micro-entrepreneurs about the number and types of innovations in their enterprises in the last three years, the level and type of investment, the average annual

investment in innovations and encouraging innovative business and factors of creation and commercialization of innovative products and services. The level of innovation was compared with the level of success of micro-enterprises, and the number of innovations, the number of registered patents, the level of investment in innovation and innovative business, and future intentions of investment in innovation were also taken into account. For the purposes of this study and determining the criteria of business success the following indicators were used: the rate of increase / decrease in operating income, net profit / loss and the rate of increase / decrease of gain / loss and profitability indicators (EBITDA margin and ROE). After collecting three-year data on these indicators, the surveyed enterprises were ranked by an index from 0 to 12. Enterprises with a score of 12 were the most successful and the enterprises with the index zero were the least successful. This ranking enabled testing the set objective of this paper and the initial hypotheses and assumptions that there is a connection between factors of innovation and levels of business performance of micro-enterprises.

Given that in all cases of correlation computation the variables deviated from a normal distribution or were ordinal variables, the so-called Somers' D correlation coefficient (association) was used. This coefficient is chosen because it is directed, i.e. it differs independent and the dependent variable. Size of Somers' D coefficient ranges from 1 (highest possible negative correlation) to 1 (maximum possible positive correlation). Then, in order to determine whether there is a correlation between the number of innovation and success of micro-enterprises we conducted a Kruskal-Wallis test (nonparametric variance analysis). The reason for the implementation of this test is that the success variable (measured on a scale from 0 to 12) was not distributed in accordance with normal distribution.

Micro-entrepreneurs from all five counties equally participated in the study. The share of micro-entrepreneurs from Brod-Posavina County in the total number of entrepreneurs in the region of Slavonia and Baranja is 17.04%, from Osijek-Baranja County 48.86%, from Požega-Slavonia 7.95%, from Virovitica-Podravina 9.09% and from Vukovar-Srijem 17.04% (Štavlić, 2016b), and their share in the research was as follows: from Brod-Posavina County 24.1%, from Osijek-Baranja 25%, from Požega-Slavonia 8.9%, Virovitica-Podravina 18, and 23.2% from Vukovar-Srijem County. The majority of responses were collected from micro-enterprises from the processing industry, a total of 63 companies (56.3%), almost a third of those surveyed micro-enterprises are from the construction industry, 37 of them (33%) and the lowest number of enterprises was from the agriculture, forestry and fisheries – 12 (10.7%).

Among surveyed micro-enterprises we observed a significant positive correlation between the individual performance indicators and performance factors. The results are shown in Table 2.

**Table 2** Relationship between performance factors and financial indicators of micro-enterprises (Somers' D)

| Factor (independent variable)                            | The relationship between performance factors and financial indicators |                |                                 |                                      | Correlation of factors with overall success |             |
|--|---|----------------|---------------------------------|--------------------------------------|---|-------------|
|  | EBITDA  | ROE            | Growth rate in operating income | Number of years of positive business | Efficacy (0 to 12)                          | P           |
| Continuous investment in research and development        | 0.16  | <b>0.20 *</b>  | 0.08                            | 0.12                                 | 0.18  | <b>0.04</b> |
| Innovations  | <b>0.22 *</b>   | <b>0.21 *</b>  | 0.09                            | 0.11                                 | 0.20  | <b>0.03</b> |
| Human resources and employee satisfaction                | 0.18  | 0.19           | <b>0.25 *</b>                   | 0.02                                 | 0.10  | 0.46        |
| Modern management methods                                | 0.17  | 0.11           | 0.15                            | 0.07                                 | 0.14  | 0.11        |
| The quality of products and services                     | 0.14  | 0.06           | 0.02                            | -0.05                                | 0.02  | 0.78        |
| Formal and informal employees education and training     | 0.16  | 0.09           | -0.06                           | 0.09                                 | 0.08  | 0.36        |
| Application of modern technologies in business processes | <b>0.23 *</b>   | <b>0.24 *</b>  | 0.10                            | <b>0.19 *</b>                        | 0.18  | <b>0.04</b> |
| Financing investment from own resources                  | 0.10  | 0.11           | 0.14                            | 0.08                                 | 0.10  | 0.28        |
| Clustering and other forms of association                | <b>-0.19 *</b>  | <b>-0.18 *</b> | <b>-0.18 *</b>                  | -0.13                                | -0.17                                       | <b>0.04</b> |
| Family impact  | -0.12   | <b>-0.18 *</b> | 0.02                            | <b>-0.17 *</b>                       | -0.21                                       | <b>0.01</b> |

\* P <0.05; \*\* p <0.01

Source: By the author according to empirical research results

From Table 2 we can see that these factors have a greater impact on ROE and EBITDA than on the other two indicators. Specifically, the ROE was significantly associated with five, EBITDA with three, and the remaining two indicators with two performance factors of enterprises. There is also a significant negative relationship between factors family influence and association with almost all financial performance indicators. From the above we can observe a connection between the importance of certain factors of success and achieved level of success of micro-enterprises measured by specific indicators. Using Somers' D correlation coefficient we also tested the relationship of certain performance factors with the overall success of micro-enterprises (index 0-12). It can be seen that there is a statistically significant correlation between estimates of the importance of continued investment in research and development, innovation and the application of modern technologies in business processes and business performance of micro-enterprises.

We have also analysed the responses of the surveyed micro entrepreneurs on the number of innovations. On average more than 50% of the surveyed micro-enterprises did not have innovation in the last three years. New or improved product was reported by 42%, new or significantly improved service was reported by 50% of them, new or significantly improved process was reported by 52.7%, a new or significantly improved marketing strategy was reported by 33.9%, a new or significantly improved organizational method was reported by 28.6%, and only 11.6% of the surveyed micro-enterprises had a registered patent. It is evident that the innovation activities were the least present in the area of marketing activities (for example packaging / design, product



promotion, changes in pricing strategies, etc.) and the registration of patents, while the largest number of surveyed micro-enterprises has introduced new or has improved existing processes (for example new equipment, machinery, licenses, software, etc.). In the surveyed sample the most innovative micro-enterprises are from the processing industry (11 micro-enterprises), while much lower level of innovation measured by the number of registered patents is registered by micro-enterprises from the construction sector, while micro-enterprises from the sector of agriculture, forestry and fisheries have not registered a single patent.

Then we used the Kruskal-Wallis test to examine whether there is a correlation between the number of innovations and success of micro-enterprises. We found a statistically significant correlation between the number of new or significantly improved services and performance b micro-enterprises (Table 3).

**Table 3** Correlation between the number of new or significantly improved services and performance by micro enterprises (Kruskal-Wallis test)

| The number of new or significantly improved services | Number of enterprises (N) | Average ranking |
|--|---------------------------|-----------------|
| 0  | 52                        | 52.69           |
| 1-5  | 41                        | 45.33           |
| 6-15   | 10                        | 76.50           |
| 16 and more  | 1                         | 96.50           |
| Total  | 104                       |                 |

$\chi^2 = 10.95$ ;  $p < 0.05$

Source: By the author according to empirical research results

Conducted Kruskal-Wallis test determined the connection between the number of new or improved services and performance of micro-enterprises, since the value of the chi-square was statistically significant ( $p = 0.012$ ). It can be concluded that there is a difference in performance between micro-enterprises with various number of new or improved services, with the most successful micro-enterprises being ones that have 6-15 new services and 16 and more (the highest average ranking).

Respondents gave their answers on the average annual investments in innovation. Most respondents (49) answered that their average annual investment in innovation and encouraging innovative business performance amounts up to HRK 19,999.00. followed by 30 micro-enterprises with average annual investments from HRK 20,000.00 to 49,999.00, while there is a much smaller number of micro-enterprises that have listed the average annual investments of HRK 50,000.00 to 200,000.00 (16 of them), and 17 micro-enterprises reported average annual investments in innovation of over HRK 200,000.00. Given that these are micro-enterprises, the above listed amounts are appropriate to their business volume. However, there is still 70.5% of micro-enterprises with average annual investments in innovation under HRK 50,000.00. The statistical tests showed that there was no statistically significant correlation between these variables and performance by micro-enterprises and one can conclude that the success of micro-enterprises is not associated with the amount of average annual investments in innovation and encouraging innovative business performance.

In order to obtain a more complete answer whether there is a link between the assessed level of investment by the respondents and business performance in the surveyed micro-enterprises,

statistical tests were made and the nonparametric measure was calculated for the correlation of variables estimates of investment in particular types of investments with financial indicators of micro-enterprises. The results are shown in the following table.

**Table 4** Relationship between types of investment and financial indicators of micro-enterprises (Somers' D)

| Type of investment (independent variable)               | EBITDA | ROE           | The rate of operating income growth | Number of years of positive business |
|---|--------|---------------|-------------------------------------|--------------------------------------|
| Purchase of machinery, equipment, software or licenses  | 0.11   | 0.08          | 0.07                                | 0.09                                 |
| Improving organizational or business processes          | 0.11   | <b>0.15 *</b> | 0.11                                | 0.11                                 |
| Design of products and services                         | 0.01   | 0.04          | 0.06                                | 0.01                                 |
| Research and development (R&D)                          | 0.05   | -             | -                                   | 0.15                                 |
| Company's reputation and branding, including web design | -0.01  | 0.04          | 0.04                                | 0.00                                 |
| Employee training and education                         | 0.08   | 0.06          | 0.06                                | -0.02                                |

Source: By the author according to empirical research results

From the results it is clear that investments in the improvement of organizational or business processes have the greatest impact on the ROE financial indicator. Specifically, there is a statistically significant positive correlation between investments in the improvement of organizational or business processes and values of the ROE financial indicators. Micro enterprises that have invested more in the improvement of organizational or business processes generate a higher return on equity. Since the ROE is one of profitability indicators, it could be concluded that micro-enterprises that have higher investments in the improvement of organizational or business processes are successful, considering that the ROE is one of the indicators listed as the performance criteria for micro-enterprises.

The respondents, owners / managers of micro-enterprises, list lack of financial resources, dominance of competitors in the market, too high costs and the uncertainty of the return on investment and lack of human resources and expertise as the biggest problem for the creation and commercialization of innovative products and services. As the smallest problem they mention high standards of quality, customer well-being and satisfaction and low demand for innovative products or services.

## 5. Conclusion

Innovation and innovative activities are believed to be key factors and drivers of business success and launching the overall economic growth. The results of the empirical research are as follows:

- There is a statistically significant correlation between estimates of the importance of continued investments in research and development, innovation and the application of modern technologies in business processes and business performance factors of micro-enterprises.
- There is a significant positive correlation between performance factors and financial indicators,
- Conducted non-parametric analysis of variance showed statistically positive correlation between business performance of micro-enterprises and the number of new or improved services;
- Most patents are reported by micro-enterprises from the processing industry;

- Surveyed micro-enterprises mostly invested in the purchase of machinery, equipment, software and licenses, and the least in the design of products and services;
- By testing the connectivity of certain financial performance indicators of surveyed micro-enterprises with the types of investments, a statistically significant positive correlation between the ROE indicators with investments in improving organizational or business process was determined;
- There is a statistically significant correlation between the number of new or significantly improved service and performance of micro-enterprises
- Investments in innovation and encouraging innovative business conduct of micro-enterprises are similar. More successful micro-enterprises (76.3%) have invested amounts up to HRK 49,000.00, while more unsuccessful enterprises have invested amounts between HRK 50,000.00 and 200,000.00.

The obtained results are in line with the initial assumptions that innovations are one of the key performance factors for business success (Porter (1998), Berkham et.al. (1996), Joyce et.al. (1996), Daraboš (2015)) and based on the results of the empirical research and conducted statistical tests we can conclude that innovations are one of the key performance factors for success of micro-enterprises.

## REFERENCES

European Commission (2015a): *INNOBAROMETER 2015 - THE INNOVATION TRENDS AT EU ENTERPRISES*, European Union, ISBN 978-92-79-47769-0. Available at: <https://tinyurl.com/k868oyc> (accessed 11.1.2016).

Privredni vjesnik (2015): *400 biggest Croatian companies in 2014*. (3888). Available at: <http://www.400naj.com/>. (accessed 12. February 2016).

Štavlić, K., Letinić, S., Potnik Galić; K. (2016a): *Education and skills of Croatian micro entrepreneurs*. International scientific Journal Industry 4.0. (pp. 114-117)

Štavlić, K. (2016b): *Success factors of micro-enterprises in the Republic Croatia*. Doctoral thesis. Sveučilište Josipa Jurja Strossmayera. Ekonomski fakultet u Osijeku. Str. 18-34.

Ministry of Economy (2016): *Business zones in the Republic of Croatia*. Available at: <http://zone.mingorp.hr/>. (accessed 26. January 2017.)

Central Government Portal (2016): *Business - Starting a business - Enterprise Infrastructure*. Available at: <https://gov.hr/moja-uprava/poslovanje/pokretanje-poslovanja/poduzetnicka-infrastruktura/1842>. (accessed 26. January 2017.)

Eurostat (2016) *Statistics Explained*. Available at: [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Gross\\_domestic\\_expenditure\\_on\\_R%26D,\\_by\\_NUTS\\_2\\_regions.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Gross_domestic_expenditure_on_R%26D,_by_NUTS_2_regions.png). (accessed 26. February 2017.)

Ministry of Entrepreneurship and Crafts. (2013): *Report Observatory of SMEs in Croatia*. Available at: <http://www.efos.unios.hr/suvremene-poslovne-aktivnosti/wp-content/uploads/sites/137/2013/04/HR-Final.pdf>. (accessed 12. March 2017).

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**IMPROVING CULTURAL TOURISM OF THE EASTERN SLAVONIA  
THROUGH CULTURALLY-TRADITIONAL EVENTS**

**UNAPRJEĐENJE KULTURNOG TURIZMA ISTOČNE SLAVONIJE  
KROZ KULTURNO-TRADICIJSKE MANIFESTACIJE**

**ABSTRACT**

*Modern tourism consumers have deep implications on all the social-economic branches, as well as on tourism, as the fastest growing global industry. Exactly due to affinities and preferences of modern tourism consumers, it comes to the development of the selective types of tourism, which serve as the offset to the product of mass tourism, which is usually based on the outdated touristic platform 3S (sun, sea, sand). Cultural tourism is surely one of these selective types. Cultural tourism covers a wide range of activities and contents and has a strong influence on the growth and development of tourist destinations. It should be noted that diversity of offer in the cultural tourism is a by-product of motives, desires, and needs of cultural tourists, on whom the elements of the offer in cultural tourism are usually based. Quality and quantity analysis show that the cultural product expands, and during that process the events with specific traditional character stand out as one of the propulsive appealing elements of the touristic product. Even though the cultural tourism in an academic society is a relatively new term, there are many confusing definitions that cause contradictions within the participants that are directly or indirectly involved in its development. Because of that, this paper will provide a concise analysis of this selective type of tourism by using scientific methods (e.g. analysis and synthesis, historical and descriptive methods), with the aim of assurance of relevant and more competent theoretical findings. In order to bring up the importance of the cultural tourism, i.e. of culturally-traditional events, a primary empirical research will be conducted on a representative sample using the*

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*method of the in-depth interview. The aim of the empirical part of the paper is to define the main guidelines of the touristic development of culturally-traditional event Mladost i ljepota Slavonije, with the goal of promotion of cultural tourism in the eastern part of Croatia.*

**Key words:** cultural tourism, cultural tourist, events, cultural events, Mladost i ljepota Slavonije

## SAŽETAK

*Moderni turistički potrošači imaju duboke implikacije na sve društveno-ekonomske sektore, pa tako i na turizam kao najbrže rastuće globalne industrije. Upravo zbog promjena u afinitetima i preferencijama modernih turističkih potrošača, dolazi do razvoja selektivnih oblika turizma koji su protuteža masovnom turističkom proizvodu temeljenom na zastarjeloj turističkoj platformi 3S (sunce, more i pijesak). Zasigurno, kulturni turizam je jedan od tih selektivnih oblika. Kulturni turizam obuhvaća široku paletu aktivnosti i sadržaja te ima snažan utjecaj na rast i razvoj turističkih destinacija. Pri tome, treba jasno naglasiti da je raznolikost ponude u kulturnom turizmu nusproizvod motiva, želja i potreba kulturnih turista prema kojima se sastavljaju elementi ponude. Kvantitativne i kvalitativne tržišne analize pokazuju da je kulturni turistički proizvod u ekspanziji, pri čemu se manifestacije specifičnog tradicionalnog karaktera nameću kao jedan od propulzivnih privlačnih elemenata tog turističkog proizvoda. Iako je kulturni turizam u akademskoj zajednici relativno novi pojam aktualna su brojna terminološka određenja koja izazivaju konfuzije i proturječja kod dionika koji su izravno i neizravno uključeni u njegov razvoj. Stoga će se u ovom radu, korištenjem znanstvenih metoda (npr. analize i sinteze, povijesne i deskriptivne metode), a sa ciljem osiguranja relevantnih i kompetentnijih teorijskih spoznaja pružiti sažeta analiza ove selektivne vrste turizma. Kako bi se osvijestila važnost kulturnog turizma, odnosno kulturno-tradicijskih manifestacija na empirijskoj razini provest će se primarno istraživanje na prigodnom uzorku metodom dubinskog intervjua. Cilj empirijskog dijela rada je na osnovu dobivenih spoznaja, definirati glavne smjernice turističkog razvoja kulturno-tradicijske manifestacije Mladost i ljepota Slavonije, sa svrhom promoviranja kulturnog turizma u istočnoj Hrvatskoj.*

**Ključne riječi:** kulturni turizam, kulturni turisti, manifestacije, kulturne manifestacije, Mladost i ljepota Slavonije

### 1. Generally about cultural tourism

Ubiquitous contemporary megatrends have strong implications on touristic market of demand and supply, which directly resulted with the new, specific types of tourism that serve as a counterbalance to mass tourism that is based on the platform 3S (sun, see and sand). Specific touristic types don't have enough strength for development to fully substitute the mass tourism. However, it should be clearly stated that their attractive strength is contained in satisfying unique touristic needs and motives which are creating an unforgettable touristic experience in the first place. One of propulsive specific types of tourism is cultural tourism, which is in an academic sense the phrase that entered the use in the eighties of the 20th century, although the praxis in cultural tourism is present even in the era of mass tourism (Tubić, 2015.). Jelinčić (2006.) emphasises that the cultural tourism is an antonym for the massive scale. The beginning of the development of cultural travels is unknown, but every travel can in some way be characterised as cultural. Culture and tourism are mutually connected, in fact, they are interwoven, which is confirmed by the author Pančić Kombol (2006.), who emphasizes how culture directly affects tourism, and tourism has more and more effect on culture, which is becoming an even more

important motive of contemporary touristic travels (Tubić, 2015.:96). Evidence of their connection can be seen in the definition of the very terms, says Geić (2002.):

- *culture* – process in which natural and social phenomena are being overcome and overpowered;
- *tourism* - spatial and socioeconomic phenomenon which presents the culture of a specific country.

Based on what has been previously stated, it can be concluded that cultural tourism is complex and at the same time it includes a wide range of activities. Therefore the prominent fact is that the cultural tourism is difficult to define and there isn't one universally accepted definition (Geić, 2011.). In other words, in an academic community there are currently numerous definitions of the cultural tourism, as well as confusing terminology, which Cole (2006.: 90) confirms in the paper *Cultural Tourism, Community Participation and Empowerment*. Numerous local and foreign experts (Richards, 1996., 2005.; Smith, 2003.; Tomljenović, 2006.; Nyaupane and Andereck, 2007.; Hennessey et al., 2008; Jelinčić, 2009.; Richards i Munsters, 2010.; Geić, 2011.; Csapo, 2012.; Rotherham, 2013.; Tubić, Jaković and Bakan, 2016.) deal with the topics of cultural tourism. In the range of cultural tourism definitions it should be emphasized that in Europe is usually applied the double definition from the European Association for Tourism and Leisure Education (in further text ATLAS), i.e. conceptual (C) and technical (T), which is confirmed by Tomljenović (2006.) and Razović (2009.). According to Richard (1996.:26) they are:

- C: cultural tourism represents all the travels that include visits to the cultural attractions located outside the permanent place of residence, with the goal of gaining new knowledge and experiences that meet cultural needs of every individual.
- T: cultural touristic travels are every travels which include visits to the specific cultural attractions of historical heritage, art and cultural events, museums and theatres, generated outside the place of permanent residence.

From the suggested definitions it can be concluded how tourism and culture are intertwined, and how Jelinčić (2006.) states that tourism is a phenomenon of an inevitable cultural contact and/or the cultural contact which is an integral part of tourism. Concerning the above mentioned, Tubić et al. (2016.: 1005) according to Zhang (2011.) note that in the modern forms of tourism culture is an inherent element or a representative of a tourist destination that plays an important role in attracting tourist consumers, or in general, increases the value of cultural heritage.

### 1.1. Cultural tourists

Through the development of the cultural tourism it comes to the creation of a new type of travellers, and their characteristics are experience, news, education, and activities. It is becoming clear that the touristic offer has to be shaped concerning the specific forms of tourism, in other words, the offer has to be adjusted to the motives, wishes and needs of a cultural tourist. It is concerned that the cultural tourist is a highly educated individual, and therefore a person of a higher socioeconomic status, with enough free time and interest for the culture and art. Besides, it is stated that there is a larger number of women in cultural travels, and that the cultural tourists visit an above- average number of cultural attractions (Geić, 2011.). Besides characterizations, it is possible to conduct a classification of cultural tourists, but it is important to mention that there are different classifications. The most commonly used is the one according to the *Strategy of the development of the cultural tourism* (2003.), which puts tourists into three groups, depending on the importance of culture when choosing the destinations to visit during their travels, and these groups are:

- *tourists attracted by culture* - the motivation to come is not connected with the culture itself, but culture is found and enjoyed in within the destination;

- *tourists inspired by culture* - motivation is pronouncedly cultural, but it directs itself to the major cultural events trending at the moment;
- *tourists motivated by culture* - the primary motivation for the travel is the culture itself, the tourist attends cultural events and visits local attractions, and the choice of destination depends on the interests.

Based on the classification stated above, it can be concluded that all the types of tourists have a profitable potential, but by most of them the culture itself is not the primary motive for visiting a specific destination. Nevertheless, many tourists are attracted by culture, heritage, and different cultural products and attractions within their travels. The cultural tourism focuses on the specialized market according to modern trends, and has for its goal modern tourists that are more educated and have higher incomes, which implies more consumption, and therefore higher profit from the cultural touristic resources (Tubić, 2015:97).

## 1.2. Types of cultural tourism

Concerning the resource base of the cultural tourism and different segments of the consumers of the cultural tourism, there are many classifications and types of cultural tourism in the literature, depending on the author who classifies them. It is possible to divide the resources of the cultural tourism into six groups as follows (Pančić Kombol, 2006.: 215-216 according to Munsters, 1996.: 110):

- monuments (sacral and public monuments, historical buildings, castles and palaces, parks and gardens, fortresses, archaeological areas, industrial-archaeological buildings);
- museums (folklore and art museums);
- routes (cultural-historical and art routes);
- leisure centres (cultural-historical, archaeological, architectural and music centres);
- cultural-historical events (religious, secular and folklore festivals);
- art events (expositions and festivals).

In this paper the primary classification of the cultural tourism will be based on Geić (2011.), who recognizes three types:

- *Heritage tourism* is based on the desire for the experience of the different cultural classifications and inherited historical forms. The basic resource of this type of tourism are the historical remnants such as buildings, archaeological findings, monuments and monumental complexes, and other forms of human creation that can be found in the museums and collections, including the monuments of the natural heritage such as gardens, untouched nature, and important landscapes preserved until today;
- *Historical tourism* is one of the main forms of the cultural tourism in which it is usually travelled in the areas of the old cultures, Roman culture, Egypt or the Incas. This type of travel is also oriented towards education. The monuments are visited with professional guidance, and during the sightseeing, shows with light and sound effects are usually held to emphasize the importance of the particular historical event;
- *Art tourism* is directed towards the affinities of the tourists for the artistic expressions: painting, statuary, sculpting, and other forms of the creative expression. The basic activities of these types of tourists are the tours of the artistic cities and historical areas, visits to the museums and galleries and attendance of the artistic shows and festivals.

Taking the previous classification into consideration, Rabotić (2013.) marks off two more types:

- *Indigenous or ethnic tourism* reflects the interest of the tourists for the traditional and live culture of the particular indigenous communities and ethnic groups, and for this type of



tourism it is characteristic to make contacts with their representatives. The tourists oriented towards this type of tourism expect an authentic and direct experience, which in practice can be realised as a part of the organized travel arrangement;

- *Creative tourism* - concerns direct visible activity of the tourists on different destinations in creating authentic experiences. The tourists develop their creative potential by making contacts with the locals and by actively taking part in workshops and educational experiences encouraged by the culture of the tourist destination.

It is possible to add appropriate tourist products and activities to each type of the cultural tourism, which will satisfy the expectations of the tourists, no matter what type of the cultural tourism they aspire to. In other words, in every tourist destination, no matter in the city or in the village, rural or urban area, one can find or meet cultural heritage and activities that can become an attractive touristic segment with marketing approach (Tubić, 2015:97).

## 2. Events

Events are considered to be one of the most important developers of the tourism, and, accordingly, they take part in the development of a particular destination. Therefore they are the key factors in creating a competitive advantage, due to the uniqueness in interaction that happens within them.

The events play different roles, some of them are an urbane base, construction of a community, cultural development, preserving of the national identity, economical profit. It is necessary to emphasise that the term event, i.e. event tourism has started being used since 1987. when *New Zeland Tourist and Publicity Department (1987.)* published that: "*Event tourism is an important and fast-growing segment of the international tourism*" (Getz, 2008.). However, the term *manifestacija* (in Croatian the term stands for *event*, op. prev.) comes from the Latin word "*manifestare*" which means: to proclaim, i.e. to publicly perform with the goal of the common research or belonging to one goal (Jovanović and Delić 2010. according to Delić 2010.), whereas the contemporary meaning refers to a festival, celebration, gathering, etc. There are different types, sizes, and contents of the events, which can be categorized into different groups. Some of the authors that have dealt with the classification of the events are Richards (1997.), Senčić (1998.), Getz (1998.) and Allen et.al. (2008.). Senčić (1998.) highlights that it is possible to classify according to the thematic categories, and these are: *visual arts, music, dance, theatre, literary, general knowledge, folklore, carnival, sport, competitions, anniversaries, starting a tradition.*

### 2.1. Cultural events

The meaning of cultural events is visible through preserving and promotion of the tradition and cultural heritage itself, and through the improvement of the sociocultural and economic factors at a destination. There are different ways of interpreting the cultural events, but Vukonić and Čavlek (2001.) describe the cultural, but also other events, as a part of cultural offer, within which, next to the cultural-historical heritage, cultural and religious institutions, festivals, sport events, competitions, specialized traditional crafts fairs, big events, and open air concerts are gaining on popularity. Events are becoming a more popular form of the cultural-touristic offer, and it is necessary to turn them into an appropriate touristic product that enriches the cultural offer of a destination, which is especially highlighted in the *Strategy of the development of cultural tourism (2003.)*.



### 3. Empirical research: Culturally-traditional event Mladost i ljepota Slavonije

Culturally-traditional event Mladost i ljepota Slavonije was founded in 1986 in Stari Mikanovci, a village situated in Vukovar-Syrmia County. The reason for the foundation of this event is the preserving of the traditional culture and customs from the whole Slavonia area, and transition of the cultural heritage to future generations. The characteristic of this event is a parade, i.e. a competition of girls, women, and men in traditional costumes, which, together with Vinkovačke jeseni, has one of the longest traditions. People that are responsible for the arrangement of this event are Stjepan Marić and Pavo Martinović, with the professional assistance of Zdenka Lechner, and every year the event is organized by the Folklore Society "Šokadija" from Stari Mikanovci, and it is in winter, at the time of the Carnival. At the very beginning the event Mladost i ljepota Slavonije was of a local character, however, in the following years it has spread to Vinkovci, Đakovo, Slavonski Brod and other areas, and has got a regional character nowadays.

#### 3.1. Research method

For the purpose of this research the in-depth interview method has been used. An in-depth interview is a qualitative type of research that includes a conversation with an interviewee, and the purpose of the interview<sup>2</sup> is to gain the insight into a particular research problem (Jusupović, 2006.). The purpose of the conducted research is to gain the insight into the origin of the event, its development throughout the years and its future plans, means of finance, promotion, etc. Concerning the defined purpose of the paper, the basic research questions were created:

- 1) What are the primary criteria for choosing the participants in culturally-traditional event Mladost i ljepota Slavonije?
- 2) To which extent are the experts included into creation and maintaining the appeal of the event?
- 3) To which extent are the event organisers satisfied with the cooperation of the local and regional self-government?
- 4) What are the main attractive elements of the culturally-traditional event Mladost i ljepota Slavonije?
- 5) What are the following developmental paths of the culturally-traditional event Mladost i ljepota Slavonije?

Following on from the research questions, the aims of the research are defined:

- 1) To determine the primary parameters and criteria of participation and presentation on the culturally traditional event Mladost i ljepota Slavonije?
- 2) To determine which expert participants take part in creation and maintenance of the appeal of the culturally traditional event?
- 3) To determine the level of satisfaction and cooperation between the organizers and units of the local government and regional self-government?
- 4) To determine the most attractive elements of the culturally-traditional event Mladost i ljepota Slavonije
- 5) To determine future developmental plans?

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<sup>2</sup>The research was conducted for the purpose of the final paper of student Škrget, D. (2016): Development of cultural tourism through culturally-traditional events. Virovitica: College for Management in Tourism and Informatics. The paper was defended 15 September 2016. Mentor: Dejan Tubić, Ph.D.

The research was conducted in June/July 2016 with Mr. Marko Martinović, the secretary of the organization board, who has been a secretary of the Folklore Society Šokadija from Stari Mikanovci, and with Ljubica Gligorević, MA, a curator of ethnology and a museum counsellor in the City museum Vinkovci, who has worked as a professional associate of the event Mladost i ljepota Slavonije for 30 years.

### **3.2. Research results**

The event Mladost i ljepota Slavonije started as a form of leisure for the residents of Stari Mikanovci, and had for its goal taking the traditional clothes out of the old chests. Therefore is this event connected with the preserving of the cultural treasure and transfer of the traditional values to the younger generations in order to save the richness of tradition and customs from being forgotten. From its very beginning the event has set high criteria for organization and marketing, thanks to many experts in ethnographic heritage, especially to Zdenka Lechner and Ljubica Gligorević. The wish to preserve the tradition is confirmed by the fact that from the year 1967 until today over 1300 participants have taken part in the event, and they all had to satisfy the strict criteria, such as being the real connoisseurs of the traditional values of the part they are coming from. It is necessary to emphasise that the male participants took part in the event for the first time in 1994.

The criteria for the participants have been thought out from the very beginning by the professional associates. There is a maximum of eight girls, women, and men that have to meet certain criteria, and the most important one is the age between 15 and 30, for women it is between 18 and 35 (it is even possible to accept the women of 40 years of age), and for the men the age range is between 17 and 30 years. The participants have to have the status they applied for in real life, and presentation of the participants is individual, lasts for maximally three minutes, and during that time they have to describe their national costume, the way it was made, ornaments on their head and shirt, the occasion the costume is worn for, and, if possible, the presentation should be performed using the dialectal variety of the language from the part the participant is presenting, i.e. comes from. The programme itself also includes the old crafts, i.e. the craftsmen that make traditional items and/or parts of the traditional costume, and the goal is to bring the new participants from different places, as well as the new tamburica bands and other guests. The event has its financial sponsor every year, usually Vukovar-Syrmia County, municipality of Stari Mikanovci, as well as vendors, and natural persons with their donations (banks, Hrvatske Šume, Osječka pivovara, Saponija, Naknada Privlačica, etc.) However, it is important to mention that there have recently been fewer sponsors and means of finance. Besides organizers and sponsors, public media that follow the event each year play an important role in the presentation of the event. Some of the media sponsors are HRT, Osječka televizija, Slavenska televizija, Vinkovačka televizija, Večernji list, Jutarnji list, and Vinkovački list. Due to variety of the attractive factors offered to the visitors, everyone can find something for themselves at this event. In the first place, the richness of the traditional costume stands out as an attractive factor. The future of the event is clearly outlined through the competitive form and preserving of the traditional values. There is a wish to bring the event to young people in the future, since they will be the future holders and organizers of the all the activities connected with the event. The wish is to set an example through this event for the others to go that way and to preserve the tradition, culture, and customs of their homeland.

Based on the conducted in-depth interview it can be concluded that the event Mladost i ljepota Slavonije is an important culturally-traditional event that has the key factor in preserving the tradition, culture, and customs, and their transfer to younger generations. Accordingly, the event

has different attractive factors, among which the variety and richness of the national costume stand out, as well as the presentation of different traditional crafts and other. The event also initiated the creation of the agricultural show Šunkijada, on which the original Slavonian hams are presented, and throughout that it initiated and revived Carnival customs, i.e. Carnival horse riding.

#### 4. Conclusion

Cultural touristic product, especially the one with the event character, gains on popularity on the local and foreign tourist market. However, it should be clearly stated that a tourist destination such as Stari Mikanovci cannot make its way to the more demanding international tourist market, if it doesn't gain a certain level of popularity among the local tourist consumers. Although there is a level of cooperation between the key participants, it is necessary to encourage the marketing network based on the principles of the more aggressive promotion towards the Croatian consumer, who appreciates and prefers this type of touristic product. Also, it is necessary to brand Mikanovci as a destination for the event tourism based on the tradition and authenticity. In addition, the bonding of culturally-traditional event Mladost i ljepota Slavonije with the national show Šunkijada, agricultural fair as a whole, agrotouristic farms, and similar traditional activities is necessary, because without the philosophy of interest bonding no touristic recognition of Stari Mikanovci or of eastern Croatia will be achieved. A general conclusion reflects through the existence of an inexhaustible tourist base of the rural areas of the Eastern Slavonia, but, the lack of tradition in tourism represents a true challenge for the creators and co-creators of the national tourist policy when creating a business entrepreneurial tourist surroundings and consciousness-raising about its importance. Thereby, an integrated approach of all the relevant participants in the area of education and building common trust is necessary, and all in the function of a more competitive tourist development.

#### REFERENCES

- Allen, J., O'Toole, W., Harris, R., McDonnell, I. (2008): *Festival & special event management (4th ed.)*. Milton, QLD: John Wiley&Sons Australia Ltd.
- Caspo, J. (2012.): *The Role and Importance of Cultural Tourism in Modern Tourism Industry, Strategies for Tourism Industry - Micro and Macro Perspectives*, Dr. Murat Kasimoglu (Ed.), pp. 201-232.
- Cole, S. (2006.): *Cultural Tourism, Community Participation and Empowerment*, pp. 89.-103. u Smith, M., Robinson, M. (eds.) (2006.): *Cultural Tourism in a Changing World*. Clevedon, Buffalo, Toronto: Channel View Publications.
- Geić, S. (2002.): *Turizam i kulturno-civilizacijsko naslijeđe*. Split: Veleučilište u Splitu.
- Geić, S. (2011.): *Menadžment selektivnih oblika turizma*. Split: Sveučilište u Splitu.
- Getz, D. (1998). *Event tourism and the authenticity dilemma*. In W. Theobald (Ed.), *Global tourism* (2nd ed., pp. 409–427). Oxford: Butterworth-Heinemann.
- Getz, D. (2008.): *Event tourism: Definition, evolution and research*. *Tourism Management* Vol.29 No.1 pp. 403-428.

Hennessey, S. M., Yun, D., Mac Donald, R. M., Mac Eachern, M. (2008): *Typology of cultural tourists: an island study*. Culture and the construction of islandness: the 3rd International Small Island Cultures Conference (pp. 101-111).

Jelinčić, D. A. (2009.): *Kulturni i arheološki turizam*, pp. 16-32. in Mihelić, S. (ed.) (2009): *Arheologija i turizam u Hrvatskoj*. Zagreb : Arheološki muzej u Zagrebu.

Jelinčić, D.A. (2006.): *Kulturni, kreativni i hobby turizam: čipkarstvo kao tržišna niša. Festivali čipke i kulturni turizam* / Petrović Leš, Tihana (ed.). Lepoglava : Turistička zajednica Grada Lepoglave; Grad Lepoglava, pp. 51-68.

Jovanović, V. i Deliće, U. (2010.): *Karakteristike manifestacija i njihov utjecaj na razvoj turizma u Srbiji*. Turizam i hotelijerstvo pp. 203-220.

Jusupović, A. (2006.): *Prednosti i nedostaci fokus grupa i dubinskih intervjuja kod prikupljanja primarnih podataka, istraživanje marketinga*, [http://www.100megsfree.com/memo/2007/meho1234\\_fokusgrupeidubinskiintervju.doc](http://www.100megsfree.com/memo/2007/meho1234_fokusgrupeidubinskiintervju.doc)(23.2.2017.)

Mckercher, B., du Cros, H. (2002.): *Cultural tourism: The partnership between tourism and cultural heritage management*. Binghamton, NY: The Haworth Hospitality Press.

Nyaupane, G.P., Andereck, K..L. (2007.): *An Expansion of Typology of Cultural Heritage Visitors' in Beating the Odds with Tourism Research*. Proceedings of TTRA 38th Annual Conference, Las Vegas, Nevada, USA (Lipanj 17-20), (pp. 213–220).

Pancić Kombol, T. (2006.): *Kulturno nasljeđe i turizam*. Radovi Zavoda za znanstveni rad - Varaždin, No. 16-17 str. 211-226.

Rabotić, B. (2013.): *Selektivni oblici turizma, drugo, prerađeno i dopunjeno izdanje*. Beograd: Visoka turistička škola strukovnih studija

Razović, M. (2009.): *Obilježja ponude kulturnog turizma dalmatinskih županija*, Acta Turistica Nova, Vol.3/1 (pp. 137-162)

Richards, G. (1996.): *The Scope and Significance of Cultural Tourism*, pp. 21-38., in Richards, G. (ed.) (1996.): *Cultural Tourism in Europe*. Wallingford: CABI.

Richards, G. (2005.): *Introduction: Culture and Tourism in Europe*, pp. 8.- 20. in Richards, G. (ed.) (2005.): *Cultural Tourism in Europe*. Wallingford: CABI.

Richards, G., Munsters, W. (2010.): *Developments and Perspectives in Cultural Tourism Research*, pp. 1.-12. in Richards, G., Munsters, W. (eds.) (2010.): *Cultural Tourism Research Methods*. Wallingford: CAB International.

Senčić, J. (1998.): *Promocija u turizmu*. Zagreb: Mikrorad

Smith, M.K. (2003): *Issues in Cultural Tourism Studies*. New York, London: Routledge.

Strategija razvoja kulturnog turizma "*Od turizma i kulture do kulturnog turizma*" (2003.). Zagreb: Institut za turizam, <http://www.rera.hr/Portals/0/docs/eu-turizam/Strategij-Razvoja-Kulturnog-Turizma.pdf> (4.3.2017.).

Škrget, D. (2016.): *Unaprjeđenje kulturnog turizma kroz kulturno-tradicijske manifestacije*. Završni rad. Virovitica: Visoka škola Virovitica.

Tomljenović, R. (2006.): *Hrvatski turizam: plavo, bijelo, zeleno*. Zagreb: Institut za turizam

Tubić, D. (2015.): *Model razvoja ruralnog turizma Kontinentalne Hrvatske*. Doktorska disertacija. Osijek: Ekonomski fakultet u Osijeku.

Tubić, D., Jaković, B., Bakan, R. (2016.): *Cultural tourism: the back bone of the upcoming tourism development in eastern Croatia*. In: Maček Tonković, A. (ed.), 5th International scientific symposium economy of eastern Croatia – vision and growth. (pp. 1043-1053.), Osijek: Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek.

Vukonić, B., Čavlek, N. (2001.): *Rječnik turizma*. Zagreb: Masmedia.

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## **INFORMATION COMMUNICATION SYSTEM EFFECTIVENESS AND ITS INFLUENCE TO BUSINESS PROCESSES IN LARGE SLAVONIAN ENTERPRISES**

### **UČINKOVITOST INFORMACIJSKO KOMUNIKACIJSKOG SUSTAVA I NJIHOV UTJECAJ NA POSLOVNE PROCESSE U VELIKIM SLAVONSKIM PODUZEĆIMA**

#### ***ABSTRACT***

*Information communication technology, its development level and usage procedures are key elements for company effectiveness and competency rise as well as a base for efficient management system. Specific management system will allow decision making founded on reliable information as opposite to only perception, and it will become more effective and useful to all stakeholder expectations.*

*ICT implementation principles are adaptable for all companies regardless the size and still considering proportional process complex level. On the other hand, as company grows, it consists of more management levels, organizational units and employees which is a challenge for information communication system readiness to provide necessary scale and information to different work and decision levels. Large enterprises represent a real challenge for the introduction of appropriate information systems.*

*In this paper authors would like to research how much attention is paid to ICT systems, what is company's satisfaction with it, how information is handled within current hierarchy and finally, how does all above mentioned affect big Slavonian enterprises results.*

*By using survey and interview results, together with placing geographical position in analysis, as well as comparison to similar world researches, authors would like to determine Slavonian enterprises position. Research hypothesis is set in that manner and is expected that results will confirm it.*

*Given results will present a base for shortcomings analysis as well as measures for their minimalization and solving. Those outcomes will be considered as recommendations in modern trends approach with aim to arise companies' competitiveness and sustainability in today's dynamical market environment.*

**Keywords:** *Large Slavonian enterprises, Dynamical business, ICT system effectiveness, Process optimization, Information management.*

## SAŽETAK

*Informacijska tehnologija, stupanj razvoja iste, te način korištenja ključni su za efektivno poboljšavanje učinka i kompetencija poduzeća, ali čine i temelj učinkovitog sustava upravljanja. Takav sustav upravljanja omogućit će donošenje odluka na temelju pouzdanih informacija, a ne na temelju opažanja, čime će postati učinkovit i zadovoljit će potrebe i očekivanje svih dionika (stakeholdera). Principi implementacije informacijsko komunikacijske tehnologije primjenjivi su na sva poduzeća bez obzira na veličinu uz ipak proporcionalnu razinu kompleksnosti takvih procesa. S druge strane, što je poduzeće veće, te posjeduje više nivoa upravljanja, organizacijskih jedinica i zaposlenika to predstavlja veći izazov u uspostavi informacijsko komunikacijskog sustava koji će u pravo vrijeme i u odgovarajućem opsegu pružiti sve potrebne informacije svim razinama rada i odlučivanja. Upravo velika poduzeća predstavljaju pravi izazov za uvođenje odgovarajućih informacijskih sustava. Koliko se daje na važnosti informacijskoj tehnologiji, koliko su poduzeća zadovoljna postojećim sustavima, kako raspoložu informacijama unutar hijerarhijskog uređenja, te kako sve to utječe na pojedine rezultate poslovanja velikih Slavonskih poduzeća, predstavlja istraživački izazov za autore. Koristeći rezultate anketa i intervjua uz stavljanje varijable geografskog položaja u analizu, te usporedbe rezultata sa sličnim istraživanjima u svijetu, autori imaju za cilj utvrditi položaj Slavonskih velikih poduzeća u odnosu na ostala poduzeća. S tim u svezi postavljena je istraživačka hipoteza, a očekuju se rezultati koji će ih potvrditi. Dobiveni rezultati mogu predstavljati osnovu za analiziranje utvrđenih nedostataka, kao i mjera za njihovo uklanjanje i poboljšavanje. Spomenuto će rezultirati novim preporukama u cilju približavanja svjetskim trendovima, a sve u cilju podizanja konkurentnosti i održivosti istraživanih poduzeća u današnjim dinamičnim uvjetima poslovanja.*

**Ključne riječi:** *Velika Slavonska poduzeća, Dinamično poslovanje, Učinkovitost IKT sustava, Optimizacija procesa, Upravljanje informacijama.*

## 1. Introduction

The processes are enterprise drivers that create value for each organization (Porter & Tanner, 2004, p. 6-7). Continuous process optimization must be in focus in order to meet the requirements of customers as well as the handling processes based on facts and feedback from customers. Every company is a set of processes that are taking place and (or) repeating constantly. Dynamic environment and global competition is forcing a change of paradigm, to move the focus from tasks to process. This is what brings the transition to processes management, which is the basis for achieving world-class. (Ahoy, 2009, p. 64)

Differences between traditional and modern companies are in information control - in traditional businesses that belongs to management, and communication is generally vertical, whereas in modern corporate environment, information is shared widely in all directions within the organization, to the point where it is needed (Cartin, 1999, p. 41).

Researches and studies of author Ziegenbein concluded that regardless of management level, information is the assumption of rational management (Ziegenbein, 2008, p. 163). Data becomes information if some meaning is given and as such is useful for the planning, decision making, control, operational and learning processes.

It is not possible to manage and control business processes if there's no sufficient, timely and accurate information about them. (Ager, 2008, p. 370).

Adequate infrastructure is needed in order to manage information quality. In this regard, we consider devices which produce, store and mediate / share information in the enterprise and software support responsible for use of ICT services in resolving the various tasks. Perfect joint action of enterprise management and ICT usage decisions on market and competitive firm advantages (Ziegenbein, 2008, p. 169).

Previous studies conducted by various authors (ex. Lee, Huang, Barnes & As, 2010)<sup>1</sup> are showing how ICT (Information Communication Technology) affects business performance. On the other hand, research conducted in Croatia (Zdrilić, 2013, p. 165) determines that large Croatian companies, unfortunately, do not pay great importance to the management based on facts which is the backbone for business success. According to author Juran, information and analysis are crucial for effective management and facts control (1999, p. 14.21 to 14.22). This type of thinking and business guidance is considered to be the basis for an effective management system of the company.

"The process should be continuously improved. Decisions are made based on verified information, and not on the observation basis.", (Porter & Tanner, 2004, p. 160-162).

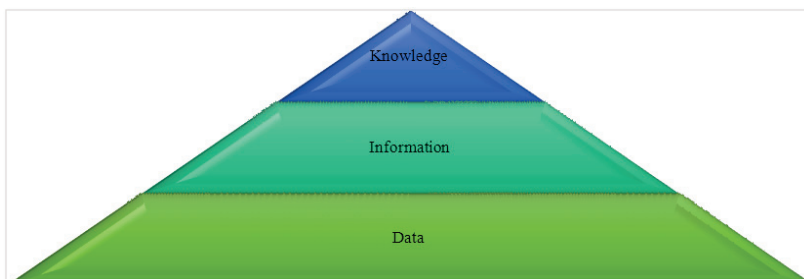
Main purpose of this study is to analyze the information and communication technology in large Slavonia and Baranja (Croatia county) enterprises and check its importance there. In addition, it is important to observe whether the investigated companies are satisfied with their ICT system and how they are handling technology enhanced processes. Affirmation or denial of the thesis that companies with a higher level of satisfaction in using their own information system are also more successful in business is main paper's aim.

This work is written, among other things, on the basis of certain parts and the research results of one of the authors doctoral thesis.

## 2. Problem definition

Having and using a high-quality information and communication technology which is able to provide the company management on the fact basis is extremely difficult to achieve in practice. In order to facilitate and optimize this demanding process, companies must put emphasis on science (Brown, 2008, p. 50-58), but also continuously collect data on real variables, analyze structured numbers, and promptly converted it into information and as such use it for decision making.

*Picture 1 Connection between data, information and knowledge*



*Source: Authors creation*

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<sup>1</sup> In this study, using the example of a Taiwanese manufacturer, the authors researched and found a link between ICT and business processes. They also found a positive correlation between the use of ICT and organizational performance of Taiwanese manufacturing companies.



Dynamic changes in today's business world imply actions where information is provided immediately with decreasing value of every delayed second. ICT in this sense is a true partner to companies with its possibility to facilitate smooth data flow through various levels of decision-making. Without diving into the issue and scope of the necessary procedures for the information and communication system establishment, and by checking available application systems (or modalities such as ERP, CRM ...) it is clear that success of such venture may depend on numerous parameters (Zdrilić & Puvača, Competitive advantages of ICT and large enterprises modern, 2014). Additional challenge is the security, that is becoming increasingly important (and more expensive) subject in the company's business. According to almost all relevant studies it can be concluded that investment in ICT security is growing about 10% annually, and that demand for experts in this field has never been greater (SANS Institute, 2016).

User satisfaction level when using company's information system is immensely important because of the consequent greater or lesser particular system acceptance. Clearly, functional and structural application and infrastructure side should take precedence, but the average user will easily accept intuitive, simple and clear application (Kaissa Väänänen-Vainio-Mattila, 2015). Also, the resistance that is always being present, is eliminated when the user is fully introduced to the application and is aware why there is a new system as well as which benefits will it provide (Puvača, 2013, p. 41).

Different methodology for managing IT projects (agile, waterfall, SCRUM ...) usage allows companies for themselves or with the help of external consultants to achieve perfect combination of speed, stability, scalability, usability of the user interface and immensely important, the availability of information systems that will be used in daily operations. All elements will be ultimately and directly related to the success parameters of the employees and the company as a whole.

### **3. Research methodology**

As a main research collection, big Slavonia companies, apart from financial institutions (banks, insurance companies, investment and pension funds)<sup>2</sup>, as well as public and local utility companies were identified.

Although the accepted criteria of classification of companies by size is multidimensional, in this investigation a simplified, one dimensional criteria for identifying the main group (minimal average number of 250 employers in the year of the research implementation) is used<sup>3</sup>. This kind of methodological approach is justified by the purpose and objectives of the research, as well as by previous practice of one-dimensional delimitation of companies according to size in similar conducted research.

Since a big Slavonian company, as an independent legal entity, is defined as a basic unit of the research process, the use of described criterion of demarcation resulted a main research collection which is made of 48 companies (public limited company, limited liability company).

The research is conducted in several stages. In 2012. the financial data for the 2011. were collected and the questionnaire was distributed. At the beginning of 2017. the financial data of

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<sup>2</sup> Refers to the companies whose headquarters are located in one of five Slavonian counties.

<sup>3</sup> Thereby beside big companies with more than 250 employees, medium companies with more than 250 employees were included in the research collection (companies which do not meet one of remaining two criteria for company scale definition) that could, potentially become big companies, from a statistical point of view.

the companies for 2015. were collected in order to analyze the course of events in the period of 2011. – 2015.

### 3.1. Questionnaire

As one of the instruments for data gathering in this research was used questionnaire which was sent to CEOs or Board Presidents of companies consisted in a basic set. The questions were mostly closed type. Multiple choice questions with enumeration were mainly used for objective facts determination. In order to define managers attitude closed-type questions were used with multiple choice intensity. Discrete Likert scale with five degrees of intensity was implemented, which is theoretically considered the best solution when creating questionnaires (Zelenika, 1998, p. 371).

The survey was conducted via e-mail and the Internet. For this purpose, SRCE (University Computing Center - University of Zagreb) infrastructure was used and related services based on open source tool, LimeSurvey which is often used for creation of questionnaires.

## 4. Research results

### 4.1. Research hypotheses

After the analysis of theoretical grounds and research preparation, main research hypothesis is set:

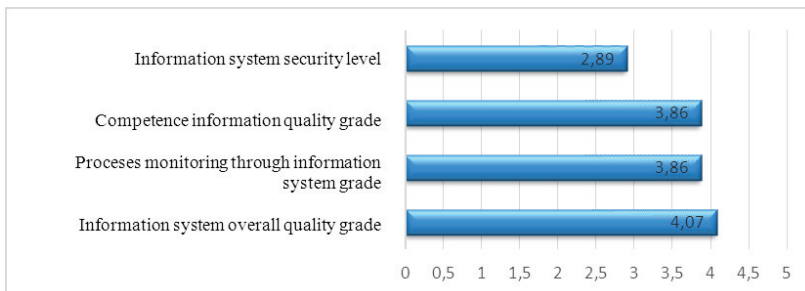
**H: Companies with a higher level of satisfaction in information systems usage are more competitive in the market.**

### 4.2. Research results

During the research, there has been 14 completed questionnaires returned, which makes 29.2% of total set. The resulting return is a lot acceptable than other European and national researches and on such basis, it can be concluded that, according to the results, it can be relevantly concluded about hypotheses.

The collected data was processed on a PC using the software package for spreadsheets *Microsoft Excel 2010* and programs for statistical analysis *IBM SPSS Statistics (v.23)*.

*Figure 1 IT systems features in researched companies*

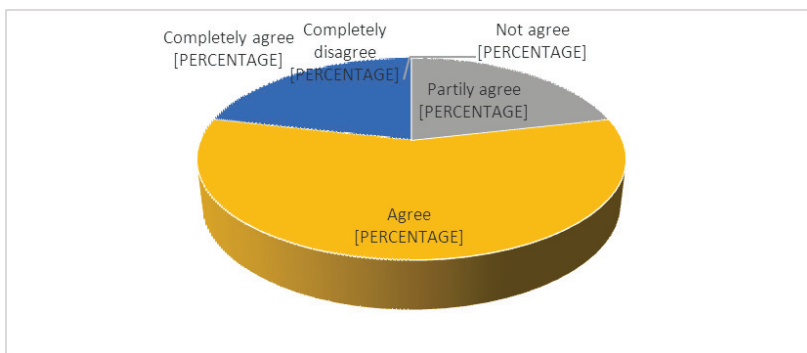


Source: Research results

Information security means the state of confidentiality, integrity and availability of information, no matter in what form the information exist, and is achieved by the application of appropriate measures and standards of information security and organizational support for the planning, implementation, verification and processing of these measures and standards (Ivandić Vidovic, Karlovic, & Ostojic, 2011, p. 94). Since that level of protection is graded the least, this is the point where the company can make the most improvements, but also long-term savings. Although partly a subjective component of information system quality, has been graded by over four points. Even more interestingly, not far behind is also process monitoring through information system rating.

It is possible to conclude that the company's attention is focused on quality information management in order to achieve the best usage.

**Figure 2** It is possible to determine successfulness of every process in the company.



Source: Research results

When analyzing the correlation between the quality of the information system and the possibilities for monitoring the performance of each business process through an information system, it is obtained a significant correlation since Pearson's correlation coefficient is  $r = 0.617$ , which means that there is a strong positive correlation between the observed variables. There is also a medium strong positive correlation and is  $r = 0.380$  between the quality of the information system and the success of organizational changes, which furtherly confirms the importance of IT systems quality, and is in favor of research hypothesis.

Indirectly, this confirms previous research as well, where in the researched collection of all major companies in Croatia is confirmed that between information system quality and competitive advantages perception is a positive correlation  $r = 0.31$  at the significance level of 0.01 (confidence level 99%) (Zdrilić, 2013 p. 177).

This short survey and the results confirmed the research hypothesis which confirms the relationship between the quality of IT systems and enterprise competitiveness.

## 5. Conclusion

Nowadays it is extremely important that business world is aware of ICT system importance and significance within their companies. Except that ICT undoubtedly contributes to the quality and adaptability of everyday carried operations, the study showed that it directly affects monitoring processes quality within the company, and thus is able to increase competitive advantage in the

industry in which the company is located. All this ultimately contributes to better business results. Information system security level is fast growing (importance and financial) part of every company which can cause a lot of challenges and benefits in middle and long term planning.

Study has showed that there were statistical links between above conclusions. Recommended research is certainly focused towards detailed analysis and precise answers on which ICT system parts contribute the best to enterprise strength and competitiveness. Scientific approach to information and communication enhanced business can be a great support for everyday practice which, even more than ever needs fresh view. Also, it would be very interesting to compare gained results with the data of small and (or) medium enterprises and its specifics. Since there are a lot of variables and environment kinds which can be examined there's a lot more space in this field.

## REFERENCES

- Ahoy, C. K. (2009). *Customer-Driven Operations*. New York: McGraw Hill.
- Behn, R. (2003). Why measure performance? Different purposes require different measures. *Public Administration Review*, 63(5), 586-606.
- Brown, M. G. (2008). *Baldrige Award Winning Quality*. New York, (NJ): Productivity Press.
- Cartin, J. (1999). *Principles and Practices of Organizational Performance Excellence*. Milwaukee (WI): ASQ Quality Press.
- Ivandić Vidović, D., Karlović, L., & Ostojić, A. (2011). *Korporativna sigurnost*. Zagreb: Udruga hrvatskih menagera sigurnosti-UHMS.
- Juran, M. (1999). *Juran's Quality Handbook*. New York: McGraw-Hill Book Company.
- Kaissa Vaananen-Vainio-Mattila, T. O. (2015). Towards Deeper Understanding of User Experience with Ubiquitous Computing Systems. *Human-Computer Interaction – INTERACT 2015: 15th IFIP TC*. (pp. 384-401). Bamberg, Germany: Springer.
- Kanji, G. K. (2002). *Measuring Business Excellence*. London and New York: Routledge.
- Lazibat, T. (2009). *Upravljanje kvalitetom*. Zagreb: Znanstvena knjiga d.o.o.
- Lee, C.-H., Huang, S. Y., Barnes, B. F., & Kao, L. (2010). Business performance and customer relationship management: The effect of IT, organisational contingency and business process on Taiwanese manufacturers. *Total Quality Management & Business Excellence*, 21(1-2), 43-65.

Porter, L. J., & Tanner, S. (2004). *Assessing Business Excellence* (2 ed.). Burlington: Elsevier Butterworth - Heinemann.

Puvača, M. (2013). *Informacijsko komunikacijska tehnologija kao temelj suvremenog sveučilišta (doktorska disertacija)*. Osijek.

SANS Institute. (2016). *IT Security Spending Trends 2016*. Swansea, UK: SANS Institute.

Stoiljković, N. (2012, 06. 15). *BSC*. Retrieved from <http://www.skladistenje.com/download/BSC.pdf> (datum pristupa 15.06.2012).

Zdrilić, I. (2013). *Utjecaj modela poslovne izvrsnosti na konkurentsku prednost hrvatskih poduzeća (doktorska disertacija)*. Osijek: Ekonomski fakultet Osijek.

Zdrilić, I., & Puvača, M. (2014). Competitive advantages of ICT in large enterprises modern. *Second International Conference on Advances in Social Science*. Zurich: SMHB-2014.

Zelenika, R. (1998). *Metodologija i tehnologija izrade znanstvenog i stručnog djela*. Rijeka: Ekonomski fakultet u Rijeci.

Ziegenbein, K. (2008). *Kontroling*. Zagreb: RRiF plus.

Žager, L. (Ed.). (2008). *Analiza financijskih izvještaja*. Zagreb: Masmedia.





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**ASSESSMENT OF THE CURRENT ACCOUNT DEFICIT  
DETERMINANTS IN BOSNIA AND HERZEGOVINA  
PROCJENA DETERMINANTI DEFICITA TEKUĆEG RAČUNA U  
BOSNI I HERCEGOVINI**

**ABSTRACT**

*The current account deficit in B&H (Bosnia and Herzegovina) is primarily determined by the balance of foreign trade, which has recently decreased. Given that the convergence criteria stipulates that the budget deficit of the central and local governments should not exceed 3% of the gross domestic product, except in special situations, this paper will test whether the given convergence criterion is respected. In this paper, we investigate the correlation between independent and dependent variables in the model, i.e. which has the strongest impact, on the state of the current account deficit, and on the other hand, which has the lowest. The rate for the current account deficit in GDP will be used as a dependent variable, and as an independent variable: the growth rate of foreign direct investment; the growth rate of exports and imports, the growth rate of public debt, as well as the growth rate of foreign reserves. The analysis will be made using quarterly data, as the number of annual data is insufficient for econometric evaluation. The study covers the period 2007q1 - 2016q2.*

**Key words:** *the current account deficit, regression analysis, foreign direct investment, exports.*

**SAŽETAK**

*Deficit tekućeg računa u Bosni i Hercegovini je primarno određen stanjem bilanca spoljne trgovine, koje je nedavno neznatno smanjeno. S obzirom da kriteriji konvergencije propisuju da proračunski deficit centralne i lokalne vlasti ne smije prelaziti 3% bruto domaćeg proizvoda osim u posebnim situacijama, u radu će se testirati da li se kriterij konvergencije i poštuje. U ovom radu će biti provedeno istraživanje u kontekstu povezanosti između nezavisnih i zavisne varijable u modelu, odnosno koja ima najjaču uticaj na stanje deficita tekućeg računa, te sa druge strane koja od nezavisnih varijabli ima najmanji uticaj. Stopa deficita tekućeg računa u odnosu na bruto domaći proizvod (BDP) će se koristiti kao zavisna varijabla, a kao nezavisne varijable će se koristiti: stopa rasta izravnih inozemnih ulaganja, stopa rasta izvoza i uvoza, stopa rasta javnog duga, kao i stopa rasta deviznih rezervi. Za analizu su korišteni tromjesečni podaci, s obzirom da godišnji podaci nisu dovoljni za ekonometrijsku procjenu. Istraživanje obuhvaća razdoblje od prvog kvartala 2007 do drugog kvartala 2016.*

**Ključne riječi:** *deficit tekućeg računa, regresiona analiza, izravne inozemne investicije, izvoz.*



## 1. Introduction

One of the most important macroeconomic indicators, that experienced the greatest fluctuation in the last three decades, is the fiscal deficit in many countries. The increase in public debt was the subject of considerable controversy by the creators of macroeconomic policies, as an important factor of macroeconomic instability, and even economic crises such as the debt crisis and hyperinflation. Therefore, fiscal discipline and a strong fiscal position were imperative for economic growth. Many transition economies have carried out fiscal reforms to reduce the impact of external shock. In addition, some developed economies such as Denmark, Ireland, Sweden, have adopted institutional changes to achieve greater fiscal discipline. In the euro zone, there is a phase of fiscal consolidation by adopting the convergence criteria defined by the Maastricht Treaty.

Econometric current account deficit converges to a sustainable level only in a longer period, where the actual current account deficit converges towards the sustainable state. On the other hand, in the short term, the real current account deficit can be significantly far from equilibrium level which may cause the econometric estimation is far from equilibrium level (Arsić, et al., 2012).

Despite all the efforts of many countries and the EU to date, Bosnia and Herzegovina has problems regarding fiscal imbalance, as a result of the lack of fiscal discipline. The financial crisis in Brazil (1999) and Argentina (2001) are also the result of high budget deficits and unsustainable fiscal results. According to some studies, the 3% of GDP limit represents some cosmetic measures that touch upon the creative accounting, yet make no effort to stabilize fiscal spending (Easterly, 1999).

Deflationary trends at the international level have had their impact on the reduction of imports in Bosnia and Herzegovina, which consequently, brought down the trade deficit. Therefore, the decrease of the goods trade deficit; a few liabilities in the current year on servicing foreign debt, and a slight deleveraging of the banking sector had a positive impact on the balance of foreign exchange reserves.

This study was designed in five parts. The first part refers to an introductory discussion and a brief review of the literature. The second part describes the analysis of the state of the current account deficit in Bosnia and Herzegovina, as well as the individual countries of the region and EU countries. The third part discusses research methodology. The fourth part is related to data and research results, and the last part comprises a conclusion and further recommendations.

## 2. Brief Literature Review

Research by Chinn and Prasad (2000) was based on a sample of developed countries and developing countries, where they took into consideration macroeconomic factors affecting the state of the current account deficit, such as savings and investments. They came to the conclusion that the current account balance of payments is in positive correlation with the balance of the state budget on the one hand, and the level of net foreign assets on the other hand. However, the current account balance in developing countries is determined more by the depth of the financial market. Further, they came to the conclusion that in developing countries, there is a negative correlation between the current account balance and indicators of trade openness. They also concluded that the increase of development of a country has an adverse consequence of the current account balance, but in the long run leads to an increase in exports and a decrease in the current account deficit.

Funke and Nickel's Analysis is ambiguous. They want to explain the effects of public spending on aggregate demand and the cons of action and displacement of private consumption (Funke & Nickel, 2006). When, during a particular time span, public expenditure is greater than public revenue, there is a budget deficit. The fiscal imbalance can be covered through unconventional methods that do not cause an increase in the inflation rate, through the issue of government securities in the financial market. Replacing the budget deficit through the leverage of public debt can sometimes cause only further increase in the budget deficit (Sang Ho, 2007). Therefore, the budget deficit exists when the public revenue is less than the public expenditure (Buskeviciute, 2008).

According to the IMF (2011), fiscal policy has a substantial impact on the current account deficit. These findings are explained by the fiscal variables in the data, or variables that are considered to be exogenous. In every respect, none of the studies regarding the current account deficit make a clear distinction between public spending and investment.

Some authors point out that between GDP and the budget deficit, there is a correlation. Changes in gross domestic product and the budget deficit may have an impact on the public debt by increasing public spending and borrowing costs. If the budget deficit is growing in proportion to the rate of growth of the gross domestic product, then there is no need for financing. On the other hand, if the rate of growth of the budget deficit is growing faster than the growth rate of the gross domestic product, the national debt will increase (Kregzde, 2013).

### 3. Status And Analysis of the Budget Deficit In Bosnia And Herzegovina About the Countries of the Region And the EU Member States

The budget deficit of the Eurozone countries, presented as a percentage of GDP, declined by about 50 basis points, and the EU at the end of 2015 amounted to 2.1%. The lack of effect of fiscal consolidation, as well as the limited progress in the context of structural reforms as a result of the increased political risk in the Eurozone and the EU, has led to the inability to achieve the set improvements (Financial Stability Report, 2015, p. 23).

*Table 1* Current account deficit in the region as well as individual EU member states for the period: 2007 – 2015 (as % GDP)

| Countries              | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | Average       |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------|
| Bosnia and Herzegovina | -9,19  | -13,84 | -6,45  | -6,01  | -9,49  | -8,65  | -5,30  | -7,39  | -5,70  | <b>-8,00</b>  |
| Croatia                | -7,24  | -8,82  | -5,04  | -1,50  | -0,60  | -0,37  | 0,98   | 0,78   | 5,11   | <b>-1,85</b>  |
| Serbia                 | -18,68 | -21,39 | -6,57  | -6,82  | -10,95 | -11,61 | -6,14  | -5,96  | -4,71  | <b>-10,31</b> |
| Slovenia               | -4,19  | -5,30  | -0,55  | -0,11  | 0,19   | 2,58   | 4,81   | 6,23   | 5,18   | <b>0,98</b>   |
| Macedonia, FYR         | -7,27  | -12,47 | -6,48  | -2,11  | -2,49  | -3,27  | -1,64  | -0,63  | -2,02  | <b>-4,27</b>  |
| Kosovo                 | -10,03 | -16,19 | -9,67  | -13,17 | -15,36 | -7,45  | -6,38  | -7,64  | -9,09  | <b>-10,56</b> |
| Montenegro             | -39,92 | -49,95 | -27,78 | -23,01 | -17,43 | -18,82 | -14,54 | -15,23 | -13,36 | <b>-24,45</b> |
| Greece                 | -14,00 | -14,48 | -10,88 | -10,11 | -9,93  | -2,51  | -2,06  | -1,58  | 0,11   | <b>-7,27</b>  |
| Turkey                 | -5,71  | -5,40  | -1,85  | -6,10  | -9,60  | -6,08  | -7,73  | -5,45  | -4,49  | <b>-5,82</b>  |
| Germany                | 6,78   | 5,62   | 5,82   | 5,65   | 6,07   | 7,02   | 6,76   | 7,25   | 8,44   | <b>6,60</b>   |
| France                 | -0,33  | -0,96  | -0,82  | -0,83  | -1,03  | -1,23  | -0,87  | -1,11  | -0,20  | <b>-0,82</b>  |
| Italy                  | -2,34  | -2,80  | -1,84  | -3,44  | -3,01  | -0,38  | 0,97   | 1,84   | 1,61   | <b>-1,04</b>  |
| Austria                | 3,82   | 4,51   | 2,59   | 2,94   | 1,58   | 1,51   | 1,96   | 2,32   | 1,86   | <b>2,57</b>   |
| Bulgaria               | -25,55 | -21,72 | -8,22  | -1,91  | 0,47   | -0,98  | 1,22   | 0,18   | 0,39   | <b>-6,24</b>  |

| Countries | 2007   | 2008   | 2009   | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | Average      |
|-----------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------------|
| Romania   | -13,95 | -12,00 | -4,92  | -5,05 | -5,00 | -4,78 | -1,08 | -0,69 | -1,18 | <b>-5,41</b> |
| Sweden    | 8,18   | 7,94   | 6,03   | 5,98  | 5,56  | 5,60  | 5,26  | 4,61  | 5,22  | <b>6,04</b>  |
| Swaziland | -1,95  | -7,14  | -11,59 | -8,58 | -6,83 | 3,18  | 5,05  | 3,23  | 10,07 | <b>-1,62</b> |
| Hungary   | -7,15  | -6,95  | -0,76  | 0,27  | 0,81  | 1,72  | 3,78  | 1,99  | 3,24  | <b>-0,34</b> |
| Poland    | -6,39  | -6,71  | -4,06  | -5,40 | -5,17 | -3,72 | -1,29 | -2,10 | -0,61 | <b>-3,94</b> |
| Denmark   | 1,38   | 2,84   | 3,37   | 5,69  | 5,82  | 5,77  | 7,15  | 6,19  | 7,06  | <b>5,03</b>  |

Source: <http://data.worldbank.org/indicator/BN.CAB.XOKA.GD.ZS?locations=BA> (Access for data on 24 December 2016)

The above table shows that the lowest average current account deficit was recorded in the following countries: Montenegro (-24,45%), Kosovo (-10,56%), Serbia (-10,31%), Bosnia and Herzegovina (-8,00%) and Greece (-7,27%). On the other hand, the highest average value of the current account deficit was realized following countries: Germany (6,60%), Sweden (6,04%), Denmark (5,03%) and Austria (2,57%).

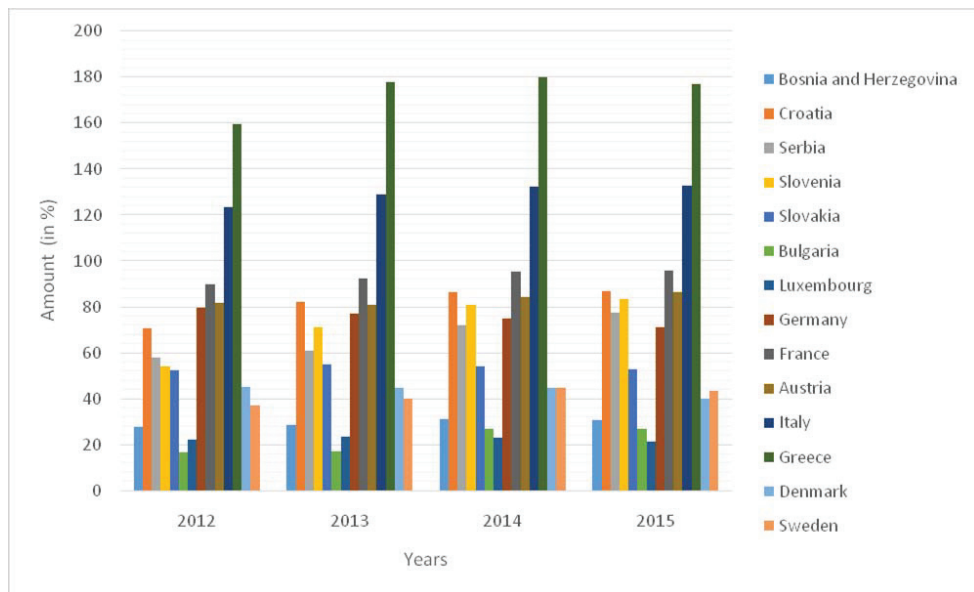
**Table 2** Analysis of the basic macroeconomic indicators of Bosnia and Herzegovina for the period: 2007 – Q2 2016 (in euro)

| Indicators                                     | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Nominal GDP                                    | 11.527 | 13.039 | 12.669 | 12.959 | 13.400 | 13.392 | 13.673 | 13.960 | 14.592 |
| GDP growth rate (in %)                         | 5.7    | 5.5    | -2.9   | 0.8    | 0.9    | -0.9   | 2.4    | 1.1    | 3.0    |
| The growth rate of consumer prices (in %)      | 1.5    | 7.4    | -0.4   | 2.1    | 3.7    | 2.1    | -0.1   | -0.9   | -1.0   |
| Current account balance                        |        |        |        |        |        |        |        |        |        |
| Current account balance as a percentage of GDP | -9.1   | -13.8  | -6.4   | -6.0   | -9.5   | -8.7   | -5.3   | -7.5   | -5.6   |
| Balance of trade as a percentage of GDP        | -38.8  | -41.1  | -30.8  | -29.3  | -30.8  | -30.5  | -27.4  | -29.7  | -26.1  |

Source: <http://cbbh.ba/content/read/915> (Retrieved on 20 January 2017)

During the last year, the main features of foreign exchange in Bosnia and Herzegovina were the strengthening of export demand, the impact of movements in global prices of commodities, and the diversification of export companies from Bosnia and Herzegovina to other markets. The current account deficit in 2015 was predominantly determined by the state of external trade, which at the end of the year, amounted to 5.6% of the GDP (DEP, 2015, p. 30).

**Figure 1** Movement of public debt as a percentage of GDP of the region, EU Member States and other countries for the period: 2012 – 2015

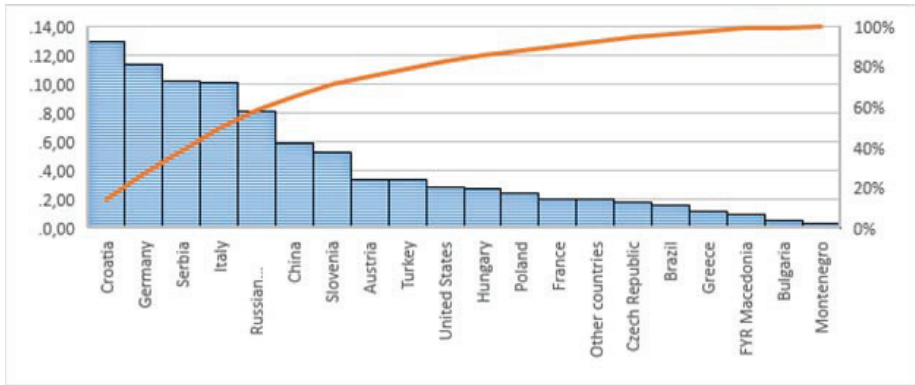


Source: <http://ec.europa.eu/eurostat/documents/2995521/7235991/2-21042016-AP-EN.pdf>  
[http://statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin\\_bs.aspx](http://statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin_bs.aspx);  
<https://www.nbs.rs/internet/cirilica/90/fs.html> (Adjusted by author)

The above figure provides the lowest average share of public debt as a percentage of GDP for the following countries: Bulgaria (21,90%), Luxembourg (22,40%), Bosnia and Herzegovina (29,30%), Sweden (41,30%), Denmark (43,73%) and Slovakia (53,55%), which is in line with the convergence criteria that public debt must not exceed 60% of GDP. On the other hand, the following countries had the largest average share of government debt as a percentage of GDP: Greece (173,58%), Italy (129,38%), France (93,30%), Austria (83,23%), Croatia (81,53%), Germany (75,68%), Slovenia (72,28%) and Serbia (66,95%). Therefore, the debt of EU countries and the Eurozone is extremely high, which certainly must be a matter of the future sustainability of the public debt, primarily fiscal consolidation measures and the creation of new restrictions which should be respected.

Factors affecting the state of the current account deficit are different, such as the level of development of the country, demographic factors, short and long term fiscal policy, the exchange rate regime, the business cycle, as well as the flow of trade between countries. The chart below illustrates the basic share of imports of Bosnia and Herzegovina from the region, as well as the individual EU Member States for the period: 2009 – 2016q2.

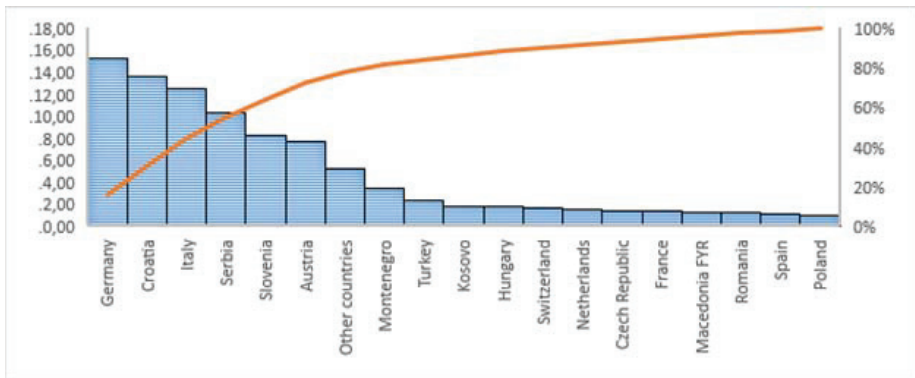
**Figure 2** Structural share of imports in Bosnia and Herzegovina from countries in the region, EU member states, and other countries for the period: 2009 - 2016q2 (in%)



Source: [statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin\\_bs.aspx](http://statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin_bs.aspx) (Adjusted by author)

From the above graphic, it can clearly be seen that the following countries had the highest average export in Bosnia and Herzegovina: Croatia (12.91%), Germany (11.36%), Serbia (10.18%) and Italy (10.07%). Seen from the other side, the country that had the lowest average export in Bosnia and Herzegovina for the given period are as follows: Montenegro (0.32%), Bulgaria (0.56%), FYR Macedonia (0.94%), Greece (1.13%), and Brazil (1.58%).

**Figure 3** Structural share of exports in Bosnia and Herzegovina from countries in the region, EU member states, and other countries for the period: 2009 - 2016q2 (in%)



Source: [statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin\\_bs.aspx](http://statistics.cbbh.ba:4444/Panorama/novaview/SimpleLogin_bs.aspx) (Adjusted by author)

Unlike imports, Bosnia and Herzegovina had the highest average exports to the following countries: Germany (15.33%), Croatia (13.56%), Italy (12.50%), Serbia (10.30%), Slovenia

(8.34%) and Austria (7.71%). It should be noted that exports to Croatia in 2015, in comparison to 2009, decreased by nearly 40%, and the Republic of Serbia by about 36%. The foreign exchange market has recorded the depreciation of the euro against the dollar, keep in mind that Bosnia and Herzegovina, is in effect a currency board, which can have an indirect impact on the reduction of the nominal and real effective exchange rate of the domestic currency. This could also affect the strengthening of the local competition in the international market (Report of Financial Stability, 2015, p. 27).

### 3. Research Methodology

The standard approach elasticity is of utmost importance to the state of the current account deficit, i.e. determining the excessive level of the current account deficit and the optimal level. According to Milesi-Ferreti and Razin (1996) the sustainability of the current account deficit is possible on condition that the degree of solvency, that is, the ratio of total foreign debt to the gross domestic product, does not increase. This approach can be expressed as follows:

$$cab = 1 - i - c - g = -tedx(r^* - \gamma - \varepsilon) \quad (1)$$

Where is:

$cab$  – the balance of the current account deficit in relation to GDP;

$i$  – investments in relation to GDP;

$c$  – private consumption in relation to GDP;

$g$  – government spending in relation to GDP;

$ted$  – total external debt to GDP;

$r^*$  - Real world interest rate;

$\gamma$  – real economic growth; and

$\varepsilon$  - the real effective exchange rate.

The above equation shows that the desired level of the current account balance could be achieved with a stable ratio of foreign debt to gross domestic product, which will be determined by developments in the world's average interest rate of domestic economic growth and the real exchange rate. For developing countries such as Bosnia and Herzegovina, this requirement would apply only to the constant creation of surplus in the current account, provided that liabilities are regularly settled, based on interest on foreign debt. However, the long-term maintenance of the current account deficit in Bosnia and Herzegovina is questionable, due to increased public spending, endless borrowing, and other macroeconomic anomalies.

The steady share of the current account deficit to GDP can be estimated by using the econometric models, an acceptable series which include economic variables. A crucial selection of economic variables is determined by economic theory, which suggests the fundamental determinants of the current account deficit and the intensity and direction of their influence. Furthermore, the choice of economic variables depends on the continuity of the time series, the specificity of a particular country (such as the size of the economy, the degree of concentration of exports and imports and so on) and availability of data (Arsic et al., 2012, p. 67).

#### 4. Data

The current account deficit – CAD will be used as a dependent variable in this paper, while the following will be used as independent variables: the growth rate of foreign direct investment, the growth rate of exports and imports, the growth rate of public debt, and the growth rate of foreign reserves. The study covers the period 2007q1 - 2016q2.

*Table 3 Abbreviations and description of indicators*

|       |   |
|-------|---|
| CAD   | The deficit of the current account balance represents the imbalance between savings and investment, as a result of an imbalance in the sub-balances of savings and investment in the private and public sectors.  |
| GRFDI | Foreign direct investment is the investment in the form of a verification of ownership in the business in one country by legal entities or individuals in another country. Thus, foreign investments, including mergers and acquisitions, building new facilities, cuts the reinvestment of profits from foreign operations and within the company. In this paper, the rate expressed in percentage for the quarterly period. |
| GRIMP | Imports of goods and services expressed in percentages on a quarterly basis   |
| GREXP | Exports of goods and services expressed in percentages on a quarterly basis   |
| GRPD  | Public or government debt refers to the debt of the state, a municipality or local authority and where the government deficit relates to the difference between government revenues and spending in a single year. this paper, the rate expressed in percentage is for the quarterly period.  |
| GRFR  | Foreign reserves, which represent foreign funds that are controlled by monetary authorities for direct financing of external imbalances or balance of payments, are experiencing an intervention in the currency market for the operation of the exchange rate. In this paper, the rate expressed is in percentages for the quarterly period..  |

A simple linear regression model expresses a relationship between two parameters as follows:

$$Y_i = \alpha + \beta X_i + \varepsilon_i \quad i = 1, 2, \dots, n, \quad (2)$$

Where:

$Y$  – dependent variable,

$\alpha$   $\beta$  - unknown parameters that need an estimate, and

$\varepsilon_i$  – stochastic variable (error distances).

To analyse the determinants of the money supply in the banking sector of Bosnia and Herzegovina, the linear regression model stated below will be estimated:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + U_t \quad (3)$$

Where:

t – refers to quarter;  $Y_t$  – Is a dependent variable and refers to money supply (M2) in a particular period (quarter) it, then  $\beta_0$  represents the intercept;  $X$  represents the selected determinants of the money supply;  $\beta_1$  and  $\beta_2$  are coefficients, and  $U_t$  represents the error term.

The equation which is the adjusted regression model in this paper can be expressed as follows:

$$CAD = \beta_0 + \beta_1 GRFDI_t + \beta_2 GRIMP_t + \beta_3 GREXP_t + \beta_4 GRPD_t + \beta_5 GRFR_t + U_t \quad (4)$$

#### 4.1. Results

The paper will test the model's significance in terms of the calculation of the coefficient of correlation; the coefficient of determination and the adjusted coefficient of determination. Further, the impact of independent variables on the dependent variable will be analysed i.e. the impact will be analysed to examine the significance of the observed variables.

**Table 4** Descriptive statistics on the independent and dependent variable in the model for the period from 01 January 2007 to 30 June 2016

| Variable | Obs | Mean     | Std. Dev. | Min      | Max      |
|----------|-----|----------|-----------|----------|----------|
| CAD      | 37  | 1843.607 | 224.8714  | 1573     | 2454.6   |
| GRFDI    | 37  | 538.0711 | 554.1278  | 25.3     | 2599     |
| GRIMP    | 37  | 3741.837 | 319.6916  | 3001     | 4199.4   |
| GREXP    | 37  | 1899.931 | 304.5513  | 1285.5   | 2312.6   |
| GRPD     | 37  | 6366.029 | 1715.618  | 3896.299 | 8809.414 |
| GRFR     | 37  | 6743.492 | 849.7555  | 5585.445 | 8772.7   |

The table above illustrates the descriptive statistics of exogenous variables that have an impact on the state of balance of payment deficit. The greatest volatility regarding the standard deviation is achieved by public debt (1.715%) and the growth rate of foreign exchange reserves (850%). The main reason for the volatile trend of public debt, is high budgetary expenditure, which could



not be covered by the indirect taxes, which already needed a new loan from foreign creditors and the domestic capital market.

**Table 5** Correlation analysis between the independent and dependent variable in the model for the period from 01 January 2007 to 30 June 2016

| CAD   | GRFDI   | GRIMP   | GREXP  | GRPD   | GRFR   |        |
|-------|---------|---------|--------|--------|--------|--------|
| CAD   | 1.0000  |         |        |        |        |        |
| GRFDI | 0.3541  | 1.0000  |        |        |        |        |
| GRIMP | 0.4064  | -0.1994 | 1.0000 |        |        |        |
| GREXP | -0.3100 | -0.4736 | 0.7421 | 1.0000 |        |        |
| GRPD  | -0.5670 | -0.5075 | 0.4861 | 0.9211 | 1.0000 |        |
| GRFR  | -0.1742 | -0.1870 | 0.5443 | 0.6922 | 0.7086 | 1.0000 |

Source: the calculation made by the author (STATA IC 13.0)

This can be seen from the previous correlation matrix: there is a direct correlation between the current account deficit and foreign direct investment (0.354), as well as indirect interdependence between the current account deficit and the rate of growth of public debt (-0.567). Between the import growth rate and balance of payments deficit is a present positive correlation which is quite logical, because the increase rate of imports leads to an increase in the state of the current account deficit (0.406).

**Table 6** The basic model of regression analysis between the independent and dependent variable for the period from 01 January 2007 to 30 June 2016

| Source   | SS         | df | MS          | Number of obs = 37 |         |  |
|----------|------------|----|-------------|--------------------|---------|--|
| Model    | 1867381.2  | 5  | 373476.24   | F (5, 32) =        | 3316.62 |  |
| Residual | 3603.43435 | 32 | 112.607323  | Prob > F =         | 0.0000  |  |
| Total    | 1870984.63 | 37 | 373.588,847 | R-squared =        | 0.9981  |  |
|          |            |    |             | Adj R-squared =    | 0.9978  |  |
|          |            |    |             | Root MSE =         | 10.612  |  |

| CAD   | Coef.     | Std. Err. | t      | P> t  | [95% Conf. Interval] |           |
|-------|-----------|-----------|--------|-------|----------------------|-----------|
| GRFDI | -.0047732 | .0038222  | -1.25  | 0.221 | -.0125588            | .0030124  |
| GRIMP | .9908188  | .0136231  | 72.73  | 0.000 | .9630694             | 1.018568  |
| GREXP | -.9869717 | .030729   | -32.12 | 0.000 | -1.049565            | -.9243789 |

|       |           |          |       |       |           |          |
|-------|-----------|----------|-------|-------|-----------|----------|
| GRPD  | -.0036166 | .0045457 | -0.80 | 0.432 | -.0128759 | .0056426 |
| GRFR  | -.0004371 | .0033179 | 0.13  | 0.896 | -.0063211 | .0071954 |
| _cons | 33.9465   | 23.27834 | 1.46  | 0.155 | -13.46992 | 81.36293 |

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*Source: the calculation made by the author (STATA IC 13.0)*

From the table, it can be seen opposite the connection between the state of the current account deficit and foreign reserves (-0,0004). Gross foreign reserves at the end of 2015, achieved the greatest amount of about 4.40 billion euros. As is noted in the literature review, a factor that affects the balance of foreign exchange reserves is certainly the dynamics of the external debt of the government, which was partially reduced in 2015. Reversed proportionality (-0,004) is present among the current account deficit and the rate of growth of public debt. This attitude is entirely justified because with increasing debt by sectors of the government, comes the reduction of the deficit and the current account and vice versa. In addition, between a current account deficit and the rate of growth of foreign direct investment a negative causality (-0.004) was recorded. Foreign direct investment increased the value of foreign capital in Bosnia and Herzegovina, which in turn means that the net foreign assets worsened. The deterioration in net foreign assets in the long term, will result in higher revenues of capital outflow from Bosnia and Herzegovina in the form of dividends, which could further aggravate the current account balance. Observed in the last few years, has been a gradual fall in foreign remittances in Bosnia and Herzegovina. During the past year, the movement of foreign remittances in Bosnia and Herzegovina amounted to around 720 million euros. Had there not been this gradual decline, the current account deficit would amount to 5.4% of the GDP instead of only 4.4% of the GDP (DEP, Annual Report, 2015, p. 31).

## 5. Conclusion

Indicators of fiscal sustainability in Bosnia and Herzegovina in the last few years have not changed significantly, except for the current account deficit, which decreased as a result of coordinated foreign trade imbalance, the partial reduction of public debt and increased foreign reserves. The main objective of this research was to determine the influence of exogenous variables, i.e., which of the observed variables have the strongest effect, and on the other hand, which of the observed variables have the least impact on the balance of the current account deficit.

The results of regression analysis showed the weakest influence for the following variables: the rate of export growth, the growth rate of foreign direct investment, the growth rate of foreign exchange reserves and the growth of public debt. It is logical that with higher values of these variables, there is a reduction in the current account deficit. On the other hand, the growth rate of imports had the strongest influence, because the increase in imports leads to an increase in the current account deficit. In the forthcoming period, Bosnia and Herzegovina should pursue a policy of mild relief budget spending, as well as the precise and attentive planning of new debt, in order to maintain the fiscal position of the country.

## REFERENCES

Arsić, M., Nojković, A., Randelović, S., Mićković, S. (2012). *The structural fiscal deficit and public debt dynamics of Serbia*, Publishing Center of Faculty of Economics in Belgrade.

- Bodie, Z., Kane, A., Marcus, A.J. (2006). *Essential of Investments*, International edition, Irwin/McGraw-Hill.
- Buskeviciute, E. (2008). Public Finances. Kaunas. *Journal: Technologija*, p. 57-144
- Chinn, M., Prasad, E. (2000), "*Medium-Term Determinants of Current Accounts in Industria And Developing Countries: An Empirical Exploration*," *IMF Working Paper* 00/46.
- Easterly, W. (1999). *When Is Fiscal Adjustment An Illusion? Economic Policy*, Vol.14, p. 55-86
- Funke, K., Nickel, C. (2006), "*Does Fiscal Policy Matter for the Trade Account*" – *A Panel Cointegration Study*", *ECB, Working Paper*, No. 620.
- <http://data.worldbank.org/indicator/BN.CAB.XOKA.GD.ZS?locations=BA>
- <http://ec.europa.eu/eurostat/documents/2995521/7235991/2-21042016-AP-EN.pdf>
- International Monetary Fund (2011). *Separated at Birth? The Twin Budget and Trade Balances, In World Economic Outlook*, September, pp. 135-60.
- Kregzde, A.(2013). *The safe ceiling of Lithuania budget deficit. Economics*, No. 3 (92), p. 74-88.
- Mishkin, F.S. (2010). *Ekonomija novca, bankarstva i financijskih tržišta*, osmo izdanje, MATE, Zagreb.
- Milesi-Ferretti, G. M., Razin, A. (1996). "*Current Account Sustainability*," *Princeton Studies In International Finance*, Vol. 81.
- Sang Ho, L. (2007). *Government deficit financing and stabilization.*, *Journal of economic studies*. No. 15, p. 34-44.

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## **STATE AGENCIFICATION IN THE REPUBLIC OF CROATIA – FISCAL EFFECTS, ACCOUNTABILITY AND TRANSPARENCY**

### **DRŽAVNA AGENCIKACIJA U HRVATSKOJ – FISKALNI UČINCI, ODGOVORNOST I TRANSPARENTNOST**

#### ***ABSTRACT***

*In the last few decades, public administrations in many countries have been transformed to reflect the principles of New Public Management (NPM). Following the new wave of public administration - from the 1980s countries have increasingly developed the use of agencies with the aim of improving efficiency in public services by using private sector management models. Although due to historical turbulences these processes came about with a substantial delay, Croatia is no exemption in this regard. In Croatia, agencies exist in almost all areas of public interest, performing various public functions and employing a large number of public servants. The main objective of this study is to analyse the financial operations of agencies and their fiscal impact on the state budget, as well as the degree of transparency and accountability in the provision of public services from 1990 to 2016. The majority of state agencies in Croatia were established under the influence of the accession process to the EU, without a comprehensive strategy or a detailed action plan. Consequently, the status of agencies in the government financing system is not clear and the criteria for their establishment as well as results of their operations are often unknown. Many agencies do not publish annual and financial reports, and those that do often omit the most important information. According to an analysis of financial statements, statutes and annual reports it is evident that their status in the public sector significantly differs. Their financial reporting systems are also not consistent: from 44 agencies (in 2013), seven were non-profit organizations, 34 budgetary users, two agencies had company status and one was an extra-budgetary user. The analysis has revealed that agencies in Croatia as a whole generate surpluses, that they have a significant amount of assets (mainly financial) and a low level of financial liabilities – indicating a good financial position. However, the level of transparency of their operations is inappropriate.*

**Keywords:** *state agency, agencification, financial operations, fiscal effect, accountability.*

## SAŽETAK

*U posljednjih nekoliko desetljeća, javna uprava se u mnogim zemljama transformirala u skladu s načelima novog javnog upravljanja (NJU). Slijedeći nove modele javnog upravljanja – od 1980-tih u brojnim zemljama dolazi do ekspanzije agencija s ciljem povećanja učinkovitosti u pružanju javnih usluga primjenom modela upravljanja korištenih u privatnom sektoru. Hrvatska nije izuzetak u tom smislu, iako su se – zbog povijesnih turbulencija – ovi procesi počeli odvijati s određenim vremenskim pomakom. U Hrvatskoj postoje agencije u gotovo svim područjima javnog interesa. Obavljaju različite javne funkcije i zapošljavaju velik broj javnih službenika. Glavni cilj ovog rada je analizirati financijsko poslovanje agencija i njihov fiskalni učinak na državni proračun, kao i stupanj transparentnosti i odgovornosti u pružanju javnih usluga od 1990. do 2016. Većina državnih agencija u Hrvatskoj osnovana je pod utjecajem pristupanja Europskoj uniji, bez sveobuhvatne strategije ili detaljnog akcijskog plana. Posljedično, status agencija u sustavu državnih financija nije jasan, a kriteriji za njihovo osnivanje kao i rezultati njihovog poslovanja često su nepoznati. Mnoge agencije ne objavljuju godišnje i financijske izvještaje, a one koje objavljuju često izostave najvažnije informacije. Analizom financijskih izvještaja, statuta, i godišnjih izvještaja, utvrđeno je da njihov status u javnom sektoru značajno divergira. Sustavi financijskog izvještavanja državnih agencija također nisu konzistentni: od ukupno 44 agencije (u 2013.), sedam su bile neprofitne organizacije, 34 proračunski korisnici, dvije agencije imale su status poduzeća, a jedna je bila izvanproračunski korisnik. Istraživanje je pokazalo da agencije u Hrvatskoj u cjelini generiraju suficite, imaju značajnu vrijednost imovine (uglavnom financijske) i nisku razinu financijskih obveza – što ukazuje na dobru financijsku poziciju. Unatoč tome, razina transparentnosti njihovog poslovanja nije odgovarajuća.*

**Ključne riječi:** državna agencija, agencifikacija, ekspanzija financijsko poslovanje, fiskalni učinak, odgovornost.

### 1. Introduction

Agencies are semi-independent administrative bodies that handle public affairs such as regulation, the provision of services and the implementation of policies. In the legal system of the Republic of Croatia, the concept “agency” is not defined in the way that, for instance, establishments, associations, foundations or commercial companies are, on the basis of general law (*lex generalis*). The concept of agency in a technically legal sense is a name for a heterogeneous collection of legal entities in a range from institutions to various forms of company (such as the Agency for Commercial Activity, d.o.o., Zagreb and the Agencija Alan d.o.o., Zagreb) and government bodies (the Security and Intelligence Agency)(Ministry of Administration, 2015). State agencies have the following characteristics (Musa, 2013):

- legal entities of public law – they are legally independent, structurally detached from
- ministries, which is expressed in their legal personality;
- they are founded by statute (the Croatian Parliament) or by an ordinance of the Government, on behalf of the Republic of Croatia;
- they are founded for the performance of administrative matters (from the regulation of a certain sector, support for public policy or execution regulations or programmes);
- they operate in a certain specialised area or segment of public policy;
- their tasks are to adopt general regulations, to ascertain and promote quality standards, monitor the implementation of public policy and information activities / decision-making in given cases, including the issue of licenses and certificates and supervision and the sanctioning/implementation of programmes and the financing of activities;

- they have a certain degree of autonomy – managerial and organisational, personnel and financial, outside the general framework of the administration, and they can also have policy autonomy;
- they are subject to various control mechanisms – legal, political and financial.

At a national level, agencies are founded on behalf of the Republic of Croatia by the legislative or the executive branch – each with its own appropriate legal instrument, pursuant to the proper legal basis. Agencies can be classified, according to the founder and the legal status, into those that (Musa, 2013):

- the government founds pursuant to Article 12 Para 2 of the Institutions Law, which permits an institution to be founded by statute or by ordinance or a ruling of a ministry;
- are founded by a Government ordinance pursuant to the authority enshrined in some special law that regulates a certain area (the law prescribes the obligation of the Government to found by an ordinance an agency with a certain name and sphere of influence and in a given term);
- are founded by the Croatian Parliament by a law that exists solely for the sake of founding that agency. In this manner, the agency has enhanced autonomy. A change is possible only by modification of the law, which sets out the legal framework, which is further worked out by the statutes of the agency;
- are founded by the Croatian Parliament with a law that regulates a certain sector (this is the strongest form used in the foundation of agencies) – in the regulation of a certain domain, also established is the institutional foundation for the implementation of the law, which increases the credibility of the policy, enhancing security and diminishing the possibility that a policy will be altered or abandoned.

In terms of legal form, agencies are on the whole set up as *public institutions* (with variations of specialised public institution, specialised institution and not-for-profit institution), legal entity with public authority (that are independent in the implementation of the areas of activity set by law or their activity) and *not-for-profit legal entities*. In most agencies, there is no stipulation as to whom they are responsible. Some agencies are responsible for their work to the Parliament or Government. Supervision of the lawfulness of their work is in the case of most agencies carried out by the ministry competent for that area of activity – for example, the Financial Agency (FINA) is supervised by the Finance Ministry (with respect to the lawfulness of work) and the State Auditing Office (financial operations). No supervision obligation is prescribed for some agencies, save for the supervision of their annual financial reports.

From 2009 to 2011 there was a trend in Croatia towards a reduction in the number of, and a restriction of the foundation of new, agencies. The process of rationalising agencies, and the administration as a whole, was indicated back in the 2008-2011 Strategy for the Reform of the State Administration, which the government adopted in March 2008. Unlike current member states of the EU from CEE, in which the number of agencies began to be reduced only after accession, Croatia experienced a fall in the number of agencies during the accession process (Verhoest, et al., 2012).

The main objective of this paper is to analyse the transparency and financial operations of state agencies in Croatia and their potential fiscal impact on the national budget from 2013 to 2015. The paper is composed of five parts. After the introduction, part two analyses the number and status of state agencies according to their sources of financing; part three discusses the state of and changes in the staffing and the transparency of the operations of state agencies. Part four analyses their financial operations and assesses their fiscal impact. Part five concludes.

## 2. The number and state of state agencies

The number of agencies in Croatia is diminishing. According to their status in the public sector system and their dominant sources of financing, the following kinds of agencies are distinguished: budgetary, not-for-profit and corporate agencies (table 1). Most state agencies were created during the process of Croatian accession to the EU, which started in 2004 with the acquisition of the status of candidate for EU membership, and during the negotiations, which started in 2005 and lasted until 2011.

*Table 1 The number of agencies in Croatia from 2013 to 2015*

| State agencies | 2013  |          | 2014  |          | 2015  |          |
|----------------|-------|----------|-------|----------|-------|----------|
|                | Total | Withdata | Total | Withdata | Total | Withdata |
| Budgetary      | 32    | 25       | 31    | 24       | 31    | 22       |
| Extrabudgetary | 1     | 1        | 1     | 1        | 1     | 1        |
| Non-profit     | 7     | 7        | 7     | 7        | 6     | 6        |
| Corporate      | 5     | 5        | 5     | 5        | 5     | 4        |
| Grand total    | 45    | 38       | 44    | 37       | 43    | 33       |

*Source: Annual and Financial Reports of Agencies and Amendments to the State Budget of the Republic of Croatia, 2013-2015*

While still a candidate, Croatia was obliged to adopt, apply and enforce the *acquis* of the EU. As a result of the accession negotiations and in order to meet the conditions set by the EU, new agencies sprang up like wildfire, without any criteria or legislative framework determined by law. In the founding acts, the issues of organisation, supervision, responsibility, control mechanisms, and performance indicators were settled *ad hoc*. In the accession period (from 2004 to 2013), 33 of them were founded, about three quarters of the total number of agencies today. But in 2014, instead of the planned rationalisation of state agencies, the Government set up two new agencies (the Hydrocarbons Agency and the Agency for the Legalisation of Unlawfully Constructed Buildings).

### *Status of state agencies*

State agencies can be differentiated according to their status, legal form and the body that supervises their operations. *The statuses of agencies in the public sector are directly connected with the ways in which they are financed.* According to analyses of their statutes, financial reports and reports on their operations, it is easy to conclude that in 2015 most of the agencies had the status of budgetary user (31), and just a few were non-profit organisations (6) and corporations (5). There is also one agency that has the status of extra-budgetary user (table 1).

Agencies that are budgetary users are regulated by the *Regulations on the ascertainment of budgetary and extra-budgetary users of the state budget and budgetary and extra-budgetary users of the budgets of units of local and regional self-government and on the manner of keeping a register of budgetary and extra-budgetary users.* Budgetary users of the state budget are institutions: 1. the founder of which is the Republic of Croatia; 2. which receive revenues from the state budget and/or pursuant to public authorities, laws or other regulations, with these revenues coming to 50% or more of total revenues; 3. which are stated as such in the register of budgetary and extra-budgetary users (Budget Law, OG 87/08, 135/12, 15/15).

Most agencies have the status of budgetary user and are financed from the state budget. Usually they are to be found within the budget of the competent ministry. They operate within the state treasury and keep their books in compliance with the regulations in force and with budgetary principles and budgetary accounting, which are applied by budgetary and extra-budgetary users of

the state budget and budgetary and extra-budgetary users of the budgets of units of local and regional self-government. They apply the budgetary regulations that consist of: the Budget Law, Regulations about Financial Reporting in Budgetary Accounting, the Execution of the State Budget Law (for each fiscal year a new Execution Law is passed), Regulations on Budgetary Accounting and the Accounts Plan and the Fiscal Responsibility Law (Regulation about Budgetary Accounting and Account Plan, OG 87/08, 136/12). Revenues accruing from their operations are revenues of the State Budget. Grants or donations that they receive from international organisations and/or from the bodies and funds of the EU for the sake of the upgrading of the professional or technical level of their activity are paid into the state budget. Any money in the accounts of and all outstanding claims of agencies become, at the moment they become budgetary users, revenue of the state budget and are paid into the single account of the state treasury.

Agencies that have the status of non-profit organisations are outside the budget and are recorded in the register of non-profit organisations kept by the Finance Ministry. The *Register of non-profit organisations* is the central source of information about non-profit organisations necessary for determining and monitoring the obligation to draw up and submit financial reports, ascertaining the financial position and the operations as well as the purposeful use of budgetary resources. The annual financial reports of non-profit organisations are announced publicly. The Finance Ministry publishes its supervision of financial operations, accounting and the submission of the financial reports of non-profit organisations in line with the provisions of the Law on financial operations and accountancy of non-profit organisations (OG 121.14) and other, separate regulations.

*Corporate agencies.* Commercial companies and other legal entities that are of particular and strategic interest to the Republic of Croatia are those in which the state as shareholder or equity holder has not only economic but also strategic aims: the lawful and effective achievement of transferred public authorities, security, ensuring health, important infrastructure, unhindered provisioning of households and business entities, as well as providing economic services in the interest of citizens and the state, which obtain revenues pursuant to the public authorities assigned, whereby the state takes part in the determination of the price of products and services (Law on the management and disposition of assets owned by the Republic of Croatia, OG 94/2013). Planning, reporting and analysis of the operational performance is expertly checked by the State Auditing Office, in conjunction with the opinion of the competent ministry. They are financed with earmarked revenues, and draw up their financial reports according to corporate accounting.

March 2014 brought in the obligation to pay part of the profits of corporations of strategic and particular interest to the state to the single treasury account. This applies to a surplus of revenue over the expenses of agencies, institutes and other legal entities with public authorities the founder of which is the state and that do not have the status of budgetary user (Law on amendments to the Law on the Execution of the State Budget for 2014, OG 39/14).

#### *Changes of status of the state agencies*

There is a trend towards the rationalisation of the number of agencies via mergers (for example via complete integration or sharing support services such as human resources, computer support and accountancy), renaming, abolishing or changing their status, or transferring agencies from one legal category to another. Status changes in non-profit agencies can be: the merger of two or more agencies into a new unit, annexing one or more agencies to an existing unit and the division of agencies into two or more new units.

Status changes of agencies are carried out in the context of the procedure for reducing the excessive budget deficit or for the objectives of the economic policy of the government for the



sake of encouraging sustainable development after the many years of recession. One of the reforming measures of fiscal consolidation from 2014 to 2016 was the inclusion into the State Budget of agencies that were outside the system of the state treasury. Agencies became budgetary users and the financing of their work was carried out by funding being provided according to their real requirements in the State Budget and the revenues from the performance of the activity become revenues of the State Budget. As a result of this measure, it is expected that there will be an enlargement of revenues and receipts as well as expenditures and outlays of the State Budget as compared to the previous year, because of the incorporation of the resources that these agencies acquire from other sources of financing, outside the State Budget. Since non-profit agencies have large surpluses, their inclusion into the budget will have a major effect on the reduction of the public debt, a useful measure of fiscal consolidation.

One of the measures for solving the excessive budgetary deficit is the Government Decision to reduce the number of agencies, institutes, funds and other legal entities with public authorities. The reduction of the number of such agencies, institutes and other legal entities with public authorities is part of the structural reforms through which the state aims to meet the objectives laid down in the National Reform Programme of 2015. This kind of rationalisation led to changes in the absolute number of agencies, but it had no impact on the real diversity of organisational kinds, the system or management or bringing about any abolition of agencies.

Some of the changes of status of state agencies from 2013 to 2015 are rather interesting. During 2013 the Croatian Compulsory Oil Stocks Agency (known as HANDA) was categorised as a budget user and funding for its activities were totally supplied in the State Budget. At the beginning of 2015, the Agency for Explosive Atmosphere Hazardous Areas was included in the state treasury. The Agency for the regulation of the market of railway services was annexed to the Croatian Agency for Posts and Electronic Communications in 2014 and the Croatian Regulatory Authority for Network Industries (known as HAKOM) was created. Also in 2014, HAMAG Bicro was created – the Croatian Agency for SMEs, Innovation and Investment by the merger of the Croatian agency for SMEs and Investment (HAMAG invest) and the Business-Innovation Agency of the Republic of Croatia (Bicro). In an ordinance of September 10, 2015, the Government adopted a decision to annex the Agency for Regional Development of the Republic of Croatia to the Central Finance and Contracting Agency.

### 3. Staffing and operational transparency of the agencies

The rise in the number of agencies led to an increase in employment in the public services (Verhoest et al., 2012). From 2013 to 2015 the number of employees in state agencies rose from 6,617 to 6,905 in 2014. In 2015 it differed considerably because the agency with the most employees (FINA), which has about 3,000 employees, has made no figures for 2015 available. In the period under observation, in most of the agencies there has been a tendency for the number of employees to rise (table 2).

*Table 2 Number of employees in state agencies aggregate 2013-2015*

|                    | 2013         | 2014         | 2015         |
|--------------------|--------------|--------------|--------------|
| Budgetary          | 2,082        | 2,248        | 2,074        |
| Extrabudgetary     | 21           | 20           | 18           |
| Non-profit         | 531          | 552          | 519          |
| Corporate          | 3,983        | 4,085        | 955          |
| <b>Grand total</b> | <b>6,617</b> | <b>6,905</b> | <b>3,566</b> |

*Source: Annual and Financial Reports of Agencies and Amendments to the State Budget of the Republic of Croatia, 2013-2015*

Because of the reduction of the number of agencies that have made data available from 38 to 33 the number of employees fluctuates so much that it is impossible to ascertain the trend in the period, although a growth in employment from 2013 to 2014 by 288 or 4.4% can be observed. If the number of employees between 2013 and 2014 according to kinds of agency is observed, in the budgetary agencies, the number of employees rose by 166 or 8%, in not-for-profit it increased by 20, or 3.6%, and in the case of corporations by 102 or 2.6%. Among state agencies that are budgetary users (and which make their data available) two stand out, employing about 50% of all those employed in the budgetary agencies – the Paying Agency for Agriculture, Fisheries and Rural Development and the Croatian Agricultural Agency.

In the case of non-profit state agencies, two stand out: the Croatian Financial Services Supervisory Agency (HANFA) and the Croatian Regulatory Authority for Network Industries (HAKOM), which together employ more than 50% of all those at work in the not-for-profit agencies. The agency with the most employees is FINA, which has the status of agency and yet operates like a corporation and employs close one half of all the staff in all the agencies together. No consistent analysis of the staffing numbers is possible because of the status changes of the agency from non-profit to budgetary user during the year and the inaccessibility of data, particularly regarding 2015.

*Salaries.* Pursuant to available information from the annual and financial reports, the gross monthly salaries per employee were calculated and were found to rise consistently with the increase in the number of employees. In the analysis of the salaries of the corporations, net wages were calculated, since data about gross salaries were not included. The average gross salary per employee in the budgetary agencies that had accessible financial reports ranges around 9,000 kuna during the period, which is just over half as much as the gross salaries of employees in the non-profit agencies, in which the average gross salary ranged around 17,000 kuna during the period under observation. The biggest gross wage in the budgetary-user agencies came in the Croatian Compulsory Oil Stocks Agency, which was put into the budget in 2014, and the Agency for the Protection of Market Competition; the lowest were found in employees of the Croatian Personal Data Protection Agency and the Agency for the Legalisation of Unlawfully Constructed Buildings. Standing out for high salaries among the non-profit agencies is the Croatian Civil Aviation Agency and the Croatian Financial Services Regulatory agency, while in other non-profit agencies, salaries are somewhat lower, but still extremely high as compared to budgetary agencies.

### *Operational transparency*

The circle of bodies of public authority that are bound to make sure of transparency in the performance of their functions, organisation and work is defined by the Law on the Right of Access to Information (OG 85/15); it includes bodies of the government administration, other state bodies, bodies of local and regional self-government, legal entities with public authorities, legal entities the founder of which is the Republic of Croatia or a unit of local or regional self-government as well as corporations in which the Republic of Croatia and/or units of local and regional self-government have singly or jointly majority shares as well as other bodies defined by this Law (Information Commissioner, 2015).

The purpose of the research was to acquire an insight into the transparency of state agencies, by analysis of their operations in line with the Law on the Right of Access to Information in relation to the proactive publication of information that is defined in Article 10 (OG 85/15). It is assumed that working in accordance with the Law on the Right of Access to Information implies greater responsibility and lawfulness of operations, and in addition ensures greater efficacy and user-orientation.

Data for research into transparency were collected from March 15 to August 15, 2016. Evaluation of transparency is based on a check of the accessibility of internet pages and the publication of annual reports about the operations and financial reports. The objective of the research was to create a review of the transparency of the operations of the state agencies by a comparison of transparency in each kind of state agency from 2013 to 2015.

Of the 43 agencies, in 2015 – 41 (95%) had an internet site; only two budgetary-user agencies did not have an internet site. Annual operational reports are publicly accessible for 23 (65%) and financial reports for 32 agencies (74%) (table 3). Annual operating reports are internal reports, without any standardisation, meant for the managing council. In the period from 2013 to 2015 the number of agencies that published annual operating reports fell by seven. From 2013 to 2015 the number of agencies that published financial reports the public announcement of which is mandatory rose by 2.

**Table 3** *The transparency of the operations of state agencies, 2013-2015*

|                | Internet site | Annual operational report |      |      | Financial reports |      |      |
|----------------|---------------|---------------------------|------|------|-------------------|------|------|
|                | 2015          | 2013                      | 2014 | 2015 | 2013              | 2014 | 2015 |
| Budgetary      | 29            | 24                        | 23   | 20   | 18                | 21   | 22   |
| Extrabudgetary | 1             |                           |      |      | 1                 | 1    | 1    |
| Not-for-profit | 7             | 7                         | 7    | 5    | 7                 | 7    | 6    |
| Corporate      | 5             | 4                         | 4    | 3    | 4                 | 4    | 3    |
| Grand total    | 42            | 35                        | 34   | 28   | 30                | 33   | 32   |

*Source: Internet sites of the agencies, annual and financial reports of agencies, processed by the authors*

A few budgetary user agencies publish complete financial reports, but for many of them there is only a report about the work with a small summary of financial operations for the given year. It is hypothesised that the shortage of accessible information about budgetary user agencies is connected with the publication of their expenditures and sources of financing via the annual state budget.

All state agencies whose status is that of non-profit organisation have publically accessible and published financial reports for the last three years, since they are entered into the Register of Non-Profit Organisations, while the annual reports about their operations are accessible in the great majority of them. In the corporate agencies, 40% of them (2 out of 5) have publically accessible annual reports about their operations and financial reports for all three years. The HALMED agency has made available only one operational report, the data from which are insufficient to enable a quality analysis to be made. The Financial Agency has not published even the annual reports about its operations or financial reports for 2015, which hampers analysis for this year, since it is the biggest Croatian agency. Research showed that only the category of non-profit state agencies has, via the Register of Non-Profit Organisations, a satisfactory level of transparency, while this cannot be said for corporate agencies or budgetary user agencies.

#### **4. Financial operations of the agencies**

The way in which agencies can obtain funding is laid down by the special laws by which the agencies are founded. In most cases, money is obtained from several different sources (from the state budget, from fees, from its own activity, by performing services, membership, sales, donations and other sources). In some cases, revenues derived from operations are paid into the state budget. For example, in the case of the Croatian Compulsory Oil Stocks Agency, the Croatian Agricultural Agency – “if a profit is made by the operations, the whole sum of the profit

is the revenue of the state budget”; the Agency for Explosive Atmosphere Hazardous Areas (Ex-agency) – “revenues from the conduct of its activity are the revenue of the state budget and are paid into the state budget”; the Fund for the Compensation of Expropriated Assets – “revenues from the sale of dwellings to tenants who have the right to purchase the dwelling acquired in accordance with the provisions of a separate law about fees, are revenues of the state budget and are paid into the state budget”. In some cases operationally derived revenues are the agency’s own revenue. For example, the Agency for Legal Transactions and Mediation in Real Estate can treat “revenue from commission to which it has the right in the purchase and sale of real estate, revenue from rental and leases of real estate and the difference in the price during sales as its own revenue” (Ministry of Administration, 2015)

An analysis of data from the accessible financial reports of the state agencies in the period 2013-2015 shows several interesting trends related to the situation of surpluses, the amount of financial assets and the financial position of the agencies.

**Table 4** Total surplus – deficit of agencies, 2013-2015, in billion kuna

| Agencies                | 2013   | 2014  | 2015  |
|-------------------------|--------|-------|-------|
| Budgetary               | -0.021 | 0.047 | 0.039 |
| Not-for-profit          | -0.116 | 0.580 | 0.926 |
| Profit making           | 0.282  | 0.200 | 0.076 |
| Grand total             | 0.145  | 0.827 | 1.041 |
| Annual differences      |        | 0.682 | 0.214 |
| Annual differences in % |        | 470.3 | 25.9  |

*Source: Financial reports of agencies, processed by the authors*

Budgetary and non-profit agencies in 2013 operated with a deficit, but for-profit or corporate agencies were in surplus, and so as a whole state agencies operate with a surplus of about 145 million kuna (table 4). In 2014 all the agencies operated with a surplus, and the operations of all agencies together resulted in a surplus of 827 million kuna, or almost six times as much as the previous year. The total aggregated surplus of the operations of all the agencies together in 2014 exceeded one billion kuna. The production of surpluses over the years led to substantial accumulations of money in bank accounts and the treasuries of the state agencies. The revenues of the state agencies grew in the observed three-year period. The trend of growth is confirmed by the fact that total revenues in 2015 were high in spite of the lack of any report from the biggest corporate agency – FINA. In the last two years observed, the biggest revenues were achieved by budgetary agencies (22 of them with accessible reports), amounting to 2.28 billion kuna in 2015. The trend of the revenues increase of budgetary agencies in 2013-2015 is a result of the inclusion of two non-profit agencies (HANDA 2014 and the Ex-Agency in 2015) in the system of the state treasury.

**Table 5** Total financial assets and liabilities of state agencies from 2013 to 2015 (in billion kuna)

|                                 | 2013          | 2014          | 2015          |
|---------------------------------|---------------|---------------|---------------|
| <b>Financial assets</b>         | <b>10.411</b> | <b>10.934</b> | <b>11.105</b> |
| - Money in banks and treasuries | 0.515         | 0.583         | 2.190         |
| - Deposits and loans            | 2.522         | 1.899         | 1.740         |
| - Securities                    | 2.102         | 3.269         | 2.326         |
| - Shares and equity             | 2.221         | 2.053         | 2.042         |
| - Claims on revenue             | 3.051         | 3.130         | 2.807         |
| <b>Liabilities</b>              | <b>0.146</b>  | <b>0.164</b>  | <b>0.065</b>  |
| - Liabilities to suppliers      | 0.092         | 0.133         | 0.061         |
| - Liabilities to banks          | 0.054         | 0.031         | 0.004         |

*Source: Financial reports of state agencies as processed by the authors*

The financial assets of all the agencies increased with a simultaneous reduction of liabilities, which suggests good operations, but also an unnecessary high level of liquidity in the agencies amounting to 2 billion kuna in 2015 (table 5). The financial assets are very high, coming to more than 10 billion kuna in the period under observation. In the structure of financial claims for revenue (3 billion kuna), securities (2.3 billion kuna) and shares and equity (2 billion kuna) dominate, with a somewhat smaller share being taken by deposits and loans (1.7 billion kuna). There was a considerable rise in money in the bank and the treasury – from 500 million in 2013 to 2 billion kuna in 2014. By adding together the money in the bank and treasury and deposits and loans, we obtain the sum of 4 billion kuna of liquid financial assets in the possession of state agencies at the end of 2015.

It is apparent that the state agencies make very large surpluses that they carry forward from one year to the next and that they have in their possession a very large amount of financial assets. Combined with the low amounts of the financial obligations, it can be concluded that they are in a very good financial position.

## 5. Conclusion

From 2013 to 2015 the number of agencies diminished. In accordance with the rationalisation policy of the administration, the number of employees should be reduced as well, but this is not shown by the data given. In any case, for efficient management, the number of agencies is not crucial, rather the quality and transparency of their work and the justification of the resources spent. From the financial reports it is not possible to give any final judgements about the work of the agencies and their social justification and effectiveness, but it can be seen that they have very large surpluses, have large amounts of financial assets, and that they are in an extremely sound financial position.

The transparency of the agencies in this period is satisfactory only in the case of the non-profit agencies, because their financial reports are accessible on the site of the Register of Non-Profit Organisations. In the case of the budgetary agencies, a great number of them do not make annual reports about their operations or their financial reports publicly accessible, which gives ground for concern, for if they do not publish reports, they are liable to a 50,000 kuna fine.

Another reason for it being impossible to produce a complete analysis of state agencies is the status changes of the agencies, from non-profit to budgetary users, during the year, in addition to the unavailability of data for, in particular, 2015. The government should provide more information about the agencies, develop a register of agencies (like the register of not-for-profit entities), which might be the first step towards greater openness of and access to the agencies. Supervision of the financial operations of agencies and other legal entities of the agency type should be carried out by the Finance Ministry. Then, it is necessary to establish clear criteria about the circumstances in which it is possible to found an agency, to set up a clear and standardised framework for governing the relations and responsibilities (particularly in connection with budgetary issues) among ministries and agencies, to ensure transparent reporting about their performance. Finally, the number of legal entities of the agency type should be reduced by merging legal entities that carry out operations in the same administrative area for the sake of reducing the costs that are incurred by the multiplication of ancillary services (accounting, personnel, information and general affairs) by operations being performed in a large number of small legal entities.

## REFERENCES

Koprić I., Marčetić G., Musa A., Đulabić V., Lalić Novak G., (2014.) Upravna znanost-javna uprava u suvremenom europskom kontekstu, Zagreb: Pravni fakultet, Studijski centar za javnu upravu i javne financije.

Koprić I., Musa A., Đulabić V. (2013.) Agencije u Hrvatskoj: Regulacija I privatizacija javnih službi na državnoj, lokalnoj I regionalnoj razini Institut za javnu upravu, Zagreb.

Ministarstvo financija. Registar neprofitnih organizacija. Zagreb: Ministarstvo financija.

Ministarstvo uprave (2015.) Smjernice za uređenje sustava agencija, zavoda, fondova, centara i drugih pravnih osoba s javnim ovlastima.

Musa A. (2013.) Agencijski model javne uprave. Pravni fakultet Sveučilišta u Zagrebu Studijski centar za javnu upravu i javne financije, Zagreb.

Musa A. (2012.) Agencifikacija kao nova I dodatna centralizacija – hoće li se Hrvatska ikada moći decentralizirati? Hrvatska I komparativna javna uprava.

Povjerenik za informiranje (2015.) Transparentnost trgovačkih društava u većinskom državnom vlasništvu, Analitičko izvješće o praćenju provedbe Zakona o pravu na pristup informacijama, broj 2/2015. Zagreb.

Pravilnik o proračunskom računovodstvu i računskom planu, NN 87/08, 136/12.

Verhoest, K., Thiel, S.V., Bouckaert, G., Laegreid, P., Van Thiel (2012.) Government Agencies - Practices and Lessons from 30 Countries, Palgrave Macmillan.

Zakon o upravljanju i raspolaganju imovinom u vlasništvu Republike Hrvatske, NN 94/2013.

Zakon o financijskom poslovanju i računovodstvu neprofitnih organizacija, NN 121/14.

Zakon o izmjenama i dopunama Zakona o izvršavanju Državnog proračuna za 2014. godinu, NN 39/14.

Zakon o proračunu, NN 87/08, 136/12, 15/15.

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## **THE ROLE OF ACCOUNTING IN SUSTAINABLE DEVELOPMENT OF NATURE PARKS IN EASTERN CROATIA**

### **ULOGA RAČUNOVODSTVA U ODRŽIVOM RAZVOJU PARKOVA PRIRODE ISTOČNE HRVATSKE**

#### **ABSTRACT**

*The subject of this paper is to explore the application of accounting standards and regulations in sustainable development of tourism in nature parks in Eastern Croatia, especially in Lonjsko polje and Kopački rit. The research has shown that nature parks are the most valuable tourist attractions for development of tourism and other activities in Eastern Croatia. Sustainable tourism development guidelines and management practices are applicable to tourism in nature parks. Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability. Accounting should have an important role in the implementation of different accounting principles and standards in order to protect resources for sustainable development in nature parks Lonjsko polje and Kopački rit. Accounting administration provides a clear and complete picture of the real costs and benefits arising from the decision on the allocation of resources. Therefore, the purpose and objective of this paper is to examine the role of accounting in the sustainable development of Nature Park Lonjsko polje and Kopački rit. Starting from the objective of this study, there has been made an analysis of financial statements using desk research and other secondary sources of information. In addition, the primary research was conducted through a structured interview in the Nature Park Lonjsko polje, highlighted the role and importance of accounting in the records of all the resources of nature parks and in the financial and internal reporting for management. This may be indicative of the application of accounting standards in Nature Park Kopački rit, as well as in the other protected areas of Croatia.*



**Key words:** *sustainable tourism development, accounting of nature parks, Lonjsko polje, Kopački rit, Eastern Croatia*

## SAŽETAK

*Predmet ovog rada je istražiti primjenu računovodstvenih standarda i propisa u održivom razvoju turizma parkova prirode u Istočnoj Hrvatskoj, s posebnim osvrtom na Lonjsko polje i Kopački rit. Provedeno istraživanje pokazuje da parkovi prirode predstavljaju najvrijednije turističke atrakcije za razvoj turizma i ostalih djelatnosti u Istočnoj Hrvatskoj. Turizam se počeo intenzivno razvijati u parkovima prirode, pa je stoga važno osigurati održivi razvoj turizma i ostalih djelatnosti primjenom svih načela održivog razvoja: ekoloških, sociokulturnih, tehnoloških te posebno ekonomskih načela. U održivom razvoju Parka prirode Lonjsko polje i Kopački rit važnu ulogu treba imati računovodstvo u funkciji provedbe različitih računovodstvenih načela i standarda u cilju zaštite resursa. Zbog toga je svrha i cilj ovog rada istražiti ulogu računovodstva u održivom razvoju Parkova prirode Lonjsko polje i Kopački rit. Polazeći od cilja rada provedena je analiza računovodstvenih i financijskih izvještaja pomoću metode istraživanja za stolom (desk research) i drugih sekundarnih izvora podataka. Osim toga, provedeno je primarno istraživanje putem strukturiranog intervjua u Parku prirode Lonjsko polje koje je ukazalo na ulogu i važnost računovodstva u evidenciji svih resursa parkova prirode te u financijskim i internim izvještajima za management. To može biti indikativno za primjenu računovodstvenih standarda u Parku prirode Kopački rit, kao i u ostalim zaštićenim područjima Hrvatske.*

**Ključne riječi:** *održivi razvoj turizma, računovodstvo parkova prirode, Lonjsko polje, Kopački rit, Istočna Hrvatska*

## 1. Introduction

The subject of this paper is to explore the application of accounting standards and regulations in sustainable development of tourism in nature parks in Eastern Croatia, especially in Lonjsko polje and Kopački rit. The research has shown that nature parks are the most valuable tourist attractions for development of tourism and other activities in Eastern Croatia. Sustainable tourism development guidelines and management practices are applicable to tourism in nature parks. Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability. Accounting should have an important role in the implementation of different accounting principles and standards in order to protect resources for sustainable development in nature parks Lonjsko polje and Kopački rit. Accounting administration provides a clear and complete picture of the real costs and benefits arising from the decision on the allocation of resources. Therefore, the purpose and objective of this paper is to examine the role of accounting in the sustainable development of Nature Park Lonjsko polje and Kopački rit. Starting from the objective of this study, there has been made an analysis of financial statements using desk research and other secondary sources of information. In addition, the primary research was conducted through a structured interview in the Nature Park Lonjsko polje, highlighting the role and importance of accounting in the records of all the resources of nature parks and in the financial and internal reporting for management. This may be indicative of the application of accounting standards in Nature Park Kopački rit, as well as in the other protected areas of Croatia.



Since the nature parks are organized as a business system, accounting needs to provide information for management that could manage the tourist destination according to the principles of sustainable development.

Desk research is used for the treatment of secondary data sources such as general knowledge about the tourism potentials of Nature Parks Lonjsko polje and Kopački rit and the role of accounting in the sustainable development of natural parks.. In addition, a structured personal interview was conducted in July 2016 with experts from the Nature Park, which was used for the determination of specific recommendations for the future development of nature parks.

## 2. Features of nature parks

Nature park is a vast natural or partly cultivated area of land and/or sea with ecological features of international and national importance with marked landscape, educational, cultural, historical, tourist and recreational values.

Economic and other activities that do not threaten its essential features and roles are allowed in nature parks. The method of performing economic activities and using natural resources in a nature park is strictly regulated by legal nature protection requirements.

Of the 11 nature parks in Croatia, six of them are mountain: Velebit, Medvednica, Papuk, Učka and Žumberak-Samobor Mountain, while Telašćica and Lastovo Islands are island parks. Kopački rit and Lonjsko polje represent biological richness lowland floodplains.<sup>1</sup> In this chapter, the basic characteristics of the Nature Park Lonjsko polje and Kopački rit

### *Nature Park Lonjsko polje*

Nature Park is the largest protected wetland area not only in Croatia, but also in the entire Danube area. It is located in Sisak, around towns Sisak, Kutina, Popovača and Novska. Sava water, which is several times a year poured into this space and then dried through evaporation, has created a large marsh area. Lonjsko polje is among the most threatened wetland parts of the world. It consists of three fields: Lonjsko, Mokro and Poganovo polje.<sup>2</sup>

The park is extremely low-lying region, altitude of 90 to 110 m and for its features is a rural area. There are 14 settlements which are located in the park: Osekovo, Stružec, Čigoč, Kratočko, Mužilovčica, Suvoj, Lonja, Trebež, Puska, Krapje, Drenov Bok, Jasenovac, Košutarica and Mlaka.<sup>3</sup>

Nature Park Lonjsko polje is one of the wetland areas as the most endangered habitat in the world and is therefore included in the protected wetland area in the Ramsar List of Wetlands of natural resident waterfowl.<sup>4</sup>

Inside the park Lonjsko polje are ornithological reserve and apart from rich wildlife Lonjsko field also enriches interesting and diverse plant life. Inside the park are so many interesting

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<sup>1</sup> Nature parks in Croatia (2017) General characteristics of nature parks in Croatia: <http://www.zastita-prirode.hr/Zasticena-priroda/Zasticena-podrucja/Parkovi-prirode> (accessed 20 March 2017)

<sup>2</sup> Nature Park Lonjsko polje (2017) Geographical location: <http://www.pp-lonjsko-polje.hr/> (accessed 20 March 2017)

<sup>3</sup> Nature Park Lonjsko polje (2017) The strategy of sustainable tourism development in Nature Park Lonjsko polje: [http://www.pp-lonjsko-polje.hr/new/media/ECST\\_STRATEGIJA\\_PPLP\\_hrv.pdf](http://www.pp-lonjsko-polje.hr/new/media/ECST_STRATEGIJA_PPLP_hrv.pdf) (accessed 20 March 2017)

<sup>4</sup> Nature Park Lonjsko polje (2017) General characteristics of Nature Park Lonjsko polje: <http://www.pp-lonjsko-polje.hr/> (accessed 20 March 2017)

animals such as white-tailed eagle and short-toed eagle, gray and white heron and black stork, which are extremely rare in Europe. Lonjsko polje is also known as spawning carp in Europe.<sup>5</sup>

In March 1990 Lonjsko polje became a nature park and in June 1994 the village Čigoč became European Village of Storks. Because of extraordinary good natural conditions we can see white stork nests almost on each house or a barn, so there are more storks than men.<sup>6</sup>

These resources require special protection of Nature Park areas and in that case the Management Board of the Nature Park defined the rules of behavior during their staying in the park (eg. prohibited from picking flowers, prohibited from driving in certain parts of the park, etc.).<sup>7</sup>

### *Nature Park Kopački rit*

Nature Park Kopački rit is located in the northeastern part of Croatia, on the wider geographical area of eastern Croatia. This is the flat part of the geographic regions of Baranja, within the Osijek-Baranja County, mainly lowland situated between the Drava and Danube rivers and the state border with Hungary. It stretches north from the Drava through the mouth of the Drava into the Danube and upstream on its left and right banks. The eastern border of the Nature Park has been found through the state border with the Republic of Serbia.<sup>8</sup>

On the right bank of the Drava, southwest of the Nature Park, is the city of Osijek, macro-regional center of the eastern Croatia and on the left bank is the suburb Podravlje. To the south and south-east are the villages Nemetin, Sarvaš, Bijelo Brdo and Aljmaš.<sup>9</sup>

The relief areas of Kopački rit is a result of water to the river and the floods area. As a river flows it creates bars and islands - ade - and backwater channels that are called 'dunavac' or 'stara Drava'. In contrast, the water in the flooded area in one place sediment silt, while in others they deepen the terrain thus giving the area its specific undulating look. That is how ponds and beams provided hundreds of meters next to each other. Ponds and beams are long and narrow and seen from the air have a specific curved appearance. There is a height difference between the ponds and beams. Ponds connect at the end through a natural channel called 'foka' and enter Dunavac or Dunav. Just natural foks are used for filling and unfilling the ponds. Foks were often artificially deepened and there are also artificially excavated canals took over the function of natural ones.<sup>10</sup>

Due to the exceptional natural value Kopački rit was included in the list of Ramsar sites in 1993. On that list are areas protected by the Convention on Wetlands of international importance, especially as Waterfowl Habitat, which was signed in the Iranian city of Ramsar (aka. Ramsar Convention) in 1971. On the basis of this Convention, Croatia is a full member since 1991 and nowadays almost 1,700 areas can be found on that list, covering over 150 million hectares. In addition to Ramsar, Kopački rit is on the list of IBAs (Important Bird Areas). This program was developed by BirdLife International (the global association for the protection of birds, their habitats and global biodiversity, that leads people to the sustainable use of natural resources) in order to design, monitor and protect a global network of areas that are important as habitat for birds and other biological diversity. Partners in the organisation take responsibility for the

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<sup>5</sup> Ibidem

<sup>6</sup> Ibidem

<sup>7</sup> Nature Park Lonjsko polje (2017) Rules of behavior in Nature park: [http://www.pp-lonjsko-polje.hr/new/hrvatski/pravila\\_ponasanja.html](http://www.pp-lonjsko-polje.hr/new/hrvatski/pravila_ponasanja.html) (accessed 20 March 2017)

<sup>8</sup> Nature Park Kopački rit (2017) General information: <https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

<sup>9</sup> Ibidem

<sup>10</sup> Nature Park Kopački rit (2017) Relief of Nature park: <https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

implementation of the program at the national level. Since 2004, more than 7,500 areas in over 170 countries are included in the list of IBAs.<sup>11</sup>

### 3. Application of accounting in sustainable development of nature parks

The concept of sustainable development can be interpreted in many different ways, but at its core can be defined as a change in the structure of global production and consumption that do not disrupt ecosystems. Today there is virtually no activity that does not affect the sustainable development. There are three basic principles of sustainable development, namely environmental, socio-cultural and economic sustainability.<sup>12</sup>

Environmental sustainability means the development that is compatible with the maintenance of ecological processes, biological diversity and resources. Since the natural resources and environment are the basics of tourism development, a key objective of this principle is a long-term environmental sustainability.<sup>13</sup>

Socio-cultural sustainability is a blend of social and cultural functions of tourism that results in reduction of social disparities among nations and the influence of tourist receiving countries to domestic and foreign visitors.<sup>14</sup>

Economic sustainability is based on "economically-efficient development that involves optimal managing of resources so that they can be used by future generations." Economic viability must contribute to all participants in the area to ensure a high quality of life in the present and the future.<sup>15</sup> The economic growth of any society is one of the main assumptions of his overall development. Cooperation between all stakeholders involved in the process of implementing the criteria of sustainable development in the area has the most significant impact on sustainable development of tourism.<sup>16</sup>

The principles of sustainable tourism development should be interconnected and coordinated. However, practice shows that the most vulnerable ecological principles of sustainable tourism development, even in protected areas. The economic interest of individuals and businesses driven only by profit and earnings leads to excessive construction, exploitation and degradation of attractive natural space which can endanger environmental sustainability of space. In the case of the Nature Park Lonjsko polje, we are witnessing the phenomenon of demolition, neglect and improper use of old wooden houses, destruction of flora and fauna, etc. Such attitude brings into question the sustainability of socio-cultural space and ultimately its long-term economic viability. It is therefore necessary to protect the natural and socio-cultural heritage of the area to be able to develop sustainable tourism in the present and the future.

It is required significant departure from the legacy of "industrial society" marked by the development based on increasing profits, and from the principle "the globalisation of society"

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<sup>11</sup> Nature Park Kopački rit (2017) Honors and awards:<https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

<sup>12</sup> Bartoluci, M. (2011): Planning and sustainable tourism development, in Čavlek, N. ed.: Tourism-economic principles and organisation system, Školska knjiga, Zagreb, pp. 415

<sup>13</sup> Bartoluci, M. (2013): Development management of tourism and entrepreneurship, Školska knjiga, Zagreb, pp. 133

<sup>14</sup> Ibidem, pp. 135

<sup>15</sup> Ibidem, pp. 137

<sup>16</sup> Krajinović, V. (2015): Propitivanje ključnih izazova u mjerenju održivog razvoja turizma, Acta turistica (27), No. 1, Faculty of Economics and Business, University of Zagreb, pp. 69

that followed the paradigm "or development or the environment", as more emphasis is placed on the paradigm of "development and the environment, but also to "the welfare of the people".

The principles of sustainable development at the level of strategic destinations require that accounting for responsible management provide relevant information for the optimal allocation of resources and achieve maximum efficiency with respect to economic, environmental and social components

Following the requirements of globalization processes, which require networking of all participants and their interactive effect on achieving sustainability, reports on sustainable developments should be designed to provide relevant information to all stakeholders.

The research started from the basic principles of sustainable development based on generally accepted and most used definition of the World Commission on Environment and Development - WCED (World Commission on Environment and Development), according to which sustainable development is defined as the development that "meets the needs of the present, and without compromising the ability of future generations to meet their own needs".<sup>17</sup>

Modern accounting should comply with the information requirements of management at all levels, rather to provide them fair view of the results of their decisions on the allocation of limited resources, positioning products and services to the target market, the assessment of the position in relation to competitors, meeting the needs and desires of customers, achieved level of cooperation with suppliers and valorization of the achieved degree of efficiency and effectiveness achieved in long and short term. Sustainable development is based on accounting and non-accounting information before making the request for the preparation of information on the position of destinations in the region, the implementation of the principle of sustainable development, the application of ethical principles as well as the socially responsible behavior in the community.

The sustainable development of tourist destination is the result of concerted action of all participants of the tourist offer, led by destination management, as management uses information of strategic accounting, based on the principles of sustainable development - that is socially responsible accounting.

Although the concept of strategic accounting - SMA (strategic management accounting) was introduced by Simmonds in 1981, it was as a subsystem management accounting began intensively to develop at the end of the 1980s to new techniques and approaches to regain lost relevance managerial accounting (Bromwich, 1988, 1990, 1991, 1992; Ham and Bhiman, 1989, 1994) which is mainly focused on costs and budgeting. Strategic Accounting is primary oriented to internal users, management, although the data provided are used for reporting to external users (owners, interest groups), while the information provided by the internal (of processes and practices within the company) and external (on all developments in the market that may have an impact on the business of the company). "Strategic Accounting is focused on the market and has the task to integrate knowledge from managerial accounting to signals from the market in strategic management framework".<sup>18</sup> The task of strategic accounting is that management provides information that will contribute to strengthening consumer confidence in the products and services of Nature Parks Lonjsko polje and Kopački rit with simultaneous consideration of

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<sup>17</sup>WCED-World Commission on Environment and Development (1987): Our Common Future. Oxford: Oxford University Press 57, pp. 43

<sup>18</sup>Roslender, R., Hart, S. J. (2003): In search of strategic management accounting: theoretical and field study perspectives, Academic Press, Management Accounting Research 14 (2003), pp. 260

costs across all functions in the value chain to provide greater value to the customer and thus strengthen the market position of nature park and ensure the management of business risks.

Strategic Management Accounting enables management the implementation of strategies into practice through measuring and monitoring the level of achievement of strategic objectives. "Unlike accounting of responsibility that aims to prepare the information of economic efficiency, the goal is to prepare strategic accounting information for the assessment of economic efficiency".<sup>19</sup>

Accounting for sustainable development should provide reliable information that management needs for sustainable development of enterprises. We are talking about a number of financial and non-financial information contained in the relevant aspects of the impact of business on the environment, society and strengthening market share in the long term. Today it is accepted thesis that the role of accounting supports sustainable development management to improve corporate sustainability and responsibility and can be viewed through philosophical and managerial perspective.<sup>20</sup>

Accounting data for sustainable development ensuring the management of social and environmental risks by identifying sources of efficiency and cost reduction which allows measuring the level of achievement of strategic objectives and benchmarking in assessing their own competitive advantages.

Accounting for sustainable development is complex because it "involves linking sustainability principles with the company's strategy with the assessment of risks and opportunities. It provides measurement of achievement by applying the accounting instruments through the incorporation of sustainability in the company's operations so that the strategy is viewed per day."<sup>21</sup>

What are the main objectives of sustainability, and how to report them, determines each destination individually, based on their own assessment of opportunities and risks as well as management's commitment to fairness and transparency of reporting. According to experts audit company PWC generic goals should be:

- reducing energy consumption, water, reducing waste and greenhouse gas emissions within the destination and the offering within its chain
- commitment to research and development through the promotion of research and development of products and services that contribute to environmental protection and the improvement of social relations
- setting the objective of revenue growth of eco-friendly products
- reducing costs by improving energy efficiency
- education of "talented workers"<sup>22</sup>

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<sup>19</sup>Gulin, D., Peršić, M. (2011), Upravljačko računovodstvo, Zagreb: Hrvatska zajednica računovođa i financijskih djelatnika, pp. 471

<sup>20</sup>Schaltegger, S., Burritt, R. (2010): Sustainability accounting for companies: Catchphrase or decision support for business leaders?, *Journal of World Business* 45, pp. 376

<sup>21</sup>AICPA - American Institute of CPAs (2016): [www.aicpa.org](http://www.aicpa.org) (accessed 20 March 2017)

<sup>22</sup>PWC – PricewaterhouseCoopers International Limited (2011): Creating value from corporate responsibility [www.pwc.com/us/sustainability](http://www.pwc.com/us/sustainability) (accessed 20 March 2017)

Further development of corporate social responsibility accounting has to follow the principles of financial accounting and to manage future risks in a socially responsible manner which requires that, in practice "integrated and are all defined qualitative attributes socially-responsible behavior in a standardised way how to do it in the model reporting traditional accounting".<sup>23</sup>

Accounting for sustainable development is a complex term that contains many different components. The most important segment of accounting for sustainable development is environmental accounting. However, accounting for sustainable development includes other segments, such as accounting cultural and historical heritage, investment in sustainable development projects in tourism and more. Therefore accounting environment as the most important component of sustainable development in tourism provides records and measures to protect resources in terms of sustainable development of tourism.

Today, there is an increasing need of travel destinations for reporting on the financial impact of environmental protection. This led to research possibilities of the accounting information system to provide relevant information that would greatly assist in the successful management of the environment. Studies have shown that the accounting information system in the majority of businesses are still too oriented to external users (financial accounting) rather than internal users (management accounting). Therefore, every business entity should develop their own specific methods of planning, monitoring and control of all relevant environmental costs (cost-benefit analysis). Such a model of cost accounting in the application of leads and some modern methods of cost accounting (target costing, life-cycle costing, ABC-method...)<sup>24</sup>

One of the basic assumptions of sustainable tourism development is certainly the preservation of environmental values which is always associated with the cost of investment in environmental protection and the positive financial effects of investment. Precisely accounting of environment has the task of encompassing and presenting relevant information on environmental protection through a variety of reports for internal and external users. In this way, such information becomes the basis for making business decisions. Include environmental costs associated with the investments necessary in order to respect the relevant regulations and measures.<sup>25</sup>

Accounting must provide the methodological basis of including the costs and effects of the ecological approach to energy resources in the internal work processes. So management demands that its accounting information system to inspect the elements of cost of investments in eco-actions, that the same could confront the expected benefits in order to improve relations with the environmental and economic point of view. Both accountants should work with all levels of management of nature reserves, especially with a person who is responsible for the environment that takes into account the achievement of environmental objectives. Its purpose is also to promote, encourage and organize training for the environment. In this way, all employees should be familiar with effective ways of saving water, energy, waste sorting, etc., which greatly affects the reduction of operating costs.<sup>26</sup>

Such training should help employees: how to identify activities related to environmental protection, to the idea of environmental protection available to the public, to develop internal

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<sup>23</sup>Lamberton, G. (2005): Sustainability accounting – a brief history and conceptual framework, School of Accounting Southern Cross University, Lismore, Australia, Elsevier Accounting Forum 29, pp. 23-24

<sup>24</sup>Peršić, M., Turičić, M.: A research on the accomplished development level of the managerial accounting in the Croatian hotel industry, Tourism and Hospitality Management, FTHM, WIFI, Wien, Opatija, Vol. 7. No.1-2, pp. 133 – 150

<sup>25</sup>Peršić, M.: "Računovodstvo okoliša i održivi razvoj turizma" (2005) Faculty of tourism and hotel management Opatija, Opatija, pp. 2

<sup>26</sup> Ibidem, pp. 2

information system staff to have a positive impact on the local community and to environmental education included in the regular educational system.<sup>27</sup>

This way, employees of the Nature Park transfer its environmentally friendly action to the guests by engaging in a variety of eco-action. So guests should be introduced to the areas of savings, be educated about the proper disposal of waste, collecting the ecological ideas of the guests.

One of the most common measures of environmental protection is the sorting of waste that applies most tourist businesses in Croatia. It is the measure that can be achieved in Nature Parks Lonjsko polje and Kopački rit so that all stakeholders are informed about which waste is useable, where it can be disposed of and what to watch out for.<sup>28</sup>

The costs of environment (ecological costs) are influenced by natural activities, access to creating a range of offers, the choice of the technological process and the equipment used in the way of achieving the goals of sustainable development, where the concern is the systematic reduction of negative environmental impacts, which must be balanced with the realisation pursuit of profitable operations.<sup>29</sup>

The term "environmental accounting" in the literature and practice includes "all the areas of accounting, which must be adapted to the new requirements in the enterprise, due to its orientation to the environment to the lowest level of the eco-accounting or green accounting". This level business system introduces financial and management accounting environment.<sup>30</sup>

Modern management accounting environment puts special emphasis on sub-accounting responsibilities, oriented to individual processes and activities, which is associated with the definitions of "green accounting" whose task is to prepare the information basis for evaluating management responsibility for actions taken in the area of improving attitudes towards the environment, improve management the costs of environmental protection, investment in clean technologies, the development of green processes and products and the design range offers, which will be based on environmental grounds and ensure optimal relation between value for money. Green accounting includes several key forms of reporting of which the best known is environmental reporting which enhances the reputation of the business system on the market, ensuring better communication with various stakeholders, provide a better risk management, etc. Such reporting is intended for various stakeholders: financial institutions, investors, customers, suppliers, partners, administrative and regulatory bodies, NGOs, etc.<sup>31</sup>

Such environmental actions should be coordinated at the level of destinations as nature parks can profitably operate only in the eco-environment.

#### **4. Analysis of primary accounting study on the role and activities in the sustainable development of Nature Park Lonjsko polje**

This part of the paper shows the analysis results of primary research conducted through a structured personal interview in the Nature Park. The survey was conducted 8. 7. 2016 through

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<sup>27</sup> Ibidem, pp. 4

<sup>28</sup> Ibidem, pp. 5

<sup>29</sup> Graff, R.G., Reiskin, E.D., White, A.L., Bidwell, K.: Snapshots of Environmental Cost Accounting, United States Environmental Protection Agency Office of Pollution Prevention & Toxics Environmental Accounting Project, 1998., p.2: <http://www.epa.gov/cgi-bin/cliprint?Range=Pages&StartPage=5&EndPage=25&Res> (accessed 20 March 2017)

<sup>30</sup> Gray, R., Bebbington, J: Accounting for the Environment, SAGE Publications, London, 2003, pp. 7

<sup>31</sup> Boje, D. M.: What are Green Accounting Concepts and Measures?: <http://web.nmsu.edu/dboje/TDgreenconcepts.html> (accessed 20 March 2017)



three interviews involving the director of the Nature Park, Chief Accountant and expert Nature Park for the protection of resources. The below are the results of primary research. . The below are the results of primary research.<sup>32</sup>

Experts of the Nature Park have a very big role in the protection of natural and social resources of the Nature Park, especially the director, as can be concluded from the structured interview. As for the natural resources in entering wildlife, their protection is not satisfied. According to experts, plant life is not adequately protected as they argue generally low level of protection of such resources in the nature parks to the current legislation in Croatia. Unfortunately, neither wildlife Nature Park is not adequately protected. The reason for this is not legislation, but a lack of adequate human resources that would care about the protection of these resources in such protected areas in Croatia.

Unlike natural resources, social resources are relatively safer, but still not enough. Although the architectural heritage in the Nature Park is relatively well protected, only declarative emphasis on the need to protect the cultural heritage is not enough. It is therefore necessary, when eg. A Posavina wooden architecture initiate the process of revitalisation and cultural heritage, as though the wooden houses are protected as cultural heritage, due to the extremely costly restoration of these houses they are left to the "ravages of time" and fail, and they bow down by themselves. To achieve this, it should initiate projects for the reconstruction of these houses in which order to use EU funds.

In addition to architectural heritage, community resources are also the intangible cultural heritage. It is not adequately protected, because there are no programs to protect intangible cultural heritage on the territory of the Nature Park, but it is here left to individuals and some organisations that care about its protection. In any case lacks a plan for their protection at the Public Institution Nature Park.

Accounting does not yet have an adequate role in the recording of the resources of the Nature Park because most of these resources can not be financially recorded. Audit of financial statements has no adequate role in the elimination of irregularities which have occurred in the resources for the exclusive orientation on the financial statements which are not accounted for all the resources.

Nature Park could achieve better economic effects if the liberal regulate environmental protection measures in the nature park. Although it was pointed out that the natural, especially social resources are not protected to the extent that would be necessary to preserve the existing state for future generations, and to achieve their environmental sustainability, some safeguards are in turn too rigorous. According to experts, getting approval for the arrangement of public beach at some locations on the Sava river or arranging coast to the backwaters requires very complex work in getting all the necessary approvals (conservatory, Croatian Waters, Water Agency, Croatian Forests), and is known in the case of Krka National park, which according to the category of protection area represents a higher level of protection of nature parks in Croatia, that such action is legally permitted in the protected areas of nature. A similar problem occurs with breeding of wild animals (their killing practices for which the consent given hunting society), and the cultivation and exploitation of plant life.

As a major step in improving the operations of the Public Institution Nature Park Lonjsko polje, the experts of Nature Park propose drawing up a detailed plan for the development of tourism and other economic activities in the Nature Park with an indication of financing sources. In

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<sup>32</sup> Author' July 2016



addition, one of the main sources of financing of these development programs can be provided by EU funds, to which should also be work.

The entire series is legally permitted economic activities carried out in the Nature Park Lonjsko polje such as: hunting, fishing, logging, wood processing, selling wood, animal husbandry, cultivation of field crops, retail, manufacturing and sales of souvenirs, entrance fees for museum, boat cruises, production of indigenous food products (cheese, honey and etc.) and a range of hospitality services (accommodation, meals, ticket sales, sale of souvenirs in the gift shop, etc.). Most of these activities is under the jurisdiction of the Public Institution Nature Park and only a small part performs local population. This is due to the ownership structure where most of the terrain is owned by Public Institution Nature Park (95%), while only 5% is privately owned.

The environmental principles are applied in the Public Institution Nature Park in the following manner. While using recycled paper, solar energy and ships to transport passengers to the electric drive, the Public Institution Nature Park is not carried out the classification of waste, nor its disposal in various containers by type of waste, as neither the training of staff of the need to save energy. This approach to business also would be included in the development plan for Nature Park because only on such grounds would in future be carried out operations Public facilities which would thus most itself contributed to the sustainable development of this nature park.

## **5. Conclusion**

Based on the findings that have been reached in this paper, it is possible to make certain conclusions and recommendations.

Nature parks are one of the biggest tourist attractions in Croatia, but have not yet used all their potentials for tourism development. This is especially the case with the Nature Parks Lonjsko polje and Kopački rit which have untapped potential for tourism development. The principles of sustainable development in nature parks can be recognised as socially responsible behavior or way of thinking of the future, philosophy of life and business in which it contributes to the development of internal and external environments.

One of the basic assumptions of sustainable tourism development is certainly the preservation of environmental values which is always associated with the cost of investment in environmental protection and the financial effects of investment. Accounting plays an important role in the sustainable development of natural parks through various segments of records and reporting resources. In recent years increasingly used sustainability reporting, which is in its initial stages of development in Croatia. Today there is still no effective model of reporting on sustainable development, so that every tourist destination itself develops its own form of reporting on sustainable development. Globalisation society is gradually changing the paradigm "or development, or the environment" in the paradigm "development and the environment", but on the basis of a compromise of all stakeholders in sustainable development.

Precisely accounting of environment has the task of encompassing and presenting relevant information on environmental protection through a variety of reports for internal and external users. In this way, such information becomes the basis for making business decisions. Include environmental costs associated with the investments necessary in order to respect the relevant regulations and measures.

Socially responsible behavior in destinationis based on the principles of sustainable development, on the way to achieving the strategic objectives defined and with rational spending

of all available resources, with particular emphasis on the care of preserving and protecting the environment.

Making profit at any cost is not in the foreground in the nature park, but the management consider achieving a satisfactory rate of profit by reducing waste, reducing environmental emissions, increasing the use of renewable energy sources with employee satisfaction and confidence of other stakeholders.

Accounting for sustainable development is a complex term that contains many different components. It represents the level of development of managerial accounting that takes into account the information requirements of the destination management and all stakeholders in the region. The most important segment accounting for sustainable development is environmental accounting. However, accounting for sustainable development includes other segments, such as accounting cultural and historical heritage, investment in sustainable development projects in tourism and more. Therefore accounting environment as the most important component of sustainable development in Nature Parks should provide evidence and measures to protect resources in terms of sustainable development of tourism.

Socially responsible accounting in nature parks should put a special emphasis on component accounting of environment and accounting of quality.

Such a concept of sustainable development can not be achieved in the short term, but with a long-term application of such models records resources, valuation of assets and the key factors of sustainable development, it may be achievable.

Therefore every nature park should develop their own specific methods of planning, monitoring and control of all relevant environmental costs.

One of the most important measures to preserve the environment in the nature parks is sorting waste which applies most tourist businesses in Croatia. It is here that the measure can be achieved in the Nature Parks Lonjsko polje and Kopački rit so that all stakeholders are informed about which waste is useable, where he disposed of and what to watch out for. Such environmental actions must be coordinated at the level of destination because they can operate successfully only in the eco-environment.

The role of accounting in nature parks is to prepare an information base for management with the aim of taking action in the area of improving the approach to the environment, improving cost management ecology, investment in clean technologies, the development of green processes and products and the design range offers, which will be based on the environmental foundations and ensure optimal relation between value for money.

## REFERENCES

Bartoluci, M. (2011): Planning and sustainable tourism development, in Čavlek, N. ed.: Tourism-economic principles and organisation system, Školska knjiga, Zagreb

Bartoluci, M. (2013): Development management of tourism and entrepreneurship, Školska knjiga, Zagreb

Gray, R., Bebbington, J: Accounting for the Environment, SAGE Publications, London, 2003

Gulin, D., Peršić, M. (2011), Upravljačko računovodstvo, Zagreb: Hrvatska zajednica računovođa i financijskih djelatnika

Krajinović, V. (2015): Propitivanje ključnih izazova u mjerenju održivog razvoja turizma, Acta turistica (27), No. 1, Faculty of Economics and Business, University of Zagreb

Lamberton, G. (2005): Sustainability accounting – a brief history and conceptual framework, School of Accounting Southern Cross University, Lismore, Australia, Elsevier Accounting Forum 29

Peršić, M., Turičić, M.: A research on the accomplished development level of the managerial accounting in the Croatian hotel industry, Tourism and Hospitality Management, FTHM, WIFI, Wien, Opatija, Vol. 7. No.1-2

Peršić, M.: “Računovodstvo okoliša i održivi razvoj turizma“ (2005) Faculty of tourism and hotel management Opatija, Opatija

Roslender, R., Hart, S. J. (2003): In search of strategic management accounting: theoretical and field study perspectives, Academic Press, Management Accounting Research 14

Schaltegger, S., Burritt, R.(2010): Sustainability accounting for companies: Catchphrase or decision support for business leaders?, Journal of World Business 45

WCED-World Commission on Environment and Development (1987): Our Common Future. Oxford: Oxford University Press 57

#### **Internet sources:**

AICPA - American Institute of CPAs (2016): [www.aicpa.org](http://www.aicpa.org) (accessed 20 March 2017)

Boje, D. M.: What are Green Accounting Concepts and Measures?: <http://web.nmsu.edu/dboje/TDgreenconcepts.html> (accessed 20 March 2017)

Graff,R.G., Reiskin,E.D., White,A.L., Bidwell,K.: Snapshots of Environmental Cost Accounting, United States Environmental Protection Agency Office of Pollution Prevention & Toxics Environmental Accounting Project, 1998., p.2: <http://www.epa.gov/cgi-bin/c/print?Range=Pages&StartPage=5&EndPage=25&Res> (accessed 20 March 2017)

Nature Park Kopački rit (2017) General information: <https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

Nature Park Kopački rit (2017) Honors and awards: <https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

Nature Park Kopački rit (2017) Relief of Nature park: <https://pp-kopacki-rit.hr/> (accessed 20 March 2017)

Nature Park Lonjsko polje (2017) General characteristics of Nature Park Lonjsko polje: <http://www.pp-lonjsko-polje.hr/> (accessed 20 March 2017)

Nature Park Lonjsko polje (2017) Geographical location: <http://www.pp-lonjsko-polje.hr/> (accessed 20 March 2017)

Nature Park Lonjsko polje (2017) Rules of behavior in Nature park: [http://www.pp-lonjsko-polje.hr/new/hrvatski/pravila\\_ponasanja.html](http://www.pp-lonjsko-polje.hr/new/hrvatski/pravila_ponasanja.html) (accessed 20 March 2017)

Nature Park Lonjsko polje (2017) The strategy of sustainable tourism development in Nature Park Lonjsko polje: [http://www.pp-lonjsko-polje.hr/new/media/ECST\\_STRATEGIJA\\_PPLP\\_hrv.pdf](http://www.pp-lonjsko-polje.hr/new/media/ECST_STRATEGIJA_PPLP_hrv.pdf) (accessed 20 March 2017)

Nature parks in Croatia (2017) General characteristics of nature parks in Croatia: <http://www.zastita-prirode.hr/Zasticena-priroda/Zasticena-podrucja/Parkovi-prirode> (accessed 20 March 2017)

PWC – PricewaterhouseCoopers International Limited (2011): Creating value from corporate responsibility [www.pwc.com/us/sustainability](http://www.pwc.com/us/sustainability) (accessed 20 March 2017)

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## **FINANCIAL LITERACY OF THE STUDENT POPULATION IN PROFESSIONAL STUDIES OF THE COLLEGE OF TOURISM AND IT MANAGEMENT IN VIROVITICA**

### **FINANCIJSKA PISMENOST STUDENSKE POPULACIJE NA STRUČNIM STUDIJIMA VISOKE ŠKOLE ZA MENADŽMENT U TURIZMU I INFORMATICI U VIROVITICI**

#### ***ABSTRACT***

*The problem of financial literacy has recently been given a great attention on the global, as well as national scale. The financial literacy of citizens depends on the financial education of the individual, regardless of their age. The complexity of financial products and services is becoming more distinct and it represents a challenge for the holders of the educational policy. Although there exist strategic documents with the aim of creating a basis for the complete involvement of the financial education into the educational processes on the national level, it is of a great importance to encourage active stakeholders engaged in the financial areas to intervene in the mutual activity and the promotion of financial literacy. The aim of this paper is thus to analyze the existent works and the present research on the financial literacy of citizens, as well as students and to examine and analyze the level of the financial literacy among the students in the professional studies of the College of Tourism and IT Management in Virovitica by means of a questionnaire, i.e. to collect the data about their attitudes, knowledge, financial behavior, as well as their attitude towards spending money. Since the focus of this work is placed on the professional studies, the paper will determine the students' attitudes on how the obligation of implementation of professional practice, field works and holding guest lectures by experts from the financial field can contribute to the strengthening of financial literacy among students, which is also a specific aim of this work. Based on the results obtained by the research, the authors will draw conclusions that will be a possible base for the improvement and/or revision of the existent study programs in part of the financial courses that are currently being held at the institution. The authors will also define recommendations for strengthening the financial literacy of students of the professional studies at the College so they can implement the obtained knowledge considering the making of financial decisions and in order for them to develop their consciousness of the financial possibilities further, taking into consideration all the possible risks.*

**Key words:** *financial literacy, professional studies, financial courses, students, financial education*

## SAŽETAK

*Problematici financijske nepismenosti u posljednje vrijeme sve se više pridaje pažnja kako na globalnoj tako i na nacionalnoj razini. Financijska pismenost građana bez obzira kojeg su uzrasta ovisi o financijskom obrazovanju pojedinaca. Složenost financijskih proizvoda i usluga svakodnevno postaje sve izraženija te predstavlja izazov za nositelje obrazovne politike. Iako na nacionalnoj razini postoje strateški dokumenti kojima je cilj stvoriti podlogu za cjelovitu uključenost financijskog obrazovanja u obrazovne procese od velike je važnosti poticati uključenost aktivnih dionika koji se bave financijskim područjima na zajedničko djelovanje i promicanje financijske pismenosti. Stoga je cilj rada analizirati postojeću literaturu i dosadašnja istraživanja o financijskoj pismenosti te pomoću anketnog upitnika istražiti razinu financijske pismenosti studenata na stručnim studijima Visoke škole za menadžment u turizmu i informatici u Virovitici odnosno prikupiti informacije o njihovim stavovima, znanju, financijskom ponašanju te odnosu prema trošenju novca. Također će se analizirati zastupljenost financijskih kolegija u okviru studijskih programa na Visokoj školi, a na temelju dobivenih rezultata istraživanja donijeti će se zaključci koji će biti moguća podloga za poboljšanje i/ili revidiranje postojećih studijskih programa u dijelu financijskih kolegija koji se trenutno izvode na instituciji. Budući da se radi o stručnim studijima nužno je utvrditi koliko obveza provođenja stručne prakse, terenske nastave te održavanje gostujućih predavanja stručnjaka iz financijskog sektora može pridonijeti jačanju financijske pismenosti studenata. Na temelju rezultata istraživanja definirati će se preporuke za jačanje financijske pismenosti studenata stručnih studija na Visokoj školi kako bi svoje stečeno znanje mogli primijeniti pri donošenju financijskih odluka te kako bi i dalje razvijali svoju svijest o financijskim mogućnostima uzimajući u obzir sve potencijalne rizike.*

**Ključne riječi:** *financijska pismenost, stručni studiji, financijski kolegiji, studenti, financijsko obrazovanje*

### 1. Introduction

The research and the issues of financial literacy of citizens has recently been gaining an increased significance. Financial literacy represents a process by which the financial customers and consumers improve their understanding of finances, but also develop the needed skills and security by taking into consideration the available data, as well as the omnipresent risks and potential opportunities that are being offered. Financial education is the key element and the factors that increase its significance encompass the following: the complexity of financial products and services, the increase in the number of financial products, the expected increase in the number of lifetime, changes during the retirement and the low level of financial literacy (OECD, 2005, 11-13). The international comparability of financial literacy enables the raise in the awareness of the importance that financial literacy has among countries and offers additional possibilities of its improvement.

The complexity of financial products and services is becoming more pronounced on a daily basis and it represents a challenge for the holders of the educational policy. Although there exist strategic documents with the aim of creating a basis for the complete involvement of the financial education into the educational processes on the national level, it is of a great importance to encourage the active stakeholders engaged in the financial areas to intervene in the mutual activity and the promotion of financial literacy. The Republic of Croatia has first implemented the National Strategy for Financial Literacy during 2015. In the framework of the National Strategic

Framework of financial literacy of consumers from 2015 to 2020, financial literacy was defined as an ability of the individual to make suitable decisions that influence the management of personal, i.e. family finances, while the term financial education represents a process directed towards raising financial literacy by means of developing programs of financial education. What is more, certain measures and activities for raising the level of financial literacy of all the citizens of the Republic of Croatia were prescribed by the Action Plan for Improving Consumer Financial Literacy. That same document defines the cooperation with the institutions of higher education through professional lectures held for students as one of the measures.

The overall aim of this paper is thus to analyze the existent sources and previous research on financial literacy and to examine the level of financial literacy of students of the professional studies of the College of Tourism and IT Management in Virovitica by means of a questionnaire, i.e. to collect data about their attitudes, knowledge, financial behavior, as well as their attitude towards spending money. Based on the results obtained by the research, the authors will draw conclusions that will be a possible base for the improvement and/or revision of the existent study programs in part of the financial courses that are currently being held at the institution. Since the focus of this work is placed on the professional studies, it is necessary to determine how the obligation of implementing professional practice, field works and holding guest lectures by the experts from financial fields can contribute to the strengthening of financial literacy of students, which is also a specific aim of this work.

The paper is structured in four parts including the introductory part that defines the aims of the research. The second part represents a theoretical framework and introduces previous research of financial literacy of citizens and students on the international, as well as the national scale. The third part of the paper defines the methodology of the research with a clarification research instrument of a questionnaire and it introduces the results of the quantitative study conducted on a student population at the College of Tourism and IT Management in Virovitica. In the last part of the paper the authors have introduced the conclusions of the topic and given the recommendations for further research.

## **2. Theoretical frameworks and previous research of financial literacy**

“Financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life” (OECD, 2014, 33). Atkinson and Messy (2012) state that financial knowledge, i.e. financial behavior and the attitude towards money, as well as attitudes and preferences of the individual are the key for measuring financial literacy. In the framework of OECD/INFE pilot study, the authors have conducted a research in 14 countries and 4 continents during 2010 and 2011 by means of a questionnaire created by the OECD International Network on Financial Education (INFE). The research has shown that there is a positive connection between the financial knowledge and the behavior of individuals, i.e. that individuals with a higher level of financial knowledge also show more positive tendencies towards money. Financial education can be of a great help for improving financial literacy in a way of increasing the financial knowledge, abilities and attitudes, and it can also restore the confidence in financial markets in order to maintain financial stability. One of the methods is the introduction of compulsory financial education in schools, but also at the workplace in the framework of certain focus groups, seminars and alike. The OECD/INFE research are based on the research of financial literacy of certain population groups categorized as young population, women, older population, micro, small and medium businesses, population of the rural area, etc. (OECD/INFE, 2015). The last research on financial literacy of citizens that also concluded the Republic of Croatia (n=1049) was conducted in thirty countries on the total sample of 51.650



respondents in the second half of 2015, and it examined the financial literacy of citizens aged 18 to 79 in order to gain insight into the financial literacy of the population, their financial behavior, financial knowledge and their attitudes on the long-term financial planning. The results have indicated the overall level of financial literacy to be fairly low and that the average level of financial knowledge opens space for additional improvements despite the fact that there is a great difference among the countries that participated in the study. According to conclusions of the OECD research on financial literacy from 2016<sup>1</sup>, the overall low level of financial literacy among citizens emphasizes the significance of the financial education at all levels of elementary, secondary and high education. If these recommendations are taken into consideration, that would allow the future generations to obtain the knowledge and skills necessary for financial literacy from the earliest age. Furthermore, public authorities should search for the ways of strengthening the knowledge and skills of adults by means of the combination of the financial education and other national policies (OECD, 2016). According to the results obtained by the conducted research, the average grade of financial literacy in the Republic of Croatia amounts to 11.7 out of 21 points, provided that the citizens under 19 years of age (9.3%) accomplished the lowest financial literacy, while the highest level of financial literacy was accomplished by citizens with college or university degrees (12.8%)<sup>2</sup>. Vehovec, et. al. (2015) have conducted a research on the status of financial literacy of Croatian citizens aged 18 to 65 at the regional level during 2015 on the sample of 900 respondents. That research has indicated that financial literacy in the Republic of Croatia is not significantly dependent on the regional affiliation, but that the differences can be explained by other sociodemographic variables such as household income, education and employment status.

The greatest number of research is aimed at researching financial literacy of citizens and school students, however the examination of financial literacy of college students is rarely considered. Croatia has participated in a research conducted by PISA 201 that examined the financial literacy of 15-year-olds in schools in 18 countries. The obtained data on financial literacy of 15-year-olds indicated that the Republic of Croatia was below the OECD considering the financial literacy of students (OECD, 2014, 57-58). The research of financial literacy among the college students on an international level indicated that the student population overall has an average or below average level of financial knowledge (Volpe et al. (1996), Furtuna (2008), Chan, Volpe (1998), Siew-Yong Yewa et al. (2017). Bongini, et al. (2012) claim that the research of Italian students on financial literacy at the University of Economics in Milan has shown that the students possess a limited level of financial literacy.

With respect to the Republic of Croatia, a research on financial literacy has been conducted on the student population of the University of Zagreb. Among other, the research has indicated that formal financial education in Croatia contributes significantly to the improvement on the level of financial literacy of students (Anđelinović, et al., 2016). Considering the fact that students, once they have graduated from high school and enrolled at higher education, are faced with making financial decisions during the short-term and long-term planning in the framework of their possibilities, it is indeed needed to make a contribution to raising their financial literacy through lectures that deal with finances and similar lectures. Altman (2012) claims that the financial education will contribute to the best implementation of the obtained information in a given surrounding when it comes to making significant decisions. Since there is a direct casual connection between the financial education and outcome, it can be concluded that more advanced

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<sup>1</sup> More on the research results for the Republic of Croatia, but also for other countries involved in the study can be found at: <http://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>

<sup>2</sup> Croatian National Bank, Croatian Financial Services Supervisory Agency, Ministry of Finance of the Republic of Croatia (2015): Measuring Financial Literacy and Financial Inclusion in Croatia, Ipsos Public Affairs. [http://potrosac.mingo.hr/slike/dokumenti\\_3/g2016/m02/x1415483098985550.pdf](http://potrosac.mingo.hr/slike/dokumenti_3/g2016/m02/x1415483098985550.pdf) (accessed 07 March 2017).



levels of financial literacy can lead to positive changes in behavior in terms of money management, portfolio selection, participation in a stock market and alike (Braš Roth, et al., 2014).

### 3. Methodology and research results

OECD/INFE (2011) and OECD/INFER(2015) has enabled the research of financial literacy among countries by means of the methodology of research (methodological guide) that includes the sociodemographic components, knowledge, financial behavior and attitudes, as well as the familiarity with financial products and services. The purpose of the mentioned methodology is the international comparability, but this methodology can also be used for the purpose of personal analyses.

The research conducted at the College of Tourism and IT Management in Virovitica encompassed all the students (first enrollment, repeated enrollment and part-time students) with the exclusion of students who have completed their studies but not yet graduated- the total of  $N=361^3$  students who were enrolled in the academic year of 2016/2017. The data were collected by means of a questionnaire on the sample of  $n=322$  respondents of all courses of professional undergraduate and graduate studies. The quantitative research was conducted in the timespan from March 6 to March 17 2017, and the results are shown by means of descriptive statistics. The research was conducted during the beginning of the second semester in order for students who had attended certain financial courses in the winter semester of 2016/2017 to be able to participate in the research. Since OECD (2011, 2015) characterizes the financial knowledge, financial behavior and the attitude towards spending money as the main components of financial literacy, this research used the methodology of the OECD with certain adjustments made in questions, as well as the methodology developed by Andelinović et al., 2016. Moreover, certain questions that were crucial for obtaining the data needed for the interpretation of the specific aims of the research were also added to the research.

The research was conducted by a combination of group and individual surveys (Bedeković, 2011). The researchers first conducted a group survey on the student population in the first week of the research and the second week of the research included individual surveys of students that have not participated in the research until that time due to the fact that the record and the number of students present on each course was considered before the implement of the survey itself. The research method was defined beforehand in order to exclude the possibility of students using the data available on the Internet while answering the survey questions and in order to obtain an objective result of the research. The survey was structured into five parts<sup>4</sup>. In the first three parts of the survey, the authors used the methodology of the OECD for measuring financial literacy (OECD/INFE, 2011), which includes the components of Knowledge in eight categories in order to determine the correct and incorrect answers correctly and to evaluate the understanding and application of knowledge. For the components Attitudes and beliefs and Behavior, the authors have used a Likert type value scale ranging from the intensity of 1- I completely disagree to 5- I completely agree, where Attitudes and believes stated subjective opinions that can be subject to change and that were tested by means of questions that examined how rational the respondents' attitude towards finances is and how they go about dealing with money in the long term. For the purpose of this paper, this component was complemented with additional five questions in order to obtain the answers that would corroborate the specific aims of the research. The questions consider the representation of financial courses at the College and the questions whether these

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<sup>3</sup> According to the data from the Student Service of the College

<sup>4</sup> According to: Mišević, D., Pavković, A. and Šoštarić A. (2016): Modelling of financial literacy of students of the University of Zagreb: analysis, perspectives and suggestions for the future, University of Zagreb, Faculty of Economics and Businesses, Zagreb and Andelinović, M., Pavković, A., Mišević, D. (2016): Measuring Financial Literacy of Students at the University of Zagreb, EFZG working paper series Nr. 16-10, University of Zagreb, Faculty of Economics and Businesses, pp. 1-20.

financial courses should be adapted to the contemporary methods of finance management. Moreover, the authors also wished to examine the respondents' attitude towards the obligatory professional practice, field work and guest lectures. The component Behavior entailed nine questions that evaluated the financial behavior connected to the consideration of whether a person can afford a certain thing before buying it, how much attention the person gives to due debts, how much he/she contributes to paying the rent, active saving, the awareness of the need of long-term savings, whether the person uses non-cash means of payment, whether he/she considers the offers of a larger number of financial institutions while choosing a financial product or service, the desire for investment into financial assets and the desire for the expansion of financial knowledge. The fourth part of the survey examined the practical knowledge of students (Andelinović et al., 2016). This part consisted of five questions that tested the managing of everyday situations, and the method of grading was the same as in the component Knowledge since there was only one right answer. The fifth part of the survey regarded the sociodemographic characteristics of the respondents with the total of nine questions shown in Table 1.

*Table 1 Sample characteristics, n=322*

| Variable       | Category   | n     | %     |
|----------------|--|-------|-------|
| Sex            | M  | 124   | 38.51 |
|                | F  | 198   | 61.49 |
| Age            | 17-20  | 97    | 30.12 |
|                | 21-24  | 204   | 63.35 |
|                | 25-28  | 13    | 4.04  |
|                | 29 and beyond                                    | 8     | 2.49  |
| Study program  | <b>Undergraduate professional studies:</b>       |       |       |
|                | Management                                       | 146   | 45.34 |
|                | Entrepreneurship                                 | 66    | 20.50 |
|                | Computing  | 28    | 8.69  |
|                | <b>Graduate professional studies:</b>            |       |       |
| Management     | 82   | 25.47 |       |
| Field of study | <i>IT management</i>                             | 75    | 23.29 |
|                | Management of rural tourism                      | 71    | 22.05 |
|                | Enterprise services                              | 66    | 20.50 |
|                | Software engineering                             | 28    | 8.70  |
|                | Destination management                           | 32    | 9.94  |
|                | Management of small and medium-sized enterprises | 50    | 15.52 |
| Year of study  | <i>Year 1</i>                                    | 115   | 35.71 |
|                | Year 2   | 62    | 19.25 |
|                | Year 2   | 63    | 19.57 |
|                | Year 4   | 37    | 11.49 |
|                | Year 5   | 45    | 13.98 |

*Source: authors' calculations*

The students of the graduate professional study of Management of small and medium-sized enterprises obtained the highest percentage, and considering the undergraduate studies, the highest score was obtained by students of the field of Enterprise services. The worst percentage at the professional studies of the College can generally be seen among students of IT management. 58% of the students declared that they lived in a rented house or an apartment during their studies. The survey did not offer the possibility of student dorms since the dorm is still in the construction phase. Moreover, 50.38% of students have working experience although only 8.59% of the students enrolled as part-time students in the academic year of 2016/2017. The financial status of students is shown in Table 2. Most of the students responded correctly to the question from the category of risk diversification- 86.65% of them, and the least number of correct answers was in the category of calculating the amount of value-added tax where only 30.34% of students replied correctly. Students of graduate professional study of Management of small and medium-sized enterprises scored the most correct answers, which is understandable since they have attended all

the financial courses including the course Tax system and company taxation which is being held in the second semester of the graduate professional studies. Although the undergraduate students of the field Enterprise services have also attended the course Tax system in the fifth semester of their studies, their answers in the category of questions considering taxes were mostly incorrect (86% of incorrect answers).

**Table 2** Financial knowledge of students

| Financial term                     | Correct answers |       | Incorrect answers |       |
|------------------------------------|-----------------|-------|-------------------|-------|
|                                    | n               | %     | n                 | %     |
| Time value of money                | 241             | 74.84 | 81                | 25.16 |
| Risk diversification               | 279             | 86.65 | 43                | 13.35 |
| Simple interest account            | 258             | 80.12 | 64                | 19.88 |
| Compound interest account          | 145             | 45.03 | 177               | 54.97 |
| Exchange rate                      | 138             | 42.86 | 184               | 57.14 |
| Percentage account, taxes          | 98              | 30.43 | 224               | 69.57 |
| Interdependence of risk and return | 230             | 71.42 | 92                | 28.58 |
| Inflation                          | 155             | 48.14 | 167               | 51.86 |

Source: authors' calculation

Table 3. shows attitudes and beliefs and the students' behavior where the students have voiced their subjective opinions. The meaning of value 1 is 'I completely disagree', while the value 5 represents the meaning 'I completely agree'. The authors have calculated the arithmetic mean based on the obtained values.

**Table 3** Attitudes and beliefs and the students' behavior

|  | Arithmetic mean |
|--|-----------------|
| <b>Attitudes and beliefs</b>   |                 |
| I consider myself an economical person.  | 3.98            |
| I think that people should live for today and not think too much about the future.   | 4.69            |
| I think that I should do my best to someday be able to offer my family the best possible quality of life.  | 4.02            |
| The financial courses that I have attended so far are not sufficiently adjusted to the contemporary methods of finance management.   | 3.92            |
| The financial courses that I will attend or have attended are represented sufficiently at the College.   | 3.49            |
| The performance of professional practice will contribute to the strengthening the financial literacy of students   | 4.02            |
| The participation in field work will contribute to the strengthening of the financial literacy of students.  | 3.80            |
| Guest lectures of experts from the financial sector can raise the level of financial literacy of students  | 4.23            |
| <b>Behavior</b>  |                 |
| Before buying something, I consider closely whether I can afford it.   | 3.26            |
| I do not give much attention to settling my debts on time.   | 2.90            |
| When I have the possibility, I contribute to the payment of my accommodation.  | 4.69            |
| I always spare a part of my income for savings.  | 4.02            |
| When I am employed, I plan to spare a certain part of my income for a long-term saving because I consider it important.  | 4.15            |
| I have the possibility, I pay for my expenses with a credit and/or debit card.   | 2.86            |
| When I am selecting a certain financial product or service (e.g. student loan or saving), I generally do not consider the offers of a larger number of financial institutions. | 3.26            |
| If I had more money, I would invest it in stocks or bonds.   | 4.69            |
| I am very interested in expanding my financial knowledge.  | 4.23            |

Source: authors' calculation

Since the middle value of the last claim in Table 3. amounts to 4.23, it can be concluded that students are willing to expand their financial knowledge and financial literacy. Courses that cover

finances and are adapted to the contemporary methods of finance management can certainly help them to achieve that. Guest lectures of financial experts and organizing various educational workshops will surely contribute to the understanding of finances. Table 4. shows the results of the responses considering the practical knowledge of students. The greatest level of practical knowledge of students at the College was shown in the category *Transaction accounts* where 81.36% of students responded the question correctly and the lowest level of practical knowledge was shown in the category of *Interest rates on selected loans*, where only 41.30% of students answered the question correctly.

**Table 4** Practical knowledge of students

|                                  | Correct answers |       | Incorrect answers |       |
|----------------------------------|-----------------|-------|-------------------|-------|
|                                  | n               | %     | n                 | %     |
| Percentage account, discount     | 209             | 64.91 | 113               | 35.09 |
| Transaction account              | 262             | 81.36 | 60                | 18.64 |
| Risk forms of financial assets   | 198             | 61.49 | 124               | 38.51 |
| Tax reliefs                      | 175             | 54.35 | 147               | 45.65 |
| Interest rates on selected loans | 133             | 41.30 | 189               | 58.70 |

Source: authors' calculation

#### 4. Conclusion

Since making financial decisions has become a highly complex question today due to the increasingly complex offer of financial products and services, constant changes in economic systems, and numerous uncertainties and risks, it is of a great importance to improve the needed level of financial literacy by means of financial educations, since the knowledge presents the dimension that determines the level of financial literacy in the greatest manner. The research that was conducted at the College in Virovitica has indicated that students of the fifth and fourth years of studies, more precisely students of Management of small and medium-sized enterprises have the highest level of financial consciousness. Precisely these students have attended the greatest number of financial courses in comparison to their peers from other fields of study. At the undergraduate level, students of Enterprise services had more correct answers in comparison to other fields of study at the undergraduate level. The fact is that they also attend the biggest number of financial courses (Financial mathematics, Accounting bases, Business finances, Tax system, Financing of entrepreneurial project) divided through six semesters. Since we are considering professional studies, the financial courses need to be adapted to students on one hand and to the labor market needs on the other. The forthcoming research of financial literacy should also encompass other related professional studies in the Republic of Croatia so that the obtained data can be compared and so that a possible common model of financial literacy can be made. It would also be of use to determine the casual links between certain research variables. The authors' recommendations for increasing financial literacy are the inclusion of financial courses such as business finance, tax system or other similar courses that could cover all the areas of financial literacy into the study fields where these courses have not been represented hitherto. The College students could thus improve their financial literacy and ultimately manage their finances with more success. It would be a good idea to conduct a research on financial literacy at the College of Tourism and IT Management every three to five years in order to obtain data on the potential progress.

#### REFERENCES

Altman, M. (2012.): *Implications of Behavioral Economics for Financial Literacy and Public Policy*. *Journal of Socio-Economics*, Vol 41, p. 677–690. <https://pdfs.semanticscholar.org/f643/5da3729f9fa7ec93adf991801dab0a5ac402.pdf>. (accessed 01 March 2017).

Andelinović, M., Pavković, A., Mišević, D. (2016): *Mjerenje financijske pismenosti studenata na Sveučilištu u Zagrebu*, EFZG serija članaka u nastajanju br.16-10, Sveučilište u Zagrebu, Ekonomski fakultet, pp. 1-20. [file:///C:/Users/admin/Downloads/Clanak\\_16\\_10.pdf](file:///C:/Users/admin/Downloads/Clanak_16_10.pdf), (accessed 03 March 2017).

Atkinson, A. and F. Messy (2012): *Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study*”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k9csfs90fr4-en> (accessed 07 March 2017).

Bedeković, V. (2011): *Osnove metodologije stručnog i znanstvenog rada*, Visoka škola za menadžment u turizmu i informatici u Virovitici, Virovitica

Bongini, P., Trivellato, P., Zenga, M. (2012.): *Measuring financial literacy among students: an application of Rasch analysis*. *EJASA*, Electron. Vol 5, Issue 3, 425-430. Università del Salento. Italy. [https://www.academia.edu/2508756/Measuring\\_financial\\_literacy\\_among\\_students\\_an\\_application\\_of\\_Rasch\\_analysis](https://www.academia.edu/2508756/Measuring_financial_literacy_among_students_an_application_of_Rasch_analysis), (accessed 01 March 2017).

Braš Roth, M., Gregurović, M., Markočić Dekanić, A. (2014): *PISA 2012 Financijska pismenost*, Nacionalni centar za vanjsko vrednovanje obrazovanja- PISA centar, Zagreb, [http://pisa.hr/media/1136/izvjestaj\\_pisa-2012\\_financijska.pdf](http://pisa.hr/media/1136/izvjestaj_pisa-2012_financijska.pdf), (accessed 07 March 2017).

Chen, H., Volpe, R.P. (1998): *An Analysis of Personal Financial Literacy Among College Students*, FINANCIAL SERVICES REVIEW, 7(2): p.p 107-128, <https://pdfs.semanticscholar.org/683d/f4577aa70d87a01c8590a070c55134470cc0.pdf> (accessed 01 March 2017).

Furtuna, F. (2008): *College Students Personal Financial Literacy: Economic Impact and Public Policy Implications*, Undergraduate Economic Review: Vol. 4 : Iss. 1 , Article 1., p.1-32. <http://digitalcommons.iwu.edu/uer/vol4/iss1/1> (accessed 01 March 2017).

Hrvatska narodna banka, Hrvatska agencija za nadzor financijskih usluga, Ministarstvo financija RH (2015): *Mjerenje financijske pismenosti i financijske uključenosti u Hrvatskoj*, Ipsos Public Affairs. [http://potrosac.mingo.hr/slike/dokumenti\\_3/g2016\\_/m02/x1415483098985550\\_.pdf](http://potrosac.mingo.hr/slike/dokumenti_3/g2016_/m02/x1415483098985550_.pdf) (accessed 07 March 2017).

Mišević, D., Pavković, A. i Šošarić, A. (2016): *Modeliranje financijske pismenosti studenata Sveučilišta u Zagrebu: Analiza, perspektiva i prijedlozi za budućnost*, Sveučilište u Zagrebu, Ekonomski fakultet, Zagreb.

OECD (2005), *Improving Financial Literacy: Analysis of Issues and Policies*, Paris [http://www.keepeek.com/Digital-Asset-Management/oecd/finance-and-investment/improving-financial-literacy\\_9789264012578-en#.WJGXgdLhA\\_4#](http://www.keepeek.com/Digital-Asset-Management/oecd/finance-and-investment/improving-financial-literacy_9789264012578-en#.WJGXgdLhA_4#), (accessed 07 March 2017)

OECD INFE (2011). *Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting an Internationally Comparable Survey of Financial literacy*. Paris, OECD. <https://www.oecd.org/finance/financial-education/49319977.pdf> (accessed 07 March 2017).

OECD (2014), *PISA 2012 Results: Students and Money: Financial Literacy Skills for the 21st Century* (Volume VI), PISA, OECD Publishing. <http://dx.doi.org/10.1787/9789264208094-en> (accessed 07 March 2017).

OECD/INFE (2015): *2015 OECD/INFE Toolkit for measuring financial literacy and financial inclusion* [http://www.oecd.org/daf/fin/financial-education/2015\\_OECD\\_INFE\\_Toolkit\\_Measuring\\_Financial\\_Literacy.pdf](http://www.oecd.org/daf/fin/financial-education/2015_OECD_INFE_Toolkit_Measuring_Financial_Literacy.pdf), (accessed 07 March 2017)

OECD/INFE (2015): *Policy Handbook, National Strategies for Financial Education*, <http://www.oecd.org/finance/financial-education/nationalstrategiesforfinancialeducation.htm> (accessed 02 March 2017)

OECD/INFE (2016) *International Survey of Adult Financial Literacy Competencies*, <http://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf> (accessed 07 March 2017).

Siew-Yong Yewa, Chen-Chen Yongb, Kee-Cheok Cheongc Nai-Peng Teyd (2017): *Does Financial Education Matter? Education Literacy among Undergraduates in Malaysia*, Institutions and Economies, Malaysia, Vol. 9, No. 1., pp. 43-60.

Vehovec, M., Rajh, E., Škreblin Kirbiš, I.(2015): *Financijska pismenost građana u Republici Hrvatskoj*, Privredna kretanja i ekonomska politika, god. 24, br.1 (136), str.53-75.

Vlada Republike Hrvatske (2015): *Akcijski plan za unaprjeđenje financijske pismenosti potrošača za 2015. godinu*, Narodne novine, 11/2015, [http://narodne-novine.nn.hr/clanci/sluzbeni/2015\\_01\\_11\\_225.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2015_01_11_225.html), (accessed 01 March 2017).

Vlada Republike Hrvatske (2015): *Nacionalni strateški okvir financijske pismenosti potrošača za razdoblje od 2015.-2020.* Narodne novine, 11/2015, [http://narodne-novine.nn.hr/clanci/sluzbeni/2015\\_01\\_11\\_224.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2015_01_11_224.html) (accessed 01 March 2017).

Volpe, R. P., Chen, H., & Pavlicko J. J.(1996) “*Personal investment literacy among college students: A survey.*” Financial Practice and Education. p. 86-94. (accessed 02 March 2017).

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## **BANKING CONCENTRATION IN THE REGION OF EASTERN CROATIA**

### **KONCENTRACIJA U BANKARSTVU NA PODRUČJU REGIJE ISTOČNE HRVATSKE**

#### ***ABSTRACT***

*This study addresses the banking concentration in the region of eastern Croatia. Concentration is one of the main measures of competition on every market. Banking has the major role in the development of an economy and thus concentration in banking is important for the entire national economy. Namely, bank loans ensure economic growth (they affect GDP, capital inflows). Concentration of banking in the region of eastern Croatia has been measured with concentration ratios, the Herfindahl-Hirschman index, the Lorenz's curve, the Gini's coefficient and Entropy index. The aim of this study is to stress the comparison of banking concentration in the Republic of Croatia and eastern Croatia, and to research whether the indicators for eastern Croatia give us greater, lower or equal measure of concentration in banking for the whole area in the Republic of Croatia. For the calculation of indicators that are applied in the analysis of the concentration individual exposures of the twenty largest clients of all banks operating in the Republic of Croatia have been taken into account, and especially individual exposures of twenty largest customers of all banks operating in the region of eastern Croatia. All these indicators have been taken on 31<sup>st</sup> of December and have been considered for a period of six years, in the period from 2010 to 2015. The calculated value of the concentration points to the growth of concentration of banking sector in the analyzed period, and the lower concentration of banking sector in the region of eastern Croatia in relation to the total area of the Republic of Croatia.*

**Key words:** bank, concentration, measures of concentration, exposure, client



## SAŽETAK

*Cilj ovog rada je istražiti koncentraciju bankarskog sustava na području istočne Hrvatske. Koncentracija je jedna od osnovnih mjera konkurencije na tržištu pojedinih sektora, no s obzirom da banke i bankarski sektor imaju veliku ulogu u razvoju gospodarstva koncentracija bankarskog sektora važna je za cjelokupno gospodarstvo. Naime odobravanjem kredita banke osiguravaju stabilan gospodarski rast (utječu na bruto domaći proizvod, priljev kapitala). Koncentracija bankarskog sektora na području regije istočne Hrvatske mjerena je pomoću koncentracijskog omjera, Herfindahl–Hirschmanovog indeksa, Lorenzove krivulje, Ginijevog koeficijenta, te mjere entropije. U ovom radu će se dati usporedba koncentracije bankarskog sektora na području cijele Republike Hrvatske s regijom istočne Hrvatske, tj. istražiti daju li pokazatelji za regiju istočnu Hrvatsku veću, manju ili jednaku koncentraciju bankarskog sektora u odnosu na cijelu Republiku Hrvatsku. Za izračun pokazatelja koji se primjenjuju u analizama koncentracije uzete su u obzir pojedinačne kreditne izloženosti dvadeset najvećih klijenata svih banaka koje posluju u Republici Hrvatskoj, te posebno pojedinačne kreditne izloženosti dvadeset najvećih klijenata svih banaka koje posluju na području regije istočna Hrvatska. Svi navedeni pokazatelji uzeti su sa stanjem na dan 31.12., a razmatrani su u razdoblju od šest godina, tj. u razdoblju od 2010. godine do 2015. godine. Izračunate vrijednosti koncentracije ukazuju na rast koncentracije bankarskog sektora u promatranom razdoblju, te na manju koncentraciju bankarskog sektora u regiji istočne Hrvatske u odnosu na područje Republike Hrvatske.*

**Ključne riječi:** *bankarstvo, koncentracija, mjere koncentracije, izloženost, klijent*

### 1. Introduction

Concentration is a measure of market power in a particular industry. Concentration in the banking sector has a wider role than the narrow relations with measuring competition in the banking market. Given the fact that the banking sector plays an important role in the development of national economy measuring concentration of the banking sector is important to the overall economy. Namely, by granting loans banks provide a stable economic growth (impact on gross domestic product, capital inflows). Development of the banking sector should be directly correlated with the level of development of an economy, because banks are financial service of the real sector and consequently their interdependence is direct (Jakovčević, 2001, 1283).

According to the data available on the website of the Croatian National Bank at the end of 2015 there were 27 banks operating in Croatia and compared to the end of 2014 there were no changes in the total number of banks.

This paper analyzes the extent of concentration of banking sector according to individual credit exposures of the twenty largest customers of all banks operating in the Republic of Croatia and especially individual credit exposures of the twenty largest customers of all banks operating in eastern Croatia and their comparison. Eastern Croatia region has 5 Counties: Osijek- Baranja, Vukovar-Srijem, Požega - Slavonia, Brod - Posavina and Virovitica - Podravina. Concentration of the banking sector is measured by using the concentration ratio, the Herfindahl Hirschman index, the Lorenz curve, and the Gini coefficient and entropy measures.

### 2. Measures of concentration

Measures of concentration are used to measure the disposition of totals or other suitable aggregate sizes according to sequence units or modes of statistical variables. Concentration is expressed by various measures. They differ in absolute measures of concentration and relative concentration measures, which are also called measures of inequality (Šošić, 2006, 124).



**Concentration ratio** is the simplest concentration measuring method. Concentration ratio of the  $r$  order and ordered set of  $N$  members is calculated by adding up the  $r$  values of  $N$  and to divide this sum by the sum of the  $N$  values. This assumes that all values are positive and arranged by size from the largest to the smallest. The ratio is defined by the expression:

$$C_r = \frac{\sum_{i=1}^r x_i}{\sum_{i=1}^N x_i}, C_r = \frac{1}{N} \sum_{i=1}^r \frac{x_i}{\bar{x}}, \frac{r}{N} \leq C_r \leq 1 \quad (1)$$

$N$  being the number of values, or modality of statistical variables, and individual values  $x_i$  a phenomenon for which the concentration is measured. Concentration ratio takes values between  $\frac{r}{N}$  and 1. If the values are equal, the value of the ratio is equal to  $\frac{r}{N}$ . The ratio takes the value 1 if all the values, except the last, are zero. The ratio is often used as an indicator of market monopolization degree (Šošić, 2006, 124).

This paper shows the concentration ratios for two, five and ten statistical variables.

**The Herfindahl-Hirschman Index** is the best known and most widely used indicator of concentration in practice, and is calculated as the market shares squares sum of all companies in an industry, and is defined by the expression:

$$HHI = \sum_{i=1}^N s_i^2 = \frac{\sum_{i=1}^N x_i^2}{(\sum_{i=1}^N x_i)^2}, \frac{1}{N} \leq HHI \leq 1 \quad (2)$$

where  $s_i$  is market share of the  $i$  companies. Herfindahl-Hirschman index takes values between 0 and 1. When the market is monopolistic the index reaches a value of 1, while in un-concentrated markets the index is close to 0. If the index value is lower, there is less chance that one or a few companies will dominate a given market, and market shares are more equally distributed among companies (Rose, 2003; 688). Herfindahl index –Hirschmanov, unlike the concentration ratio, takes into account all variables but while squaring the market shares it prefers the bigger ones.

**The Lorenz curve** is a graphical mode of distribution display. The curve is formed by connecting the points with the coordinates:

$$(0,0), \left(\frac{1}{N}, \frac{x_1}{\sum_{i=1}^N x_i}\right), \dots, \dots \left(\frac{i}{N}, \frac{\sum_{j=1}^i x_j}{\sum_{i=1}^N x_i}\right), \dots, (1,1); i = 1,2, \dots, N \quad (3)$$

It is assumed that the  $x_i$  values for which the concentration is measured are organized by the size, i.e.

$$x_1 \leq x_2 \leq \dots \leq x_i \leq \dots \leq x_N; x_i \geq 0, \forall i, \sum_{i=1}^N x_i > 0 \quad (4)$$

In the display together with the Lorenz curve a uniform distribution direction is also inscribed. In the case of proportional distribution, the area under the line of equal distribution is equal to 0.5. The higher the concentration, the curve is moving more away from that direction (Šošić, 2006, 124).

The **Gini coefficient** is a numerical representation of the degree of inequality in a distribution and can be derived directly from the Lorenz curve. (Barrow, 2006, 342). The Gini coefficient is the ratio between the surface the Lorenz curve closes with the uniform distribution direction and the entire area under this direction. When there is no concentration the Gini coefficient value is 0 and with the maximum concentration it is equal to 1 (Tipurić, Kolakovic Dumičić, 2002, 489).

To calculate the coefficient the following term is used:

$$G = \frac{2 \sum_{i=1}^N i x_i - (N + 1) \sum_{i=1}^N x_i}{N \sum_{i=1}^N x_i} \quad (5)$$

**The entropy measure** is a parameter often used in calculating concentration in a specific industry, and is expressed by the formula:

$$E = - \sum_{i=1}^N s_i \cdot \log_2 s_i, \quad 0 \leq E \leq \log_2 N \quad (6)$$

The entropy measure takes values between 0 and  $\log_2 N$ . The value is 0 in the case of monopolies, and  $\log_2 N$  when all market shares are identical. Unlike the Herfindahl-Hirschman index, which does not give virtually any importance to enterprises with an extremely small market share, an indicator of entropy gives relatively more weight precisely to small companies (Ljubaj, 2005, 9).

### 3. Analysis results

According to the Croatian National Bank credit exposure is defined as the sum of financial instruments grouped in portfolios of loans, receivables and held-to-maturity investments in accordance with IAS 39 and taken off balance sheet items based on which banks are exposed to credit risk. The amount of credit exposure is shown on a gross basis, i.e. without deduction of impairment losses and reserves.

In order to calculate the concentration of these indicators individual credit exposures of the twenty largest customers of all banks operating on the territory of Croatia were taken into account and especially individual credit exposures of the twenty largest customers of all banks operating in eastern Croatia. All these indicators were taken with the balance as of December 31, and were considered in the period of six years, i.e. in the period from 2010 to 2015. These data were obtained from the Croatian National Bank, along with a remark that the City of Zagreb has subjects of the Republic of Croatia based in Zagreb (for example, the Ministry of Finance and the Croatian National Bank). Credit exposure of the Ministry of Finance and the Croatian National Bank were not taken into account in the analysis because they create a significant difference compared to other individual credit exposures.

The nalalysis results showed that the twenty largest single credit exposures in eastern Croatia range from 135.5 million HRK to 900.4 million HRK and they make up a total share of 16% of the total portfolio in the region. On the Croatian market twenty largest single credit exposures vary between 665.5 million HRK and 12.4 billion HRK and they constitute a share of 11% of the total portfolio in the Republic of Croatia. The most single credit exposures in the region of eastern Croatia is from Osijek-Baranja County, 62% while 78% of individual credit exposures in the Republic of Croatia are related to credit exposure of customers based in the City of Zagreb. The following text will provide the levels of market concentration in eastern Croatian, on the entire Croatian market, and their comparison as measured by the five indicators of concentration.

#### 3.1. The concentration ratio

The concentration ratio is calculated for two ( $C_2$ ), five ( $C_5$ ), and ten ( $C_{10}$ ) largest single credit exposures of clients. The comparison in the values of concentration ratio  $C_2$ ,  $C_5$  and  $C_{10}$  for the region of eastern Croatia and Croatian territory is given in Table 1.

The first two credit exposure in eastern Croatia make up a share of 22% in 2010, while in 2013 their share achieved the highest value in the observed period (28%). Also, in 2013 the share of five largest credit exposures achieved the highest value and made a share of almost half of the top twenty credit exposure. The shares of ten largest credit exposures have steady growth from 66% in 2010 to 82% in 2015.

*Table 1 Values of concentration ratio*

| Area            | K. ratio | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|-----------------|----------|------|------|------|------|------|------|
| Eastern Croatia | $C_2$    | 0,22 | 0,21 | 0,25 | 0,28 | 0,24 | 0,25 |
|                 | $C_5$    | 0,41 | 0,41 | 0,45 | 0,49 | 0,45 | 0,46 |

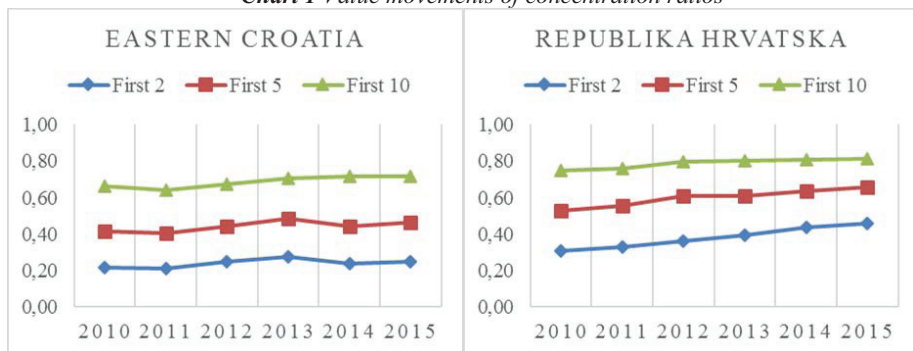
| Area                | K. ratio | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------------------|----------|------|------|------|------|------|------|
|                     | $C_{10}$ | 0,66 | 0,64 | 0,67 | 0,70 | 0,72 | 0,71 |
| Republic of Croatia | $C_2$    | 0,31 | 0,33 | 0,36 | 0,39 | 0,44 | 0,46 |
|                     | $C_5$    | 0,53 | 0,56 | 0,61 | 0,61 | 0,63 | 0,66 |
|                     | $C_{10}$ | 0,75 | 0,76 | 0,80 | 0,80 | 0,81 | 0,82 |

Source: authors' calculation

In Croatia, the share of the two largest exposures has been constantly increasing in the observed period and it shifts with a share from 31% in 2010 and 46% in 2015. Specifically, in 2015 the concentration ratio shows that the two largest exposures occupy almost half of the top twenty largest exposures (46%) of Croatia. The first five credit exposure make up a share of 66% in 2015 while in that same year the first ten credit exposures make up a share of 82%.

The share of the first two credit exposures in the Republic of Croatia in 2015 is equal to the share of the top five credit exposures in eastern Croatia., oba sa 46%.

Chart 1 Value movements of concentration ratios



Source: authors' calculation

The concentration ratio shows that the Croatian market is moderately concentrated and that the degree of concentration is higher than on the eastern Croatian market. The values of the concentration ratios of both markets have a slight increase in the observed period.

### 3.2. The Herfindahl-Hirschman index

It is believed that non-concentrated markets have the Herfindahl Hirschman index of less than 0.1, and concentrated markets higher than 0.18. (Pavkovic, Dumcic Akalović Antic, 2012, 132).

Table 2 shows values of HHI index for eastern Croatia and the Republic of Croatia.

The Herfindahl-Hirschman index of market concentration in eastern Croatia is constant in the observed period and it acquires values depending on the year of monitoring .06 ili .07.

Namely, in the observed period the Herfindahl-Hirschman Index of concentration on the Croatian territory has a noticeable increase from 0.09 in 2010 to 0.13 in 2015.

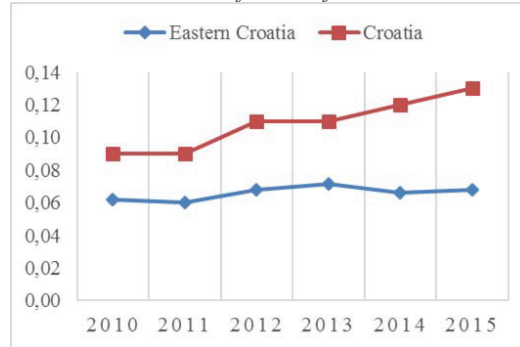
Table 2 Values of the Herfindahl-Hirschman index

| Area             | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------------------|------|------|------|------|------|------|
| Eastern Croatia  | 0,06 | 0,06 | 0,07 | 0,07 | 0,07 | 0,07 |
| Republic Croatia | 0,09 | 0,09 | 0,11 | 0,11 | 0,12 | 0,13 |

Source: authors' calculation

The concentration analysis conducted by the Herfindahl-Hirschman Index shows similar results as with the concentration ratio. The data in chart 2 indicate that the degree of concentration on the Croatian market is larger than on the market of eastern Croatia. Following the received values of the Herfindahl-Hirschman Index of 0,07 against 0,13 in 2015 the market of eastern Croatia is not concentrated, while the Croatian market is moderately concentrated.

**Chart 2** Value movements of the Herfindahl-Hirschman Index



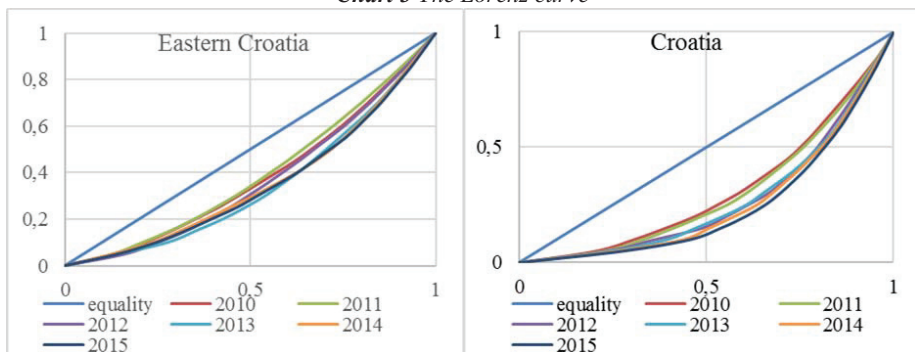
Source: authors' calculation

### 3.3. The Lorenz curve

The Chart 3 shows the Lorenz curves of the twenty largest individual credit exposures in the observed period.

On the market of eastern Croatia, for all the years of the studied period, the Lorenz curves are equally distant from the line of equal distribution. Equal distance indicates that there was no change of concentration level on the market.

**Chart 3** The Lorenz curve



Source: authors' calculation

On the Croatian market the Lorenz curve is closest to the line of equal distribution in 2010 which indicates a lower concentration than in other years of the observed period, the highest concentration being in 2015 when the curve was farthest from the line.

Comparing the market of eastern Croatia with Croatia it can be concluded that the Lorenz curve of Croatia is more moved from the line of equal distribution which indicates a higher degree of

concentration in relation to eastern Croatia. The results of market concentration level obtained by the Lorenz curve are consistent with the two previous indicators  
 3.4. The Gini coefficient

The obtained values of the Gini coefficient are shown in Table 3.

*Table 3 Values of the Gini coefficient*

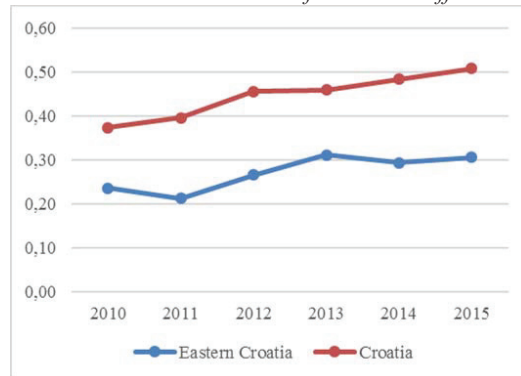
| Area             | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------------------|------|------|------|------|------|------|
| Eastern Croatia  | 0,24 | 0,21 | 0,27 | 0,31 | 0,29 | 0,31 |
| Republic Croatia | 0,37 | 0,40 | 0,46 | 0,46 | 0,48 | 0,51 |

*Source: authors` calculation*

From the Table 3 it is discernible that in the observed period for the market of eastern Croatian the Gini coefficient takes lower values at beginning of year in 2010 and 2011, when it amounted to 0.24 or 0.21 and it indicates a low market concentration. In subsequent years of observation the value of the coefficient increases, in 2013 and in 2015 it achieved its maximum value of 0.31, which is still an indicator of a lower degree of market concentration in eastern Croatian. The degree of concentration on the Croatian market in the period recorded a significant growth, the value of the coefficient increased from 0.37 in 2010 to 0.51 in 2015. This indicates that the Croatian market is moderately concentrated.

The analysis of the Gini coefficient for the Croatian market obtained higher coefficient values than for the market of eastern Croatian, indicating a higher concentration of this market. In the observed period for both markets, the market of eastern Croatia and the Croatian market, the values of the Gini coefficient are rising, suggesting an increase in the degree of concentration in the observed period.

*Chart 4 Value movements of the Gini coefficient*



*Source: authors` calculation*

### 3.5. Entropy measures

The entropy value is in the interval between 0 and  $\log_2 N = \log_2 20 = 4,32$ . If the value is higher, i.e. closer to 4.32, the concentration is lower. Based on the obtained values from the Table 4 it can be concluded that the value of entropy measures for the market of eastern Croatian in all the years of the study period is greater than or equal to 4.10 which is close to the value of 4.32 when all the shares of individual credit exposures are equal to each other.

*Table 4 Values of entropy measures*

| Area             | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------------------|------|------|------|------|------|------|
| Eastern Croatia  | 4,18 | 4,20 | 4,12 | 4,07 | 4,12 | 4,10 |
| Republic Croatia | 3,95 | 3,89 | 3,75 | 3,75 | 3,65 | 3,58 |

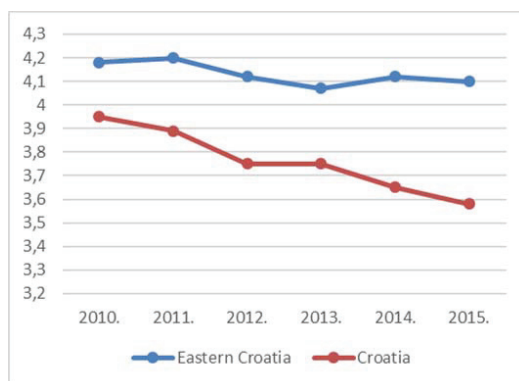
*Source: authors` calculation*

The values of entropy measures for the Croatian market ranged from 3.95 in 2010 to 3.58 in 2015.

From the Table 4, in which the values of entropy measures are shown, it can be concluded that the values of entropy for the region of eastern Croatia are higher than for the Croatian territory and that the market of eastern Croatia is less concentrated in relation to the market of whole Croatia.

In the chart 5 a significant drop in the value of entropy measures for the Croatian market is visible which indicates the growth in degree of concentration of that market, while the value movement of entropy measures for the market in eastern Croatia is lower but not so expressive.

*Chart 5 Value movements of entropy measures*



*Source: authors` calculation*

#### 4. Conclusion

The statistical analysis shows the degree of concentration in the banking market in the Republic of Croatia and especially in eastern Croatia. The degree of concentration is measured by using the concentration ratio, the Herfindahl Hirschman index, the Lorenz curve, the Gini coefficient and entropy measures, and it is calculated with respect to individual credit exposure of the twenty largest clients of banks operating in the observed areas.

The analysis results showed that the twenty largest single credit exposures in eastern Croatia make up a total share of 16% of the total portfolio in the region, while on the Croatian market they constitute a share of 11% of the total portfolio in the Republic of Croatia. The most single credit exposures in the region of eastern Croatia are from Osijek-Baranja County, 62% while 78% of individual credit exposures in the Republic of Croatia are related to credit exposure of customers based in the City of Zagreb.

The calculated values of concentration according to the afore mentioned concentration indicators point out the concentration growth of the banking sector in the period, and the lower

concentration of the banking sector in the region of eastern Croatia compared to the Croatian territory.

## REFERENCES

Barrow, M. (2006): *Statistics for Economics, Accounting and Business Studies*, fourth edition, Pearson Education, Essex

Ljubaj, I. (2005): *Indeksi koncentracije bankarskog sektora u Hrvatskoj*, Hrvatska narodna banka, Zagreb

Hrvatska narodna banka: *Bilten o bankama*, nr. 29, 2016

<https://www.hnb.hr/documents/20182/950978/hbilten-o-bankama-29.pdf/f037d986-a62d-402a-bb32-9794e88a1a51> (accessed 13 January 2017)

Hall, M, Tideman, N. (1967): *Measures of Concentration*, in Journal of the American Statistical Association, volume 62, issue 317, published online 10 Apr 2012, pp 162-168

Jakovčević D.(2001): *Bankovni potencijali, poslovna spajanja banaka i razvitak hrvatskog gospodarstva*, Ekonomski pregled 2001, 52 (11-12) pp 1283-1302, Zagreb

Pavković A., Dumičić K., Akalović Antić J. (2012): *Mjerenje koncentracije u bankarstvu u Republici Hrvatskoj*, in Zbornik ekonomskog fakulteta u Zagrebu, year 10, br.2, pp 117-136, Zagreb

Rose, P. S. (2003): *Menadžment komercijalnih banaka*, Mate, Zagreb

Šošić, I. (2006): *Primijenjena statistika*, Školska knjiga, Zagreb

Tipurić D., Kolaković M., Dumičić K.: *Istraživanje promjena u koncentraciji hrvatske bankarske industrije 1993.-2000.*, Ekonomski pregled 2002, 53 (5-6) pp 470-494, Zagreb

Tipurić D., Kolaković M., Dumičić K.: *Koncentracije promjene hrvatske bankarske industrije u desetogodišnjem razdoblju (1993.-2002.)*, in Zbornik ekonomskog fakulteta u Zagrebu, year 1, br.1, pp 1-22

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## **FINANCIAL BEHAVIOUR OF CITIZENS OF THE REPUBLIC OF CROATIA**

### **FINANCIJSKO PONAŠANJE GRAĐANA REPUBLIKE HRVATSKE**

#### **ABSTRACT**

*In last ten years, the financial behavior of Croatian citizens has changed. The efficiency of financial products available to citizens also changed and as such influenced the preferences of the sector to which they are addressed. The products of insurance and banking market experienced a transformation whose understanding is crucial to long term financial health of individuals and households. In this paper, we explore the connection between the financial behavior of households in terms of trends in financial spending with testing the assumption that the financial literacy of citizens is increasing.*

**Keywords:** *financial behavior, financial literacy, financial consumption, consumption.*

#### **SAŽETAK**

*Posljednjih deset godina financijsko ponašanje građana Republike Hrvatske bitno se promijenilo. Efikasnost financijskih proizvoda dostupnih građanstvu također se mijenjala i kao takva utjecala je i na preferencije sektora kojem je upućena. Proizvodi osigurateljnog i bankovnog tržišta doživjeli su transformacije čije je razumijevanje ključno za dugoročno financijsko zdravlje pojedinaca i kućanstava. U ovom radu istražiti će se veza između financijskog ponašanja kućanstava u okvirima trendova financijske potrošnje uz ispitivanje pretpostavke da je financijska pismenost građana u porastu.*

**Ključne riječi:** *financijsko ponašanje, financijska pismenost, financijska potrošnja, potrošnja.*

#### **1. Financial literacy**

By the most basic definition, financial literacy relates to a person's competency for managing money. (Remund, 2010, 279) Predispositions for success in process of managing money lay in several skills and competences. The financial knowledge in terms of understanding what are the performances of certain financial products is just one part of the set of necessary skills and competences. Many authors have engaged efforts to summarize main figures of financially literate individuals. Theoretical models incorporating such key aspects of consumer behaviour and the economic environment implicitly assume that people are able to formulate and execute saving and decumulation plans, all of which require expertise in dealing with financial markets, knowledge of purchasing power, and the capacity to undertake present value calculations. Moreover, saving decisions are inherently about the



future, which is uncertain; thus, individuals have also to be able to deal with risk. And portfolio management requires knowledge of concepts such as risk diversification. (Lusardi, 2015, 261)

Changes that occurred on financial market have brought essential changes of volume of offer and performances of financial products and services for general public. The changes in financial markets, especially in terms of diversity of offer, were very fast and occurred in the same period as changes within the social system in many CEE countries including Croatia. Croatian history of financial markets must be observed taking into consideration the wider general historical context of nation. The opening of financial markets happened at the same time as the Homeland war and citizens were more preoccupied with basic existential issues than with changes in the financial environment. Banking institutions and insurance companies introduced new financial products to the Croatian market, in circumstances which nobody bothered to explain what the performances of these new products were. On the other hand hunger for consumption of all kinds of products, including financial ones, has increased rapidly in the last decade of the previous century.

### **1.1. Contemporary approaches to financial literacy issue**

In American financial literature, there is continuous growth in number of authors and researchers that show interest in this specific field of study for more than last four decades. One of the greatest journals in which grate founding's from personal finance management have been published, *Financial Consueling and Planning*, with chef editor professor J. J. Xiao, has almost three decades of fruitful work behind him. In terms of different statistics, USA has tradition in collecting lot of useful data that can guarantee access to clear picture of financial literacy and financial behaviour of citizens. Good example are Surveys of consumer finances statistics issued by Federal Reserves and Consumer Expenditure Surveys performed and issued by Bureau of Labour. We can say that, based on this long term, systematic approach towards financial literacy, results are visible in form on latest global survey on financial literacy of citizens where as one of key founding finds place the information that 57% of citizens of USA are financially literate, while for the rest of the world stands result that 33% of citizens are financially literate. (S&P, 2015)

On the other hand this kind of statistics and activities in EU are not performed in such systematic way. Financial literacy of general public is very discussed topic in last decade in majority of EU countries. Recognition of importance of increase of the level of financial literacy for general public is very visible from number of different projects and activities like; PISA (OECD, 2014), eFinLit (European Commission, 2016), MONEY MASTER (European Commission, 2014) and many other projects financed by European commission with main scope-increase of financial literacy of EU citizens.

If we observe this issue from national level prospective we can see that interest of different researchers and institutions (Croatian Government, 2016) has also started to rise in last decade. But from recognition of relevance until first achievement is still long way to go.

### **1.2. Contemporary challenges of Croatian citizens**

Croatian citizens need to cope with lot of challenges. Negative socio-demographic trends (Živić, 2003, 307), high unemployment rate in all age groups (Buljan Barbača., Matošević Radić, 2011, 291), low income and indebtedness (Bejaković, 2010) represent contemporary challenges for Croatian citizens. The proof that citizens are not coping with this challenges can be found in lot of places but very relevant is number of citizens with blocked accounts. According to Financial Agency (Fina), at he beginning of 2017 the number of blocked accounts was 327.176, which is almost 10 percent of all accounts and represents debt of 7.25 million kunas. In described unfavourable circumstances need for increase financial literacy

seems to be only reasonable response. Due to recognition of the problem, great effort of researchers, institutions and Croatian Government itself results are to be expected.

## **2. Financial literacy measurement**

Financial literacy is typically measured at the individual level and then aggregated by groups, such as high school students or low-income adults, to provide macroview. (Remund, 2010, 279) Majority of the measurement models consist of similar basic approach and measure financial literacy, keeping in mind four key principles:

(1) Simplicity. We aimed to measure basic financial concepts, akin to the notions of the abc's of finance.

(2) Relevance. Questions had to relate to concepts pertinent to people's day-to-day financial decisions over the life cycle; moreover, they had to capture general rather than context-specific ideas.

(3) Brevity. Few representative surveys can devote much time to financial literacy topics, and so the number of questions had to be kept to a minimum in order to secure widespread adoption.

(4) Capacity to differentiate. We needed questions that can differentiate between financial knowledge levels, so as to compare people in terms of their scores on a common set of questions. (Lusardi, Mitchell, 2011, 498)

Similar methodology was used in many other researches (Lusardi, Mitchell, 2008) including OECD's PISA research.

Although Croatia was not part of a survey performed by OECD in 2012 (Atkinson, A. and F. Messy 2012) this methodology for measurement of financial literacy inspired domestic researchers to analyse personal financial attitudes of Croatian citizens. (Vehovec M., Rajh E., Škreblin Kirbiš I., 2015) Findings in socio-demographic variables that influence the level of financial literacy and one of the conclusions of the authors was that financial wisdom grows with age, in the long term.

Still we must be aware of the fact that data on financial literacy of Croatian citizens are scarce. In order to obtain more accurate results more substantial research needs to be provided.

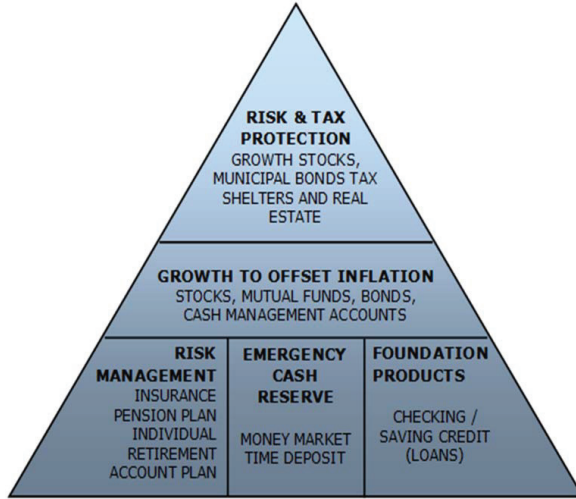
But what this survey aims is to provide information on financial literacy and its trends using relevant data on changes in financial consumption of Croatian citizens.

## **3. Financial consumption as a measure of financial literacy**

Researches performed by marketing specialists can help as in reaching the aim of determining the changes in financial literacy level of Croatian citizens. Financial behaviour of individuals correlates with financial literacy of individuals (Santos, Abreu, 2013) and some authors have been following changes in financial behaviour by following changes in financial consumption attitude.

In the figure 1. is presented the pyramid of financial freedom presented in 1991 by Kamakura, Ramaswami and Srivastava.

*Figure 1 Pyramid of financial freedom*

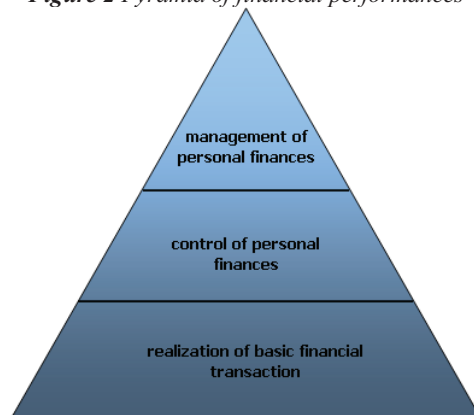


*Source: Adopted from Kamakura W.A., Ramaswami S.N., Srivastava R.K. (1991): Applying Latern Trait Analysis in Evaluation of Prospects for Cross-selling of Financial Services, International Journal of Research in Marketing, Vol. 8, No.4, pp.329-349.*

In the base group of risk management instruments are placed life insurance policies and investment in pension funds, cash reserves and key financial products such as current accounts, etc. At a higher level are hedging against inflation, and at the highest level are the instruments that the individual is protected from risk and taxes.

Although this pyramid has been constructed in order to help financial institutions to obtain better market positioning it can serve us to reach some goals in improvement of Personal Finances. (Buljan Barbača, Borovac Zekan, 2011, 340) If we transfer this pyramid into a level of skilfulness individual needs to obtain them then we can suggest a pyramid shown in figure 2.

*Figure 2 Pyramid of financial performances*



*Source: Buljan Barbača D., Borovac Zekan S., (2011): Personal Finances And Hierarchy Of Human Needs , Economy Transdisciplinarity Cognition vol.14., issue 1., pp. 337-349.*

This pyramid classifies consumers of financial products by their competences in dealing with personal finances. Individuals with higher level of financial knowledge have more competences in managing of their personal finances.

### 3.1. Measurement of changes in financial consumption habits of Croatian citizens

If we apply this findings and analyse changes in the structure of financial assets of Croatian citizens in period since 2006 until 2015 this can give us clue on what was going on in terms of changes in financial behaviour of Croatian citizens.

In table 1 we are presenting changes in financial assets owned by Croatian citizens in period from 2006 until 2015. For the purpose of this survey only the most important assets are taken in consideration.

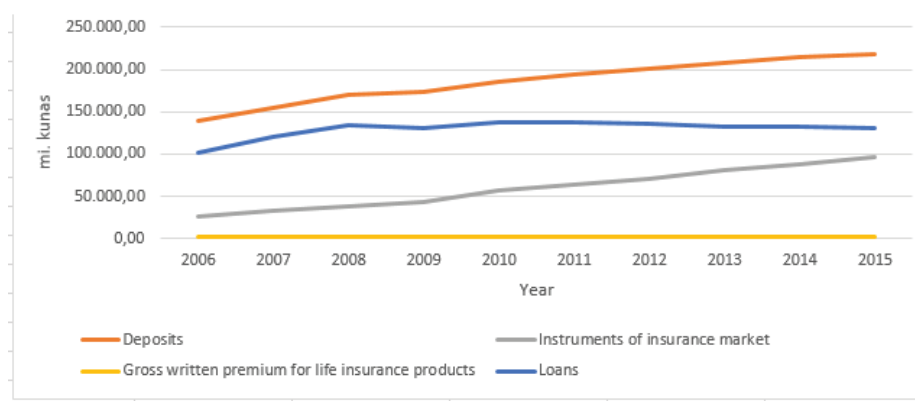
**Table 1** Some financial assets of Croatian citizens in total amounts in period of 2006-2015 (in million kunas)

| Year | Deposits   | Shares and Bonds | Instruments of insurance market | Gross written premium for life insurance products | Loans      |
|------|------------|------------------|---------------------------------|---|------------|
| 2006 | 140.184,11 | 70.949,15        | 25.917,90                       | 2.165,06  | 101.194,25 |
| 2007 | 153.938,88 | 108.655,29       | 33.173,24                       | 2.482,74  | 119.900,14 |
| 2008 | 171.000,73 | 71.646,20        | 37.637,92                       | 2.545,78  | 134.897,62 |
| 2009 | 173.573,55 | 73.505,01        | 44.105,54                       | 2.488,67  | 131.513,52 |
| 2010 | 184.880,83 | 86.652,06        | 56.804,12                       | 2.457,68  | 137.134,07 |
| 2011 | 193.510,06 | 66.289,82        | 63.758,44                       | 2.431,27  | 137.458,16 |
| 2012 | 201.685,99 | 63.572,63        | 71.475,92                       | 2.461,15  | 135.489,09 |
| 2013 | 207.083,65 | 63.070,01        | 80.907,52                       | 2.538,41  | 132.994,43 |
| 2014 | 215.493,08 | 71.988,24        | 87.528,20                       | 2.637,78  | 132.140,40 |
| 2015 | 218.399,15 | 70.916,49        | 96.111,61                       | 2.934,42  | 129.959,73 |

Source: Authors systematization according to the data from CFSSA and CCB.

For the purpose of following trends of consumption of assets of level one, according the Pyramid of financial freedom we have grouped financial assets in two groups. In figure 3 we are displaying trends of consumption of households for financial instruments from first level.

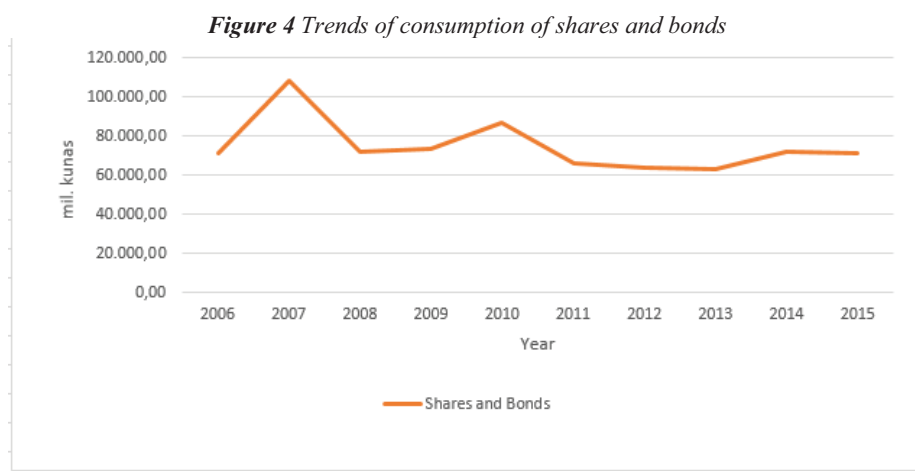
**Figure 3** Trends for basic financial instruments



Source: Authors calculation

Trends for financial instruments show increase in financial consumption.

In figure 4 we will present trends of consumption of shares and bonds which belong to financial instruments of second level.



*Sources: Authors calculation*

For the instruments belonging to third level we have chosen to display investment in real estates. Due to the lack of statistics this trend can't be observed with same accuracy as previous trends. There are no direct data on direct investment in real states for households. For determining this trend are used statistics from Croatian Bureau of statistic which follows trends of use of apartments for different purposes. Ratio between number of flats used for business purposes and used occasionally and total number of flats will be calculated. The results are presented in table 2.

**Table 2** Apartments by type of use in total numbers

| Year | Flats for housing | Flats used occasionally | Flats used for business | Total number of flats | Ratio  |
|------|-------------------|-------------------------|-------------------------|-----------------------|--------|
| 2001 | 1.660.649         | 190.931                 | 25.546                  | 1.877.126             | 11,53% |
| 2011 | 1.912.011         | 262.769                 | 71.240                  | 2.246.910             | 14,90% |

*Sources: Authors calculation on the basis of statistics from CBS*

The data presented in table 2 show increase of use of flats for different purpose, other than primer housing. This could lead us to conclusion that investing in real states is increasing for general public. If we are to adjust given results by decrease of total population from 2001 until 2011 this ratio would have even stronger meaning.

#### 4. Conclusions and recommendations

Based on the results displayed in chapter 3 we can say that there are changes in financial behaviour of Croatian citizens. The tendency to increase investment in real states places certain percentage of citizens in top of the pyramid of financial freedom. As for the instruments of second level we can see that investment of citizens in capital market instruments shows slight increase, and for the instruments of first level we can also conclude that majority of instruments are trending up in terms of amount of use. This findings could

give as idea that financial behaviour of Croatian citizens shows some improvement but on the other hand in order to withdraw such conclusion we need to undertake deeper analysis of performances of each financial instrument used by Croatian citizens. It is also necessary to continue and develop all positive initiatives for increase of financial literacy. Above all it is also necessary to establish continues measurements of obtained results, using direct methodology or/and indirect methodology. The measurement of improvement can give us right direction for creating more efficient approaches in financial literacy education and establish corrective measures for contemporary approaches.

## REFERENCES

Atkinson, A. and F. Messy (2012): *Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing, <http://dx.doi.org/10.1787/5k9csfs90fr4-en>

Atkinson, A. et al. (2015): *Financial Education for Long-term Savings and Investments: Review of Research and Literature*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 39, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5jrtgzfl6g9w-en>

Bejaković, P.(2010): *Osobna prezaduženost (Personal indebtedness)*, Institut za javne financije, [www.ijf.hr/upload/files/prezaduženost.pdf](http://www.ijf.hr/upload/files/prezaduženost.pdf)

Bureau of Labor Statistics, Consumer Expenditure Survey, <http://www.bls.gov/cex/> (acceded in several occasions from year 2000.)

Buljan Barbača D., Matošević Radić M., (2011): *Pension Scheme And How Did Croats Get Poor*, Economy Transdisciplinarity Cognition vol.14., issue 1., pp. 286-295.

Buljan Barbača D., Borovac Zekan S., (2011): *Personal Finances And Hierarchy Of Human Needs*, Economy Transdisciplinarity Cognition vol.14., issue 1., pp. 337-349.

Croatian Bureau of Statistic (CBS), different publications, [www.dzs.hr](http://www.dzs.hr) (acceded in several occasions from January until March 2017.)

Croatian Central Bank (CCB), different publications, [www.hnb.hr](http://www.hnb.hr) (acceded in several occasions from January until March 2017.)

Croatian Financial Services Supervisory Agency (CFSSA), different publications, [www.hanfa.hr](http://www.hanfa.hr) (acceded in several occasions from January until March 2017.)

Croatian Government (2016), *The proposal of action plan for improving the financial literacy of consumers*, <https://vlada.gov.hr/UserDocsImages/Sjednice/2015/.../210%20-%209b.pdf>

European Commission, ERASMUS+, project eFinLit, *Developing Financial Competencies for EU Citizens Utilizing Online Learning and Digital Literacy*, <http://efinlit.eu/index.php/en/>

European Commission, ERASMUS+, project MONEY MASTER, *Improving Financial Literacy Among Youngsters*, <http://edupro.lt/en/money-master>

Federal reserve, <http://www.federalreserve.gov/pubs/oss/oss2/scfindex.html> (accessed in several occasions from year 2000.)

Kamakura W.A., Ramaswami S.N., Srivastava R.K.(1991): *Applying Latern Trait Analysis in Evaluation of Prospects for Cross-selling of Financial Services*, International Journal of Research in Marketing, Vol. 8, No.4,pp.329-49.

Lusardi, A., & Mitchell, O. S. (2011): *Financial literacy around the world: an overview*, Journal of Pension Economics and Finance, 10(04), pp. 497–508. <http://doi.org/10.1017/S1474747211000448> (accessed 2 January 2017)

Lusardi, A., & Mitchell, O. S. (2008). *Planning and financial literacy: How do women fare?* National Bureau of Economic Research. <http://www.nber.org/papers/w13750> (accessed 2 January 2017)

Lusardi, A. (2015): *Financial literacy: Do people know the ABCs of finance?*, Public Understanding of Science, Vol.24 (3), pp. 260-271, <http://gflec.org/wp-content/uploads/2014/02/Financial-Literacy-Do-People-Know-the-ABCs-of-Finance-2015-Public-Understanding-of-Science.pdf> (accessed 2 January 2017)

OECD (2014): *PISA 2012 Results: Students and Money: Financial Literacy Skills for the 21st Century* (Volume VI), PISA, OECD Publishing. <http://dx.doi.org/10.1787/9789264208094-en> (accessed 20 February 20117)

Remund, D. L. (2010): *Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy*, The journal of consumer affairs, Vol. 44, No. 2, pp. 276-295.

Rutledge, S. L.(2010): *Consumer protection and financial literacy : lessons from nine country studies*, Policy Research working paper; no. WPS 5326. Washington, DC: World Bank.<http://documents.worldbank.org/curated/en/676251468233092150/Consumer-protection-and-financial-literacy-lessons-from-nine-country-studies> (accessed 21 January 2017)

S&P (2015), *Global FinLit survey*, <http://gflec.org/initiatives/sp-global-finlit-survey/> (accessed 22 January 2017)

Santos E., Abreu M. (2013): *Financial Literacy, Financial Behaviour and Individuals' Over-indebtedness*, WP 11/2013/DE/UECE, pp. 1-31 <http://pascal.iseg.utl.pt/~depeco/wp/wp112013.pdf>

Vehovec, M., Rajh, E., Škrebliin Kirbiš, I. (2015): *Financial Literacy of Croatian Citizens*, Privredna kretanja i ekonomska politika , god. 24 ,br. 1 (136)

Živić D. (2003): *Demografske odrednice i posljedice starenja stanovništva Hrvatske (Demographical determinates and consequences of population aging in Croatia)*, Rev.soc.polit., Year 10, Vol. 3-4, pp.307-319.

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## **A MODEL OF SMEs CAPITAL STRUCTURE ON UNDERDEVELOPED FINANCIAL MARKET**

### **MODEL STRUKTURE KAPITALA U MALIM I SREDNJIM PODUZEĆIMA NA NERAZVIJENOM FINANCIJSKOM TRŽIŠTU**

#### **ABSTRACT**

*Capital structures theories developed on big companies and on developed financial markets cannot explain the decision about the capital structure made in SMEs, especially those on underdeveloped financial markets. Business eco-system characterized by weak legal protection, low institutional development and restricted access to capital are the obstacles that affect capital structure decisions in SMEs on such markets. SMEs on underdeveloped financial markets will have more long term assets in balance sheets, but also lower level of net working capital which hinders further growth and development. The aim of this study is to identify determinants that will shape the decision about capital structure of owners/managers in SMEs and to propose conceptual framework for identification of preferred sources of capital on underdeveloped financial markets. The study has been conducted on 108 SMEs in the period from 2010-2012 on underdeveloped financial market of Republic Croatia. Results of the study showed that characteristics of the market have a big impact on capital structure decision making process and that will shape the capital structure of all companies on the market. The proposed framework can help policy makers in building policy recommendations but also in shaping financial services for SME owners.*

**Key words:** capital structure, small and medium sized companies, financial markets.

#### **SAŽETAK**

*Teorije strukture kapitala, razvijene na velikim poduzećima i na razvijenim financijskim tržištima ne mogu objasniti strukturu kapitala malih i srednjih poduzeća, posebice onih na nerazvijenim financijskim tržištima. Poslovno okruženje koji karakteriziraju slaba pravna zaštita, niska razina institucionalnog razvoja i ograničen pristup izvorima kapitala, predstavljaju prepreke koje utječu na strukturu kapitala u malim poduzećima na tim tržištima. Mala i srednja poduzeća na nerazvijenim financijskim tržištima imaju višu razinu dugotrajne imovine, ali i nižu razinu neto radnog kapitala, a što ograničava daljnji rast i razvoj poduzeća. Cilj ovoga istraživanja je identificirati determinante koje oblikuju proces donošenja odluka vlasnika ili menadžera o strukturi kapitala i predložiti konceptualni model odabira izvora financiranja na nerazvijenom financijskom tržištu. Istraživanje je provedeno na 108 malih i srednjih poduzeća u periodu od 2010. do 2012. godine na nerazvijenom financijskom tržištu Republike Hrvatske. Rezultati istraživanja pokazuju kako karakteristike*



*tržišta uvelike određuju proces donošenja odluka o strukturi kapitala svih poduzeća. Predloženi model može pomoći predlagateljima policy preporuka, prilikom oblikovanja financijskih usluga za vlasnike malih i srednjih poduzeća.*

**Ključne riječi:** *struktura kapitala, mala i srednja poduzeća, financijska tržišta.*

## 1. Introduction

Importance of SMEs in national and global economy is already very well elaborated in many different researches. In Croatian economy 99.7 % of business entities come from SME sector. This sector contributes to Croatian economy with 68.4% in employment, 53% in total income and 48.5% in total exports.<sup>1</sup> According to Annual Report on European SMEs 2013/2014: A Partial and Fragile Recovery (2014), SMEs “were a bulwark against the devastating effects of the global financial crisis”<sup>2</sup>. At the same time, SMEs have provided a hope for recovery and new opportunities on the market, during and after the crisis. Despite all evidence and research results about the importance and significance of SME sector for every economy, there are still many obstacles in their business eco-system that hinder their further growth and development. According to different reports focused on SME sector<sup>3</sup>, the biggest problems on Croatian market are access to finance, corruption and government politics and programs. These obstacles are constant, since they remain among the biggest ones during a long period of time. SMEs have similar problems during their life cycle, but also in connection to business eco-systems. Level of SME activity and employment is dependent on the overall level of economic activity on national and global level.<sup>4</sup> Financial crisis was among the most dominant influences on the business eco-system of SMEs in the last decade. SMEs have reported that existing barriers became even bigger while new issues occur. Majority of the companies experienced problems with finding customers, availability of skilled staff or experienced managers and access to finance.<sup>5</sup> All these problems influenced their capital structure decision making process. Financial crisis induced a negative credit supply shock which led to even harder access to finance for SMEs. European SMEs were forced to rely on their short-term leverage and therefore crisis significantly affected corporate behaviour of privately held SMEs.<sup>6</sup>

All these barriers in SMEs business eco-system influence their further growth and development and shape the process of capital structure decision making. But, barriers that hinder further development in business eco-system cannot completely explain capital structure decisions and preferred financial sources of owners/managers of SMEs. Although the lack of finance represents one of major problems in the process of company’s

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<sup>1</sup> Alpeza et al. (2016): Small and Medium Enterprises Report – Croatia 2015, including the results of GEM – Global Entrepreneurship Monitor research for Croatia for 2014, CEPOR, Zagreb

<sup>2</sup> European Commission, Directorate-General for Enterprise and Industry (2014): Annual report on European SMEs 2013/2014 – A Partial and Fragile Recovery, Final Report

<sup>3</sup> Delić, A., Filakov, L. (2016): Why not to use the service of business advisers: Some evidence from Croatia, in *Proceeding of 5th International Scientific Symposium: Economy of Eastern Croatia – vision and growth*, Osijek, June 2-4, pp. 891-901

<sup>4</sup> European Commission (2016): Annual Report on European SMEs 2015/2016, Final Report, available on: [https://ec.europa.eu/jrc/sites/jrcsh/files/annual\\_report\\_-\\_eu\\_smes\\_2015-16.pdf](https://ec.europa.eu/jrc/sites/jrcsh/files/annual_report_-_eu_smes_2015-16.pdf), (accessed 15 April 2017)

<sup>5</sup> *Ibidem*

<sup>6</sup> Vermoesen, V., Deloof, M., Laveren, E. (2013): Long-term debt maturity and financing constraints of SMEs during the Global Financial Crisis, *Small Business Economics*, Vol. 41, pp. 433-448

development<sup>7</sup>, other determinants of capital structure, either qualitative or quantitative, can be crucial. According to Kumar and Rao (2015) “this indicates the presence of significant gap in the existing capital structure and preferable capital structure in SMEs”.

The aim of this paper is to identify determinants of underdeveloped financial market that influence the capital structure decision making process in Croatian SMEs and develop conceptual framework for identifying financial preferences of the SMEs.

## 2. Capital structure theories

The question of capital structure is for a long period of time research question for many researchers. The search for optimal capital structure started with the work of two Nobel price laureates Modigliani and Miller in 1958. They showed in which situations capital structure is irrelevant (MM theory) and opened a research platform for other researchers, that were also interested in capital structure, especially the optimal one. MM theory claims that value of the company depends on profitability and risks and decisions about sources of finance do not influence the company's value. The only constraint of that theory is that it was developed on the assumptions of perfect financial market. The theory was not tenable, and researchers started to develop new theories. Harris and Raviv (1991) identified the four main theories: agency costs theory, theory of asymmetric information, models based on product/input market interactions and theories driven by corporate control considerations. Agency costs theories<sup>8</sup> are based on two types of conflicts of interest in the company – between owner and manager and between shareholders and debtholders. Since managers are managing all activities focused on profitability, owners are concerned that managers could overinvest to get bigger share of the profit. The other conflict, between shareholders and debtholders, can be explained through bigger share of the profit that belongs to shareholders. But, if the investment fails, the debtholders bear the consequences. In both situation, owners are trying to protect their interests (agency costs). Theory of asymmetric information is based on insider information that managers have and that influence capital structure of the company. By choosing sources of financing, they can signal to the other investors how the capital structure will be set, or they will try to minimize the asymmetric costs that occur in that process. Models based on product or input market interactions can be explained through relationship between capital structure and strategic interactions between competition and characteristics of the product or inputs. Capital structure depends on selected strategies and debt repayment. That theory is dealing with manager's role in the company. Managers can manipulate with their shares and influence the results of company's takeover.

All theories are based on the relationships and behaviour that can affect the decisions about the capital structure in big, listed companies. Small companies operate in a completely different way and developed theories about capital structure are not applicable.

Determinants of capital structure in big companies, according to Harris and Raviv (1991) are: share of internal financing is decreasing, financial leverage is increasing, price of the share is rising in situation when capital structure is increasing, market conditions are extremely important for debt issuance, capital structure of companies in the same industries are similar, financial leverage increases with long-term assets and decreases with costs reduction and USP of the products/service, financial leverage is positively related to manager's share in ownership and negatively related to possibility of successful takeover.

Although capital structure theories can help in understanding of the decisions and process of capital structure decision making, Miller (1984) has found evidence and situations that cannot

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<sup>7</sup> Beck, T. (2007) and Beck T., Demircuc-Kunt, A. (2006)

<sup>8</sup> Fama and Miller (1972) and Jensen (1986)

be explained using the results of capital structure theories and for the first time used the term “financial behaviour”. Other researchers, Rajan and Zingales (1995), Gleason et al. (2000) proved that differences in laws, financial markets and institutional development affect the process of capital structure composition.

Since there is still no answer to the question of the optimal capital structure, researchers are trying to identify that puzzle through finding piece by piece in the puzzle called capital structure.

### **3. Capital structure theories in SMEs**

Having in mind that management in SMEs is substantially different from management in big companies, Walker and Petty (1978) checked the applicability of capital structure theories on SMEs. Financial management in SMEs is limited with the possible options and therefore decision about capital structure in SMEs are reached in different ways. The following characteristics will have an important role in that process: attitude of the owner/manager toward external financing, risk propensity of the owner/manager and economic conditions on the market. Other researchers, Norton (1991), Ang (1992), Hamilton and Fox (1998), have reached similar conclusions. Majority of the research efforts were focused on finding determinants that could explain decision making process and financial preferences of SMEs. Michaelas et al. (1998) summarized in their article all previous research results, concluding that “capital structure of the small firm at any time will be a function of the characteristics of the firm, its management and marketplace.”<sup>9</sup> Among first researchers that have provided a model of decision making process about capital structures in SMEs were Matthews et al. (1994). They presented their conceptual framework in which capital structure decision making process heavily depends on personal characteristics of the owner/manager of SME. Michaelas et al. (1998) have included in their model, respecting research results from Matthews et al. (1994), internal and external characteristics of the company: age, size, growth profitability, asset composition, debtors and creditors, stock and nature of operations, state of the economy, conditions of the marketplace, availability of the funds, industry characteristics and government policy. They have developed a circular model that, although very thorough, did not address all the issues that shaped the capital structure decision making process of SMEs that do not operate on developed financial markets.

Rajan and Zingales (1995) were first researchers that have proven influence of financial markets on the capital structures. Although they were doing their study having in mind big companies, their results are extremely important for the SME sector. SMEs will suffer more from the market imperfections, but also from the barriers in their business eco-system. Beck and Demirguc-Kunt (2006) showed that access to finance, corruption and legal protection will have almost twice the effect on SMEs annual growth than on that on large firm.

Michaelas et al. (1998) were among first researchers that have tried to analyse the capital structure decision making model in SMEs through qualitative data. This approach provided insight in that very complex process from a completely new perspective and gave very valuable results. But, on the other side, researchers neglected the fact that SMEs are in connection with big companies and do not operate without any interaction with them on the market.

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<sup>9</sup> Michaelas, N., Chittenden, F., Poutziouris, P. (1998): A model of capital structure decision making in small firm, *Journal of Small Business and Enterprise Development*, Vol. 5, No. 3, p.246

#### 4. Specifics of underdeveloped financial market

Influence of the financial market on capital structure of SMEs has been elaborated in the papers of many researchers (Cornelli et al., 1996; Rajan and Zingales, 2001; Titman, 2001; Bancel and Mittoo, 2004; Dell’Ariccia and Bonacorsi di Patti, 2004). Institutional factors can be an answer for different capital structure patterns, but legal system, access and the price of external sources of finance, too. On underdeveloped financial markets companies have higher leverage level in cases of expressed corruption. Dell’Ariccia and Bonacorssi di Patti (2004) proved that underdeveloped financial market, with limited access to capital will result with companies that have lower leverage level. But, when this market is bank-centric, companies will profusely use bank loans for financing growth and development.

Institutional factors, inappropriate accountancy standards and bad credit infrastructure will result with higher level of asymmetric information and agency costs. That makes external sources of finance more expensive, especially for SMEs. Underdeveloped financial markets, according to Chittenden et al. (1996) will cause accumulation of long-term assets in order to secure access to external sources of finance, lower leverage level in the older companies, lower level of net working capital and lower levels of liquidity. All these factors will force owners/managers of SMEs to modify their processes of capital structure decision making. Croatian financial market is characterized by 16 foreign banks that hold 90.3 % of the market<sup>10</sup>, very small number of financial services for SMEs, big number of non- liquid companies, low law protection of investors, limited access to information (no credit bureaus) and inadequate accountancy standards for SMEs. All these characteristics put Croatia on the list of economies with underdeveloped financial market. Influence of that market on the SMEs can be seen through hindered access to finance, heavy dependence on collateral, low level of net working capital and higher level of agency costs and expressed influence of asymmetric information. SMEs on underdeveloped financial markets will depend more, according to Cook (2001), on financial sources that come from family and friends, while leasing and venture capital are not among important sources of finance.

Financial crisis that has started in 1997 had global effect. All companies had to operate under the special conditions which included financial limitations, decline in demand, increased costs and risk of financing. Financial crisis changed the way of doing business but also willingness of creditors to provide sources of finance.<sup>11</sup> Impact and influence of global financial crisis could be seen in Croatian economy since 2013 and in the period from 2009 to 2013, GDP fell by 12 %. Although SMEs in Croatia during the crisis were more successful than big companies, they were incapable to deal with accumulated long-term assets and decline in net worth of assets in relation to debts.<sup>12</sup> Lack of knowledge, but also institutions that were not efficient in softening of effects of crisis resulted in longer period of crisis in Croatia. Financial crisis had bigger effect on the management of SMEs on underdeveloped financial markets because of low institutional development.

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<sup>10</sup> Hrvatska narodna banka (2016): Bilten o bankama, broj 29, available on: <https://www.hnb.hr/documents/20182/950978/hbilten-o-bankama-29.pdf/f037d986-a62d-402a-bb32-9794e88a1a51>, (accessed 1 April 2017)

<sup>11</sup> Hrvatska druga banka (2014): Suočavaju li se dobra poduzeća u krizi s financijskim ograničenjima, HUB analize, broj 50, available on: <http://www.hub.hr/hr/hub-analize-broj-50>, (accessed 2 April 2017)

<sup>12</sup> Ibidem

## 5. Research design

Data and information in this study were collected in the period from 2010 to 2012, for the purpose of doctoral study about determinants of capital structure in SMEs. During that period, Croatian companies were going through financial crisis. The study has been conducted on 108 SMEs from Croatia, which is identified as underdeveloped financial market. Decision making process of capital structure is affected by company's size, age and industry. Companies in the sample were from different industries and chosen among micro, small and medium-sized. The research was divided in two parts. In the first part, through 3 in-depth interviews, information about the determinants that led to usage of different external sources of finance were collected. The aim was to identify what were determinants that shaped their capital structure decision making process. The second part of the research was conducted for the purpose of identifying effects of the business eco-system on the capital structure of SMEs and preparing a proposal of model of capital structure in SMEs on underdeveloped financial market. Data were collected online, with the questionnaire made of 39 open and closed questions. The response rate was 28.35 %.

Companies in the sample were mostly in service sector (40.7%) and production (33.3%) and have been operating on the market from 2 to 20 years. The majority of the companies in the sample were operating on national level, while only 24.1 % of them were exporters. All the companies were from the SME sector, but 53 % of them were micro, employing less than 10 employees (58.3 %). Managers of only 17.6 % companies in the sample responded that their product or service is much better than what competition can offer. Competition was strong and extremely strong for most of the companies in the sample (68.5 %).

On the question about external sources of finance that companies have been using for their development, managers/owners responded that 89 % used internal sources and 42 % used bank loans. External sources of finance on regular basis were used only 13 % of the companies. The purpose of using external sources of finance was: financing of long-term assets (34 %), financing of short-term debts (18 %) and financing of customers (11 %).

As biggest barriers, owners/managers identified too many requirements from banks and credit institutions (48.5 %) and lack of information about the finance sources that are available (19.4 %).

Regarding the financial crisis, owners/managers responded that they have experienced decline in sales (50 %), increased accounts receivables and costs (61.1 %). Financial data revealed that SMEs in the sample stopped all investments activities, their short-term assets were increasing (due to accounts receivable), their long-term obligations were in decline but their short-term obligations rose (due to increase of accounts payable). Revenues were increasing, while expenses were decreasing, which led to a 48.42 % fall of profits.

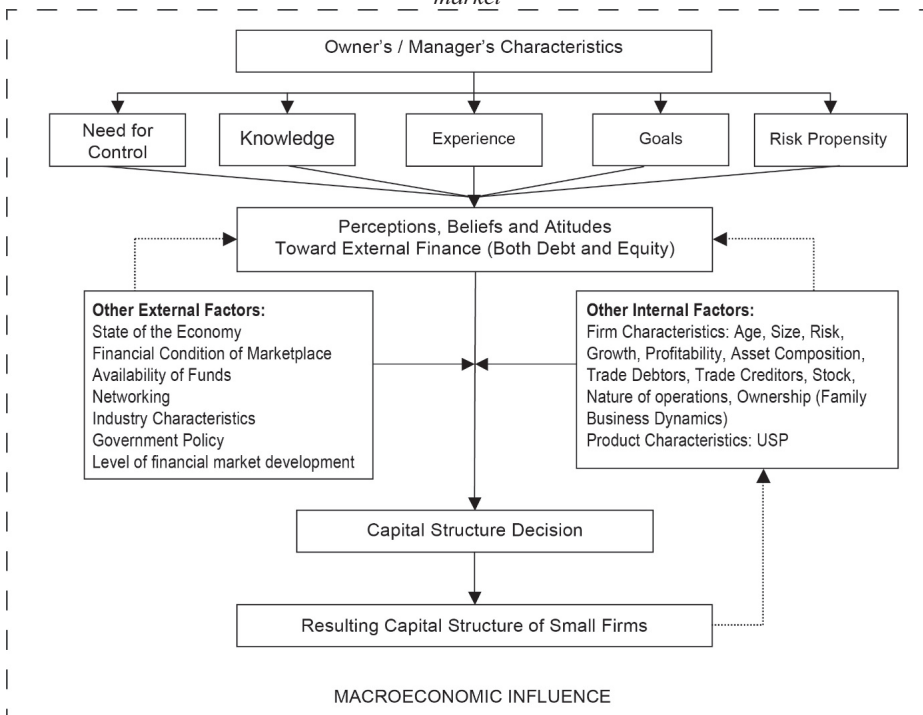
Among strategies that owners/managers were using in order to minimize effects of the global financial crisis, the most common were savings, intensive search for new customers and new markets, focus on foreign markets, reorganization of the business and layoffs. One small group of the companies in the sample described crisis as a new opportunity and their opportunity to grow.

## 6. A model of SMEs capital structure determinants

Determinants of capital structure decision making in SMEs are, as Michaelis et al. (1998), concluded, divided in three categories: managerial/owner characteristics (need for control, knowledge, experience, goals and risk propensity), characteristics of the company (age, size,

risk, growth, profitability, asset composition, trade debtors, trade creditors, stock, nature of operations and ownership) and characteristics of the marketplace (state of the economy, financial conditions on the market, availability of the funds, networking, industry characteristics and government policy). Their conclusions are led by results of prior researches on capital structure in SMEs. Still, capital structure is a puzzle that needs to be solved. Search for pieces of the puzzle did not finish and researchers need to reveal all determinants that could influence process of capital structure decision making. Among missing ones in this model were level of financial market development, confirmed in research of Rajan and Zingales (2001). On underdeveloped financial market, SMEs have higher level of agency costs and asymmetric information which will force them to accumulate long-term assets since only through collateral they can secure external financing. This determinant will shape the decision-making process greatly. Another, missing piece, is the macroeconomic influence that blurred decision making process – global financial crisis. Financial crisis changed the importance of other determinants in the process by bringing financial limitations, decline in demand, increased costs and risk of financing. As a result of new insights and influence of new determinants, a new, amended SMEs capital structure decision making model on underdeveloped financial markets is proposed.

**Picture 1** A model of capital structure determinants in SMEs on underdeveloped financial market



Source: Delić, A. (2012): *Determinants of capital structure in small and medium sized companies on underdeveloped financial markets*, doctoral dissertation, p 254.

## 7. Conclusion

The process of capital structure decision making in SMEs is a complex process with many determinants. Capital structure theories that could provide answer for certain decision about capital structure in big companies, do not follow the main propositions of doing business in SMEs. Having in mind characteristics of the owner/manager that makes decisions, first attempts toward the capital structure model in SMEs are made. But, SMEs are more affected by the characteristics of the marketplace than big companies. Without analysis of the effects of that determinant, it is not possible to understand the process of capital structure decision making.

Influence of the marketplace characteristics were already confirmed by researchers, but researchers usually use big companies' data and those results cannot be completely adopted in capital structure decision making of SMEs. Specifics of SMEs, but also of the level of financial markets development should be researched in more detail.

The capital structure business model of SMEs, proposed in this article, was formed on underdeveloped financial market. Specificity of this model is that it captured the insights and experiences that owners/managers had during the global financial crisis. Financial crisis was identified as a determinant that has changed the path of capital structure decision making process.

Proposed model of capital structure decision making process in SMEs, as a very complex issue, needs to be proved by testing identified determinants quantitatively. This could be one step closer to the solution of capital structure puzzle.

## REFERENCES

- Alpeza, M., Eterović, D., Novosel, M., Oberman Peterka, S., Singer, S., Šarlija, N. (2016): *Small and Medium Enterprises Report – Croatia 2015, including the results of GEM – Global Entrepreneurship Monitor research for Croatia for 2014*, CEPOR, Zagreb
- Ang, J. S. (1992): *On the theory of finance for privately held firms*, The Journal of small business, Vol. 1, No. 3, pp. 185-203
- Bancel, F., Mittoo, U. R. (2004), *The Determinants of Capital Structure Choice: A Survey of European Firms*, Financial Managements, Vol. 33, No. 4, pp. 103-132
- Beck, T. (2007): *Financing constraints of SMEs in developing countries: Evidence, determinants and solutions*, The World Bank Washington, DC
- Beck, T., Demirguc-Kunt, A. (2006): *Small and medium-size enterprises: Access to finance as a growth constraint*, Journal of Banking & Finance, Vol. 30, No. 11, pp. 2931-2943
- Chittenden, F., Hall, G., Hutchinson, P. (1996): *Small Firm Growth, Access to Capital Markets and Financial Structure: Review of Issues and an Empirical Investigation*, Small Business Economics, Vol. 8, No. 1, pp. 59-67



Cook, P. (2001): *Finance and Small and Medium-Sized Enterprise in Developing Countries*, Journal of Developmental Entrepreneurship, Vol. 6, No. 1,

Cornelly, F., Portes, R., Schaffer, M. E. (1996): *The Capital Structure of Firms in Central and Eastern Europe*, CEPR Discussion Paper, No. 1392

Delić, A. (2012): *Determinants of capital structure in small and medium sized companies on underdeveloped financial markets*, doctoral dissertation

Delić, A., Filakov, L. (2016): *Why not to use the service of business advisers: Some evidence from Croatia*, in *Proceeding of 5th International Scientific Symposium: Economy of Eastern Croatia – vision and growth*, Osijek, June 2-4, pp. 891-901

Dell’Ariccia, G., Bonacorsi di Patti, E. (2004): *Bank Competition and Firms Creation*, Journal of Money, Credit and Banking, Vol.36, No. 2, pp. 225-251

European Commission (2016): *Annual Report on European SMEs 2015/2016, Final Report*, available on: [https://ec.europa.eu/jrc/sites/jrcsh/files/annual\\_report\\_-\\_eu\\_smes\\_2015-16.pdf](https://ec.europa.eu/jrc/sites/jrcsh/files/annual_report_-_eu_smes_2015-16.pdf), (accessed 15 April 2017)

European Commission, Directorate-General for Enterprise and Industry (2014): *Annual report on European SMEs 2013/2014 – A Partial and Fragile Recovery*, Final Report  
Fama, E. F., Miller, M. H. (1972): *The Theory of Finance*, Holt, Reinhart and Winston, New York

Gleason, K. C., Mathur, L. K., Mathur, I. (2000): *The Interrelationship between Culture, Capital Structure and Performance: Evidence from European Retailers*, Journal of Business Research, Vol. 50, No. 2, pp. 185-191

Hamilton, R. T., Fox, M. A. (1998): *The financing preferences of small firm owners*, International Journal of Entrepreneurial Behavior & Research, Vol. 4, No. 3, pp. 239-248

Harris, M., Raviv, A. (1991): *The Theory of Capital Structure*, The Journal of Finance, Vol. No. 1, pp. 297-355

Hrvatska narodna banka (2016): *Bilten o bankama*, broj 29, dostupno na: <https://www.hnb.hr/documents/20182/950978/hbilten-o-bankama-29.pdf/f037d986-a62d-402a-bb32-9794e88a1a51>, (accessed 1 April 2017)

Hrvatska udruga banaka (2014): *Suočavaju li se dobra poduzeća u krizi s financijskim ograničenjima*, HUB analize, broj 50, available on: <http://www.hub.hr/hr/hub-analize-broj-50>, (accessed 2 April 2017)

Jensen, M. C. (1986): *Agency costs of free cash flow, corporate finance and takeovers*, The American economic review, Vol. 76, No. 2, pp. 323-329

Kumar, S., Rao, P. (2015): *A conceptual framework for identifying financing preferences of SMEs*, Small Enterprise Research, Vol. 22, No. 1, pp. 99-112



- Michaelas, N., Chittenden, F., Poutziouris, P. (1998): *A model of capital structure decision making in small firm*, Journal of Small Business and Enterprise Development, Vol. 5, No. 3, pp. 246-260
- Norton, E. (1991): *Capital Structure and Small Growth Firms*, The Journal of Small Business Finance, Vol. 1, No. 2, pp. 161-177
- Rajan, R. G., Zingales, L. (1995): *What do we know about Capital Structure? Some evidence from International Data*, The Journal of Finance, Vol. 50, No. 5 pp. 1421-1460
- Rajan, R. G., Zingales, L. (2001): *Financial Systems, Industrial Structure and Growth*, Oxford Review of Economic Policy, Vol.17, No. 4, pp. 467-482
- Titman, S. (2001): *The Modiglianni and Miller Theorem and Market Efficiency*, National Bureau of Economic Research
- Vermoesen, V., Deloof, M., Laveren, E. (2013): *Long-term debt maturity and financing constraints of SMEs during the Global Financial Crisis*, *Small Business Economics*, Vol. 41, pp. 433-448
- Walker, E. W., Petty II, J. W. (1978): *Financial Differences between Large and Small Firms*, *Financial Management*, Winter, pp. 61-68

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**COMPARISON OF NATIONAL ACCOUNTING FRAMEWORK – THE  
CASE OF CROATIA, SLOVAKIA AND CZECHIA**

**USPOREDBA NACIONALNOG RAČUNOVODSTVENOG OKVIRA –  
SLUČAJ HRVATSKE, SLOVAČKE I ČEŠKE**

***ABSTRACT***

*Harmonization and standardization of accounting, as well as the overall business, represent a principal feature of present globalization. National legislation is harmonizing with the European Union acquis communautaire by the accession of individual country to the European Union. Regulation (EC) No. 1606/2002 of the European Parliament and the Council introduced a mandatory application of International Accounting Standards, and now known as International Financial Reporting Standards for all listed companies in the EU member states. The goal was to provide a high level of transparency and comparability of financial statements of listed companies through the introduction of the mandatory application of International Accounting Standards. However, national accounting framework is of great importance for financial reporting in every country. National accounting framework has an essential role in determining the major rules of keeping accounting records, defining chart of accounts, preparing annual financial statements and the application of national and/ or international accounting standards. Accountants have a key role in recording of business transactions and preparing of financial statements. In performing these tasks accounting skills are essential. Professional associations have an important role in the promotion and development of the accounting theory and practice. The main purpose of this research was to investigate the regulatory framework of accounting and financial reporting and to examine the organization of the accounting profession in selected EU member states – Croatia, Slovakia and Czechia. The results indicate that there are differences and unevenly practice in the field of accounting regulations as well as in the organization of the*

accounting profession. The comparison of Croatian, Slovak and Czech accounting regulation focuses not only on differences but as well as on similarities, which can indicate better comprehension the national accounting rules.

**Key words:** accounting regulation, accounting profession, Croatia, Slovakia, Czechia.

## SAŽETAK

Harmonizacija i standardizacija računovodstva, ali i sveukupnog poslovanja, predstavljaju ključno obilježje sveprisutne globalizacije. Ulaskom pojedine države u Europsku uniju mijenjaju se i usklađuju zakonski propisi s pravnom stečevinom Europske unije. Uredbom (EZ) br. 1606/2002 Europskog parlamenta i vijeća uvedena je obvezna primjena Međunarodnih računovodstvenih standarda, odnosno danas Međunarodnih standarda financijskog izvještavanja za sva kotirana društva u državama članicama Europske unije. Cilj je bio da se kroz uvođenje i obveznu primjenu Međunarodnih računovodstvenih standarda osigura visoki stupanj transparentnosti i usporedivosti financijskih izvještaja društava koja kotiraju na burzi. Međutim, za financijsko izvještavanje u pojedinoj državi od velike je važnosti nacionalni računovodstveni okvir koji ima ključnu ulogu u određivanju glavnih pravila vođenja računovodstvenih evidencija, definiranju kontnog plana, pripremi godišnjih financijskih izvještaja i primjeni nacionalnih i/ili međunarodnih računovodstvenih standarda. U evidentiranju poslovnih događaja i sastavljanju financijskih izvještaja ključna je uloga računovođa i neophodna su računovodstvena znanja u obavljanju tih poslova. Profesionalne udruge imaju važnu ulogu u unaprjeđenju i razvoju računovodstvene teorije i prakse. Glavna svrha ovog rada bila je istražiti regulatorni okvir računovodstva i financijskog izvještavanja i organizaciju računovodstvene profesije u odabranim državama članicama Europske unije – Hrvatskoj, Slovačkoj i Češkoj. Na temelju provedenog istraživanja zaključuje se da postoje razlike i neujednačena praksa i u području računovodstvene regulative kao i u organizaciji računovodstvene profesije. Usporedba hrvatske, slovačke i češke računovodstvene regulative fokusira se ne samo na razlike, već i na sličnosti, koje mogu ukazivati na bolje razumijevanje nacionalnih računovodstvenih pravila.

**Ključne riječi:** računovodstvena regulativa, računovodstvena profesija, Hrvatska, Slovačka, Češka.

## 1. Introduction

Accountants in different countries apply different accounting rules – valuation methods, amortization and depreciation methods, disclosure requirements, and others, and this is the reason why financial statements differ among countries. Therefore, one of the principle features of the globalization, during the last forty years, is harmonization and standardization of accounting and overall business. The accounting harmonization and standardization is a movement that has overtake accounting regulators, accounting educators and standard setters with the same goal – improve the transparency of financial reporting and international comparability of financial statements.

Companies in different countries in the European Union (hereinafter: EU) operate in different accounting environments with different tradition. However, the accession of individual country to the EU required the harmonization of national accounting and financial reporting with the EU *acquis communautaire*. The most important change in the area of accounting and financial reporting was the implementation of the Regulation (EC) No. 1606/2002 of the European Parliament and the Council that introduced a mandatory application of International Accounting Standards (hereinafter: IAS), and now known as International Financial Reporting Standards (hereinafter: IFRS) for all listed companies in the EU member states. The new Accounting

Directive 2013/34/EU entered into force on 20 July 2013 (Official Journal of the European Union, 2013). Until 20 July 2015, all EU countries had to incorporate into national accounting legislation the new accounting principles prescribed in the new Accounting Directive 2013/34/EU. The objective of EU accounting legislation is to prescribe measurement bases, general financial reporting principles and the forms of the annual financial statements at a general level. Although there is an intention to harmonize and standardize the EU legislation and that some legal acts should be uniformly implemented across the EU, there exists a certain level of freedom among EU countries in the preparation of legal acts which permits them to accept national specificities.

In application of relevant accounting acts and standards, solving accounting problems and preparation of financial statements are crucial accounting knowledge and skills and some other specific skills (intellectual, technical, communication, personal and others) of accountants.

The EU member states have different practices in regulation of accounting, financial reporting and accounting profession. Therefore, the main goal of this paper was to investigate the regulatory framework of accounting and financial reporting and to examine the organization of the accounting profession in selected EU member states – Croatia, Slovakia and Czechia.

## **2. Literature review**

### **2.1. Regulation of principal accounting issues**

Accounting is affected by the social, cultural, economic and institutional environment in which it operates, so the principal accounting issues in different countries are regulated on a different way. Some countries regulate their principal accounting issues through separate accounting acts, while others implement those issues in companies act or in other acts. Aerts and Walton (2013) emphasized that some countries prefer legal regulations, while other countries prefer codes of best practice. Certain legal acts differ among countries (by name and content), and thereby they reflect specificities of institutional regulative based on the tradition of individual country (Gulin, 2013, 35). Furthermore, some countries have developed their national accounting standards, while in others national accounting rules and principles are included in accounting act or companies act.

The accounting system and national accounting framework in two or more countries differs because of national specificities. Many authors quoted different factors that influence on those differences. Saudagaran (2009, 1-3) cites several key factors that impact accounting development and the accounting system at national level: 1) nature of capital markets, 2) type of reporting regimes, 3) size and complexity of business entities, 4) legal system, 5) rate of inflation, 6) level of enforcement, 7) stature of the accounting profession, 8) political and economic ties with other countries, 9) existence of a conceptual framework, and 10) quality of accounting education. Nobes and Parker (2008, 25-37) refer further principal factors which influence on the differences in accounting systems among countries: 1) culture, 2) legal systems, 3) providers of finance, 4) taxation, 5) political or economical events, and 6) the accounting profession.

According to all these factors that influence on the accounting system of individual country, there are many national specificities in the area of accounting that still are not harmonized among countries. Each country can decide on its national rules relating to the application of financial reporting standards (national or international) and other accounting issues. National accounting framework has a crucial role in determining the major rules of keeping accounting records, defining chart of accounts, preparing annual financial statements and the application of national and/ or international accounting standards.

In a large extent, development of national accounting legislation is influenced by the classification of entrepreneurs according to their size – on micro, small, medium and large entrepreneurs. Usually, large entrepreneurs apply more complex accounting regulations, while medium, small

and particularly micro entrepreneurs apply simplified accounting regulations. The principle reason for adjustment the accounting regulation at national and international level to the size of the entrepreneurs derives from the significance of certain groups of entrepreneurs in the national economy, as well as in the EU economy in general. This significance is determined by number of entrepreneurs, their structure and number of employees. Finally, beside the company's size, a very important criterion for defining accounting regulations is the fact if there are quoted or unquoted companies.

## **2.2. The role of accounting profession in conducting business**

The accounting profession has a very important role in recording of business events and preparation of financial statements. Larson (1977) highlights that accounting as profession usually has been viewed as a set of competencies (special knowledge, skills and techniques) and people who posses such competencies are suitable to perform accounting tasks.

In performing their services, accountants have to apply national or international accounting standards, and also they have to understand comprehensive accounting and tax regulations. Because of their knowledge and skills, accountants are becoming increasingly important in company's management activities. Respecting the acquirements for the application of appropriate accounting policies in measurement of economic categories and presentation of financial statements, the accounting profession is becoming more and more interesting and more needed in managerial structures, because the implementation of IAS/IFRS is increasingly aimed at achieving the objectives of owners and management (Hladika, 2015, 54). Management needs accountants while they provide objective measurement, analysis and assurance for making good decisions, and good decisions mean less risk (ACCA, 2012, 9). Moreover, the accounting profession through the standard setting boards is more intensively involved in development of new and improvement of existing accounting standards.

The knowledge of accounting is crucial in performing important positions in company such as the chief financial officer of company, key management, internal auditor and others. Professional accountants in business, together with their counterparts in taxation and auditing, play important roles that contribute to the overall stability and progress of society (Jui, Wong, 2013).

The structure and organisation of the accounting profession differs among EU member states and on a global level. Wide ranges of activities which perform professional accountants include many services such as preparation of financial statements, tax services and statutory audit. Changes in modern business environment have led to the development of new services like reporting on sustainability and corporate social responsibility, consultation with management in the area of strategy development and corporate governance.

Professional associations of accountants have a significant role in strengthening and protecting the accounting profession. Also, professional associations of accountants have an important role in promotion and development of accounting theory and practice. The mission of professional associations of accountants is to enable faster implementation of social, economic and political changes into the accounting theory and practice. Laughlin (2011) indicate that professional associations of accountants have a significant role in the discussion about the changing nature of accounting and in assignment academic research findings to accounting practitioners.

## **3. Regulatory framework of accounting**

### **3.1. Regulatory framework of accounting in Croatia**

In recording of business events and the preparation of financial statements, entrepreneurs are obliged to comply with laws and regulations that are in force. National accounting framework in Croatia is based on the Accounting Act. The Accounting Act defines entrepreneurs that are

obliged to apply the Accounting Act, financial statements and framework for preparation of financial statements (application of national or international accounting standards), and accounting (double entry bookkeeping system, accounting documents, business books and inventory process) (Official Gazette, No. 7/2015, 134/2015, 120/2016).

The standards of financial reporting represent the starting point in preparation of the annual financial statements for the purpose of recognizing, measuring and presenting of certain positions in financial statements. In accordance with the Accounting Act all entrepreneurs have an obligation to draw up and present annual financial statements by application of Croatian Financial Reporting Standards (hereinafter: CFRS) or IFRS (Accounting Act, 2015, article 17.).

The size of entrepreneur determines the obligation for the implementation of certain set of accounting standards: CFRS or IFRS. Criteria for classification of entrepreneurs in the Accounting Act are harmonized with the criteria for their classification determined in the Directive 2013/34/EU. In accordance with the Accounting Act (2015, article 5.), entrepreneurs are classified into micro, small, medium and large entrepreneurs. Criteria for classification of entrepreneurs are following: *balance sheet total, net turnover and an average number of employees during the financial year.*

**Table 1** Classification of entrepreneurs in Croatia (1 EUR = 7,53 HRK, January 17, 2017)

| Criteria                    | Micro entrepreneurs | Small entrepreneurs | Medium entrepreneurs | Large entrepreneurs |
|-----------------------------|---------------------|---------------------|----------------------|---------------------|
| Balance sheet total         | < 350.000 EUR       | < 4.000.000 EUR     | < 20.000.000 EUR     | > 20.000.000 EUR    |
| Net turnover                | < 700.000 EUR       | < 8.000.000 EUR     | < 40.000.000 EUR     | > 40.000.000 EUR    |
| Average number of employees | < 10                | < 50                | < 250                | > 250               |

Source: Accounting Act (2015, article 5.)

Large entrepreneurs and public interest entities (as defined in Accounting Act, 2015, article 3.) regardless of their size are obliged to prepare and present annual financial statements in accordance with IFRS. Micro, small and medium-sized entrepreneurs are required to prepare and present annual financial statements applying the CFRS.

CFRS are created in accordance with the Accounting Act and they are based on the national accounting theory and practice, and Directive 2013/34/EU of the European Parliament and the Council. CFRS regulate the topic in relation to the financial statements that are primarily oriented for external users. CFRS contain requirements for recognition, measurement, estimations, presentation and disclosure of transactions and events important for general purpose financial statements of entrepreneurs that make profit or loss. CFRS are specially adapted to the needs of medium, small and micro entrepreneurs that predominate in Croatian economy. Till today it is developed 17 CFRS (Official Gazette, No. 86/2015).

CFRS are issued by the Financial Reporting Standards Committee (hereinafter: the Committee). The Committee consists of nine members, who are, on the proposal of the Minister of Finance, appointed and dismissed by the Croatian Government for a term of five years. The Committee is a professional body having the following competences (Accounting Act, 2015, article 18.):

1. adopts the CFRS
2. prepares for publication and publish in the "Official Gazette" CFRS
3. gives an interpretation of CFRS when the Committee assesses that it is essential for the application of CFRS
4. provide to the Minister of Finance the proposal of Ordinance on the structure and content of the annual financial statements

5. provide expert opinions at the request of the Ministry of Finance, about the proposed legislation of the European Union and other issues in the field of accounting
6. analyses and monitors development of the accounting theory and practice
7. performs other activities within its scope by order of the Minister of Finance.

Set of financial statements which entrepreneurs have to present is prescribed by the Accounting Act and Ordinance on the structure and content of the annual financial statements. Depending on the size of entrepreneur, different entrepreneurs are obliged to prepare different set of financial statements.

*Table 2 Annual financial statements relating to the size of entrepreneur*

| Size of the entrepreneur                | Micro | Small | Medium | Large |
|---|-------|-------|--------|-------|
| <b>Financial statement</b>              |       |       |        |       |
| Statement of financial position         | ✓     | ✓     | ✓      | ✓     |
| Profit and loss account                 | ✓     | ✓     | ✓      | ✓     |
| Statement of other comprehensive income | ×     | ×     | ×      | ✓     |
| Cash flow statement                     | ×     | ×     | ✓      | ✓     |
| Statement of changes in equity          | ×     | ×     | ✓      | ✓     |
| Notes to the financial statements       | ✓     | ✓     | ✓      | ✓     |

*Source: Accounting Act (2015, article 19.) and Ordinance on the structure and content of the annual financial statements (2016, articles 2.-5.)*

The rules and obligations relating to the presentation of annual financial statements depending on the entrepreneur's size are systematized in table 2. Current regulatory framework requires that micro and small entrepreneurs are obliged to prepare the statement of financial position, profit and loss account, and notes to the financial statements. Medium-sized entrepreneurs, in addition to these financial statements, are obliged to prepare the cash flow statement and the statement of changes in equity, while large entrepreneurs and public interest entities are obliged to prepare a complete set of financial statements.

Entrepreneurs are required for statistical and other purposes submit their financial statements to the Financial Agency in the following periods of time (Accounting Act, 2015):

- until 30 April of the current year for the previous calendar year (for statistical and other purposes)
- within six months of the last date of financial year (for the purpose of public disclosure)
- within nine months of the last date of financial year (for the purpose of public disclosure of consolidated financial statements – if company is obliged to prepare them)
- within ninety days in the case of status changes, initiating liquidation or bankruptcy.

Chart of accounts is not prescribed, and companies, in the recording of business events, apply their own prepared chart of accounts, or chart of accounts which is developed by certain consulting companies.

The responsibility for supervision of entrepreneurs has Ministry of Finance, Tax Administration. The supervision covers the area of accounting operations in order to check whether the entrepreneur performs accounting tasks in accordance with the provisions of Accounting Act, other laws regulating the performance of businesses and which contain provisions relating to accounting operations and regulations adopted on the basis of these laws.

### **3.2. Regulatory framework of accounting in Slovakia**

The obligation for entrepreneurs to maintain their accounts is stated in the Slovak Commercial Code No. 513/1991 as amended (Chapter IV, Articles 35-40). This obligation is connected with the fact that every type of business uses accounting and the types of business, including their features, are also defined in the Slovak Commercial Code. The primacy in the Slovak accounting legislation belongs to the Act No. 431/2002 Coll. on Accounting as amended (hereinafter: Act on



Accounting). The Act on Accounting sets its subject which includes bookkeeping and presentation of facts regarding accounting transactions as well as presentation of off-balance sheet assets and off-balance sheet liabilities in the financial statements.

According to the Act on Accounting entrepreneurs must maintain their accounts and books under the system of double entry bookkeeping. The Act on Accounting (Article 9 (2)) specifies also the instances, when the basis of cash receipts and disbursements (also known as single entry bookkeeping) may be used by:

- an entrepreneur allowed to do so by the Article 37 of the Slovak Commercial Code
- a sole trader
- civic associations and their organizational units having the status of a legal entity, the Slovak legal entities, association of owners of apartments and non-residential premises, non-investment funds, hunting organizations and non-profit organizations providing services beneficial to the public, unless the above carry out business activities or their cash receipts exceeded or were equal to 200.000 EUR in the preceding accounting period
- churches and religious associations, their bodies, and church institutions having the status of a legal entity, unless they carry out business activities.

The Act on Accounting consists of nine parts and except for the accounting systems it also defines other principal accounting issues such as accounting documents, accounting entries, accounting books, framework for the chart of accounts and accounting entity's chart of accounts, financial statements, audit of financial statements by an auditor, annual report, consolidated financial statements, register, valuation methods, reconciliation procedures, accounting documentation.

In the Slovak accounting regulation are existing several decrees containing accounting rules for business transactions to assign them in monetary amounts to represent elements of financial statements. All decrees on accounting are issued by the Ministry of Finance of the Slovak Republic. They differ on the accounting systems and in case of the prescribed structure of the financial statements on the size of entrepreneurs. The complete list of decrees is as follows:

- a) for the double entry bookkeeping and financial statements:
  - Decree of the Ministry of Finance of the Slovak Republic No. 23054/2002-92 of 16 December 2002 laying down details of the accounting procedures and the framework for the chart of accounts for entrepreneurs maintaining accounts under the system of double entry bookkeeping, as amended (hereinafter: Decree of the MFSR on double entry bookkeeping)
  - Decree of the Ministry of Finance of the Slovak Republic No. MF/23377/2014-74 of 3 December 2014 laying down details of the structure, description and content of items of individual financial statements for large accounting entities and public interest entities, as amended
  - Decree of the Ministry of Finance of the Slovak Republic No. MF/23378/2014-74 of 3 December 2014 laying down details of the structure, description and content of items of individual financial statements for small accounting entities, as amended; and
  - Decree of the Ministry of Finance of the Slovak Republic No. MF/15464/2013-74 of 11 December 2013 laying down details of the structure, description and content of items of individual financial statements for micro accounting entities, as amended.
- b) for the basis of cash receipts and disbursements and financial statements:
  - Decree of the Ministry of Finance of the Slovak Republic No. 27076/2007-74 of 13 December 2007 laying down details of the accounting procedures and details of the structure, description and content of items of financial statements and the extent of data contained in these financial statements to be published by entrepreneurs maintaining accounts under the basis of a cash receipts and disbursements, doing business or undertaking other independent earning activities where they report expenses incurred for acquiring, assuring and maintaining income in order to determine their income tax, as amended.



As provided by the Act on Accounting on its subject, decrees set above prescribe accounting procedures and presentation of facts regarding accounting transactions as well as presentation of off-balance sheet assets and off-balance sheet liabilities in the financial statements of accounting entities considering their accounting system and their size.

The size criteria for classification of entrepreneurs are harmonized with the Directive 2013/34/EU. Requirements of the Directive 2013/34/EU are implemented into the Act on Accounting. In accordance with the Act on Accounting (Article 2 (5) to (12)), accounting entities are classified into micro, small and large accounting entity. The criteria of size and their content are the same for all three size groups of accounting entities: *total assets (this item is after deducting accumulated depreciation or amortization and value adjustments; thus net assets), net turnover and the average number of employees during the accounting period*. The categorization into the size group is conditioned by meeting at least two of the following conditions included in the size group (Table 3) as of the balance sheet date for the relevant accounting period and for the preceding accounting period.

**Table 3** Classification of accounting entities in Slovakia

| Criteria                    | Micro-accounting entity | Small accounting entity           | Large accounting entity |
|-----------------------------|-------------------------|-----------------------------------|-------------------------|
| Total assets                | ≤ 350.000 EUR           | > 350.000 EUR and ≤ 4.000.000 EUR | > 4.000.000 EUR         |
| Net turnover                | ≤ 700.000 EUR           | > 700.000 EUR and ≤ 8.000.000 EUR | > 8.000.000 EUR         |
| Average number of employees | ≤ 10                    | > 10 and ≤ 50                     | > 50                    |

Source: Act on Accounting (Article 2 (6) to (8))

The classification in Table 3 does not apply to accounting entities that must or may prepare its individual financial statements according to the IFRS as adopted by the EU, the National Bank of Slovakia and public-interest entities (Article 2 (13) of the Act on Accounting). As provided by the Act on Accounting the accounting entities specified in Table 3 have to apply requirements of decrees on accounting procedures and also on the preparation of their individual financial statements. There are specified other certain specific size criteria for preparation of individual financial statements under IFRS as adopted by the EU in the Act on Accounting. The size criteria for IFRS do not match with the definition of the large company.

Individual financial statements must be prepared under constraints of the IFRS as adopted by the EU, if the accounting entity is a company and if at least two of the following conditions were met in at least two consecutive accounting periods (Act on Accounting, Article 17a (2)):

- total assets exceeded 170.000.000 EUR (while total assets being defined as total assets ascertained from the balance sheet before value adjustments and accumulated depreciation or amortization)
- net turnover exceeded 170.000.000 EUR
- the average calculated number of employees exceeded 2.000 in a particular accounting period.

The application of IFRS by the preparation of individual financial statements is required also for some of the public-interest entities or permitted to e.g. a payment institution, an electronic money institution, a security trader. If once an accounting entity prepares and presents its individual financial statements under IFRS as adopted by the EU, it has the obligation to continue in their application even if the specified conditions cease to exist. All consolidated financial statements have to be prepared in accordance with IFRS since January 1, 2005. The size criteria for the preparation of financial statements are stipulated by the Ministry of Finance of the SR.

Individual financial statements are subject to the Act on Accounting and Decrees on their structure and content. If the system of double entry bookkeeping is used, the Act on Accounting

prescribes financial statements as a complete set which consists of: balance sheet, income statement and notes to the financial statements including cash-flow statement and information on changes in equity. A comparison of requirements to the financial statements prepared by the large, small and micro entities is presented in the table 4. If financial statements of an entity are subject to an audit, then the accounting entity is required to prepare and present an annual report. If the basis of a cash receipts and disbursements is used, then according to the Act on Accounting the financial statements shall contain statement of cash receipts and cash payments and statement of assets and liabilities.

**Table 4 Individual financial statements relating to the size of entity in the Slovakia**

| Size of the entrepreneur           | Micro   | Small   | Large |
|------------------------------------|---------|---------|-------|
| <b>Financial statement</b>         |         |         |       |
| Balance sheet                      | ✓       | ✓       | ✓     |
| Income statement                   | ✓       | ✓       | ✓     |
| Notes to the financial statements: |         |         |       |
| • Obligatory content               | reduced | reduced | full  |
| • Cash-flow statement              | ✗       | ✗       | ✓     |
| • Information on changes in equity | ✗       | ✗       | ✓     |

*Source: Decrees on the structure and content of the individual financial statements*

The balance sheet and the income statement of the small and large accounting entity have the same prescribed structure and content. The structure and content of the balance sheet and income statement prescribed for the micro-entities are reduced and content is more aggregated in comparison with the statements for small and large entities. Also the content of notes to the financial statements differs on the information that has to be presented. The notes to the financial statements of the micro-entity are the most simplified. Micro-entities do not need to present e.g. events after reporting period, they do not need to calculate, record and present deferred tax, measurement of assets and liabilities at fair value is simplified, and equity method is not used for valuation of financial investments. Small entities need to present more information in the notes to the financial statements than micro entities but still less than large entities. Large entities and public interest entities must present the cash-flow statement and information on changes in equity. There is not any prescribed structure for changes in equity therefore the title used, is “information on changes in equity”.

The deadlines for preparation, presentation, audit, review, approval, filing and publication of financial statements differ for individual financial statements, individual annual reports, consolidated financial statements and consolidated annual reports. According to provisions of the Act on Accounting, accounting entities are required to prepare their individual financial statements and file them into the Register of Financial Statements within six months of the balance sheet date at least unless special legislation provides otherwise. The administrator of the Register of Financial Statements is the Ministry of Finance of the SR and its operator is the state-budget funded organization DataCentrum of the Ministry of Finance of the SR. If an accounting period is identical with the calendar year then the preparation of financial statements and their filing into the Register of Financial Statements is by 31 March of the following year with the possibility of prolongation by the maximum of three months or in case of income earned abroad with the prolongation by the maximum of six months. If an accounting entity submits the financial statements in writing then incorporation into the Register of Financial Statements is performed by the tax authority and the accounting entity submits also its corporate income tax return to the tax authority. If an entity has the access to electronic mailing, it files financial statements in electronic form via the electronic mailroom. The Ministry of Finance sends electronic form of documents filed in the register via the Justice Ministry of the SR to the Collection of Deeds of the Commercial Register.

Accounting entities are required to prepare their consolidated financial statements within six months of the balance sheet date (unless special legislation provides otherwise), if they are subject

to this obligation and they shall file consolidated financial statements, together with an auditor's report, into the Register of Financial Statements within one year of the end of the accounting period.

The framework for the chart of accounts is prescribed by the Act on Accounting and for entrepreneurs it is presented as an obligatory part (Appendix 1) of the Decree of the MFSR on double entry bookkeeping. The framework for the chart of accounts for entrepreneurs contains accounting classes (0 – 9), accounting groups (with two digits) and accounts including their numerical (a three-digit code) and written description (a title). Accounting entities are allowed to create additional synthetic account codes for balance sheet accounts, but only if they comply with the requirements regarding the true and fair view and the content of the accounting class and group.

If an entity commits any of the administrative offences (list in the Act on Accounting) and the administrative offence is revealed, the fine for it is imposed by the tax authority. The tax authority will do so after the control of the observance of the Acts on taxes and Act on Accounting and if it finds the violation of the tax or accounting law, it will impose fines for administrative offences in accordance with the Act No. 563/2009 Coll. on Tax Administration as amended (Mokošová – Molín, 2016, 235).

### 3.3. Regulatory framework of accounting in Czechia

Accounting in the Czech Republic is currently regulated by several legal sources. Primarily by the Accounting Act (Act No. 563/1991 Coll.) that is followed by implementing decrees of the Ministry of Finance of the Czech Republic (these decrees are issued for various types of accounting entities). More detailed rules of accounting are included in the Czech Accounting Standards (CAS), (all jointly hereinafter referred to as the “Czech GAAP”).

The Accounting Act defines which accounting entities are obliged to keep accounts and it defines a basic regulatory framework of accounting in the Czech Republic. Some other accounting entities have the duty (or option) to keep accounts and compile financial statements in accordance with the IFRS (such accounting entities are not regulated by decrees issued by the Ministry of Finance or CAS). As it has been explained above, also listed companies in the Czech Republic have to compile (individual) financial statements according to the IFRS. As, e.g., Mejzlík (2010, 5) has mentioned, the Accounting Act even allows that accounting entities that don't temporarily have their shares emitted in any EU stock exchange may follow voluntarily the IFRS, the same rule applies to the accounting entities that have the duty to compile consolidated financial statement in accordance with the IFRS. In any case, entities that compile their financial statement in accordance with the IFRS encounter a complication when determining their corporate income tax, since the current fiscal rules don't allow using the profit calculated using the IFRS as the tax base and the Czech GAAP have to be followed exclusively. As Procházka (2014, 70) concludes, allowing the IFRS for the tax purposes in the future may be an acceptable political choice.

Therefore, it may be concluded that the duty to use the national regulation or the IFRS is not linked to accounting entity classification. Nevertheless, the Accounting Act uses this classification; while it goes on to define the following criteria:

**Table 5** Classification of accounting entities in the Czech Republic (1 EUR = 27 CZK, March 20, 2017)

| Criteria                    | Micro entrepreneurs | Small entrepreneurs | Medium entrepreneurs | Large entrepreneurs |
|-----------------------------|---------------------|---------------------|----------------------|---------------------|
| Balance sheet total         | < 333.333 EUR       | < 3.703.703 EUR     | < 18.518.518 EUR     | > 18.518.518 EUR    |
| Net turnover                | < 666.666 EUR       | < 7.407.407 EUR     | < 37.037.037 EUR     | > 37.037.037 EUR    |
| Average number of employees | < 10                | < 50                | < 250                | > 250               |

Source: Accounting Act (2017, article 1b)

Public interest entities are considered large accounting units regardless of their size.

We may conclude that the national regulation of accounting in the Czech Republic is in the hands of the Minister of Finance. Naturally, the Accounting Act has to be approved by the Parliament in a legislative process; however, accounting decrees as well as the Czech Accounting Standards are issued directly by the Minister of Finance.

When compiling financial statements, the accounting entities in the Czech Republic don't compile statement of other comprehensive income. A complete set of financial statements consist of: balance sheet, profit and loss account, cash flow statement, statement of changes in equity and notes to financial statements. The specific contents of financial statements are defined based on the size of accounting entities as shown in the following table.

**Table 6** Annual financial statements relating to the size of accounting entity in the Czech Republic

| Size of the entrepreneur                | Micro | Small | Medium | Large |
|---|-------|-------|--------|-------|
| <b>Financial statement</b>              |       |       |        |       |
| Balance sheet                           | ✓     | ✓     | ✓      | ✓     |
| Profit and loss account                 | ✓     | ✓     | ✓      | ✓     |
| Statement of other comprehensive income | ✗     | ✗     | ✗      | ✗     |
| Cash flow statement                     | ✗     | ✗     | ✓      | ✓     |
| Statement of changes in equity          | ✗     | ✗     | ✓      | ✓     |
| Notes to the financial statements       | ✓     | ✓     | ✓      | ✓     |

Source: Accounting Act (2017, article 18)

It should be pointed out that some public interest entities don't compile cash flow statement.

As for the duty to disclose financial statements, it is generally disclosed in the Collection of Deeds of the Commercial Register maintained by relevant courts. The deadline for publishing financial statements and annual reports is 30 days after the financial statements are audited and approved by the relevant body of the accounting entity. Financial statements have to be disclosed in 12 months after the last day of accounting period at the latest, regardless of whether they have been approved by the relevant body of the accounting entity. Small and micro accounting entities that don't have the duty to have their financial statements audited don't have to publish their income and loss statement (unless a special regulation defines otherwise). Generally, small accounting entities disclose their financial statements as a compulsory attachment to their income tax statement.

The chart of accounts in the Czech Republic is regulated in a manner that doesn't define particular accounts, but defines accounting groups from which accounting entities choose particular accounts.

The authority responsible for checking that the accounting regulations are adhered to is the financial administration that comes under the Ministry of Finance.

### 3.4. Comparison of regulatory framework in Croatia, Slovakia and Czechia

Based on the previous comprehensive review of national accounting regulatory framework in Croatia, Slovakia and Czechia, we systematized key criteria of them and compare their features among countries in table 7.

**Table 7** Comparison of key criteria of national accounting regulatory framework

| CRITERIA                     | CROATIA  | SLOVAKIA  | CZECHIA   |
|------------------------------|--|---|---|
| <b>Accounting regulation</b> | Accounting Act                                       | Accounting Act                                      | Accounting Act  |
| <b>Accounting standards</b>  | National – 17 CFRS for micro, small and medium-sized | National legal regulation – Decrees on double entry | National – decrees of the Ministry of Finance of the Czech Republic |

| CRITERIA   | CROATIA  | SLOVAKIA  | CZECHIA   |
|--|--|---|---|
|  | entrepreneurs<br>International – IFRS<br>for large entrepreneurs   | bookkeeping, on single<br>entry bookkeeping, on<br>financial statements for<br>micro, small and large<br>entities<br>International – selected<br>entities and large<br>entities   | plus CAS (24 CAS for<br>entrepreneurs)<br>International – IFRS<br>for listed companies<br>(and voluntarily for<br>some other accounting<br>entities)  |
| <b>Standard Board</b>  | Financial Reporting<br>Standards Committee   | Ministry of Finance of<br>the SR  | Ministry of Finance of<br>the Czech Republic  |
| <b>Financial statements</b>  | Statement of financial<br>position, profit and loss<br>account and notes to<br>the financial statements<br>– all entrepreneurs<br>Cash flow statement<br>and statement of<br>changes in equity –<br>medium and large<br>entrepreneurs<br>Statement of other<br>comprehensive income<br>– large entrepreneurs   | Balance sheet, income<br>statement and notes to<br>the financial statement<br>– all entities<br>Cash-flow statement<br>and information on<br>changes in equity, both<br>as a part of notes –<br>large entities and public<br>interest entities only   | Balance sheet, profit<br>and loss account and<br>notes to the financial<br>statements – all<br>accounting entities<br>Cash flow statement<br>and statement of<br>changes in equity –<br>medium and large<br>accounting entities |
| <b>Institution to whom<br/>financial statements<br/>are submitted and<br/>which perform<br/>public disclosure of<br/>financial statement</b> | Financial Agency   | <ul style="list-style-type: none"> <li>• Operator:<br/>DataCentrum<br/>-paper form delivered<br/>to the tax authority,<br/>electronic form<br/>delivered via electronic<br/>mailroom</li> <li>• Administrator:<br/>Ministry of Finance of<br/>the SR (the Register of<br/>Financial Statements)<br/>and at the same time<br/>the Ministry of Finance<br/>shall send documents<br/>via the<br/>Justice Ministry of the<br/>SR to the Collection of<br/>Deeds of the<br/>Commercial Register</li> </ul> | Courts maintaining the<br>Commercial Register   |
| <b>Deadlines for<br/>submitting financial<br/>statements</b>   | until 30 April of the<br>current year for the<br>previous calendar year<br>within six months of the<br>last date of financial<br>year<br>within nine months of the<br>last date of financial<br>year (for the purpose of<br>public disclosure of<br>consolidated financial<br>statements)<br>within ninety days in the<br>case of status changes,<br>initiating liquidation or<br>bankruptcy | <ul style="list-style-type: none"> <li>• individual financial<br/>statements by 31 March<br/>of the following year, if<br/>accounting/tax period<br/>is identical with<br/>calendar year (with the<br/>possibility of the<br/>prolongation – three or<br/>six months of the<br/>balance sheet date at<br/>the latest; public<br/>disclosure)</li> <li>• consolidated financial<br/>statements within one<br/>year of the end of<br/>accounting period<br/>(public disclosure)</li> </ul>              | In 30 days after the<br>financial statements are<br>audited and approved<br>by the relevant body of<br>the accounting entity  |
| <b>Chart of Accounts</b>   | Not prescribed   | Prescribed  | Prescribed for the level<br>of accounting groups  |

| CRITERIA  | CROATIA                                    | SLOVAKIA      | CZECHIA            |
|-----------|--|---------------|--------------------|
| Oversight | Ministry of Finance,<br>Tax Administration | Tax Authority | Tax Administration |

*Source: Authors*

Research results showed that all three countries included in investigation regulated their accounting framework by the Accounting Act. Croatia and Czechia have developed their national accounting standards, while Slovakia did not developed their national accounting standards. IFRS are obligated for certain group of entrepreneurs in all three countries. Ministry of Finance have the responsibility for accounting regulation in all three countries. Professional body for national accounting standards exists only in Croatia. Set of financial statements which entrepreneurs have to prepare differ among countries, as well as the deadlines for their preparation and publication. Chart of accounts is prescribed in Slovakia and Czechia, but in Croatia the chart of accounts is not prescribed. Finally, the responsibility for supervision of entrepreneurs has Tax Authority or Tax Administration in all three countries.

#### **4. Accounting profession**

##### **4.1. Accounting profession in Croatia**

Although accountants have an important role in conducting businesses and accounting skills are very important and appreciated, until now the accounting profession in Croatia is not regulated nor protected. The profession of certified accountant is not defined in national accounting regulation.

The profession of certified auditor is defined in the Audit Act (Official Gazette, No. 146/2005, 139/2008, 144/2012). Oversight on the profession of certified auditor is conducted by the Croatian Audit Chamber. In February 2017 there are 976 certified auditors in Croatia; 520 of them are active, while 456 are inactive (Hrvatska revizorska komora). In Audit Act (article 7) are prescribed criteria which candidates must meet in order to acquire certificate of certified auditor:

- a) candidate have to hold a university degree
- b) candidate must have a minimum of three years' audit experience, where at least two years under the supervision of a certified auditor or auditor who is certified in another EU member state
- c) candidate must have passed the exam for auditor certification and
- d) candidate must have a good reputation.

The profession of tax consultant is defined in the Tax Consultancy Act (Official Gazette, No. 127/2000, 76/2013, 115/2016). Competent authority is The Croatian Chamber of Tax Consultants. In February 2017 there are 52 tax consultants in Croatia; 29 of them are active, while 23 are inactive (Hrvatska komora poreznih savjetnika).

##### **4.2. Accounting profession in Slovakia**

The profession of certified accountant is not regulated and defined in the Slovak Republic although the Slovak Chamber of Certified Accountants was established in 1990.

Auditing profession in the Slovak Republic is governed by Act no. 423/2015 Coll. on Auditors as amended (hereinafter: Act on Auditors). Oversight body is the Slovak Chamber of Auditors with 1062 members (individuals and legal entities) at present. As provided by the Act on Auditors, the conditions, which a candidate must meet in order to acquire certificate of certified auditor, are:

- a) full legal capacity
- b) a good reputation
- c) a completed master's degree
- d) at least five years of professional experience in accounting
- e) attended continuing education for assistants of statutory auditor

- f) submitted to the Office notary verified copies of certificates and licenses from other Member States and third countries, and
- g) passed the auditor's examination.

The Slovak Chamber of Tax Advisors associates tax advisors registered in the register of the Chamber after meeting criteria set by the Act No. 78/1992 Coll. on Tax Advisors and the Slovak Chamber of Tax Advisors as amended. At present, there are 788 tax advisors – individuals and 134 – legal entities.

#### 4.3. Accounting profession in Czechia

Just as the case is in Croatia and Slovakia, the profession of certified accountants is not regulated by the law. However, certification is performed on a voluntary basis – it is similar to the ACCA, a system used in the UK. Applicants who go successfully through the certification process can register with the Chamber of Certified Accountants that then supervises them.

National regulation of the accounting profession is only stipulated in the Trade Act and it thus regulates cases when accountants carry out their professions as entrepreneurs (i.e. they provide accounting services externally to their clients). Persons who want to provide accounting services as entrepreneurs get trade licence for “Accounting consulting, bookkeeping, tax accounting”: in order to get the licence, they have to submit evidence of having achieved the required education and their experience in the field. They are supervised by trade registers.

The auditing profession is regulated by the Act on Auditors (Act No. 93/2009 Coll. that implements Decree of the European Parliament and the Council 2006/43/EC of 17 May 2006 on Compulsory Audit of Annual and Consolidated Financial Statements). The authorities entrusted with supervision of the auditing profession are the Chamber of Auditors of the Czech Republic and the Council for Public Audit Oversight Board which, *inter alia*, supervises also auditors of public interest entities.

The profession of tax advisors is defined by the Act on Tax Advisory and the Chamber of Tax Advisory of the Czech Republic (Act No. 523/1992 Coll.). Tax advisors have the obligation to be members of the Chamber of Tax Advisors of the Czech Republic, which is the competent authority that has, *inter alia*, the authority to impose disciplinary sanctions over them.

#### 4.4. Comparison of accounting profession in Croatia, Slovakia and Czechia

The investigation of national regulation relating to organization of accounting profession in different countries has indicated three most significant types of accounting profession, and they are: certified accountant, certified auditor and tax consultant. Their existence and existence of authority bodies of this profession are systematized in table 8.

*Table 8 Comparison of accounting profession*

| Accounting profession       | CROATIA                             | SLOVAKIA                          | CZECHIA   |
|-----------------------------|-------------------------------------|-----------------------------------|---|
| <b>Certified accountant</b> | No                                  | No                                | <b>Not regulated by the law</b>   |
| <b>Competent authority</b>  | -                                   | -                                 | -   |
| <b>Certified auditor</b>    | Yes                                 | Yes                               | Yes   |
| <b>Competent authority</b>  | Croatian Audit Chamber              | Slovak Audit Chamber              | Chamber of Auditors of the Czech Republic, Public Audit Oversight Board |
| <b>Tax consultant</b>       | Yes                                 | Yes                               | Yes   |
| <b>Competent authority</b>  | Croatian Chamber of Tax Consultants | Slovak Chamber of Tax Consultants | Chamber of Auditors of the Czech Republic                               |

Source: Authors



Despite of significance of the specific knowledge and skills of accountant in doing daily operations in companies, the profession of certified accountant is not regulated in any of three investigated countries. In all three investigated countries, the profession of certified auditor and tax consultant are regulated and there are legal authorities over these professions.

## 5. Conclusion

National accounting regulation determines the major rules of keeping accounting records, defining chart of accounts, preparing annual financial statements and the application of accounting standards. Although, today is evident trend for harmonization and standardization of accounting on the international level, the research results showed that there are many similarities as well as many differences between national accounting regulation in Croatia, Slovakia and Czechia. Similarities contribute to the comparability of accounting information among different countries, whereas differences influence on lower level of international comparability.

Research results about the organization and regulation of accounting profession among selected countries are very similar (but also with some differences). The most important fact is that the profession of certified accountant today still is not regulated in many countries, including Croatia, Slovakia and Czechia. According to this, it is important to highlight the necessity for the regulation of this profession because the accountants and their knowledge and skills are beginning more important in doing daily operations in companies. High level of compatibility exists in the area of auditing profession and profession of tax advisors.

In the future research it will be useful to analyse and compare the university programmes where students gain their “first” accounting knowledge in order to determine the coverage of accounting courses which are lectured in different countries.

## REFERENCES

ACCA (2012): *Rules for risk management: culture, behaviour and the role of accountants*, [http://www.accaglobal.com/content/dam/accaglobal/PDF-technical/corporate-governance/tech-afb-rrm\\_exec2.pdf](http://www.accaglobal.com/content/dam/accaglobal/PDF-technical/corporate-governance/tech-afb-rrm_exec2.pdf) (accessed 16 February 2017)

*Act No. 431/2002 Coll. on Accounting as amended*

*Act no. 423/2015 Coll. on Auditors as amended*

Aerts, W., Walton, P. (2013): *Global Financial Accounting and Reporting: Principles and Analysis*, Third edition, Cengage Learning, London, UK

Decree of the Ministry of Finance of the Slovak Republic No. 23054/2002-92 of 16 December 2002 laying down details of the accounting procedures and the framework for the chart of accounts for entrepreneurs maintaining accounts under the system of double entry bookkeeping, as amended

Decree of the Ministry of Finance of the Slovak Republic No. MF/23377/2014-74 of 3 December 2014 laying down details of the structure, description and content of items of individual financial statements for large accounting entities and public interest entities, as amended

Decree of the Ministry of Finance of the Slovak Republic No. MF/23378/2014-74 of 3 December 2014 laying down details of the structure, description and content of items of individual financial statements for small accounting entities, as amended



Decree of the Ministry of Finance of the Slovak Republic No. MF/15464/2013-74 of 11 December 2013 laying down details of the structure, description and content of items of individual financial statements for micro accounting entities, as amended

Gulin, D. (2013): *Pregled računovodstvene regulative i profesije u članicama EU*, Računovodstvo i financije, Vol. LIX, No. 6, pp. 34-36.

Hladika, M. (2015): *Zastupljenost računovodstvene profesije u menadžerskim strukturama i njezina uloga u ostvarivanju ciljeva poduzeća* (engl. *Engagement of accounting profession in management structure and its role in achievement of company's objectives*), Zbornik radova (Journal of Economy and Business), Vol. XXI – Special issue, pp. 46-68.

*Hrvatska komora poreznih savjetnika* (engl. *Croatian Chamber of Tax Consultants*), <http://hkps.hr/> (accessed 17 February 2017)

*Hrvatska revizorska komora* (engl. *Croatian Audit Chamber*), <http://www.revizorska-komora.hr/> (accessed 17 February 2017)

Jui, L., Wong, J. (2013): *Roles and Importance of Professional Accountants in Business*, <https://www.ifac.org/news-events/2013-10/roles-and-importance-professional-accountants-business> (accessed 16 February 2017)

Laughlin, R. (2011): *Accounting research, policy and practice: worlds together or worlds apart?*, in Evans, E., Burritt, R. and Guthrie, J., ed.: *Bridging the Gap Between Academic Accounting Research and Professional Practice*, The Institute of Chartered Accountants in Australia, pp. 21-30.

Larson, M.S. (1977): *Rise of Professionalism: A Sociological Analysis*, University of California Press, Berkeley and Los Angeles, California

Mejzlík, L. (2010): *Preface – Actual Situation in IFRS*, Czech Financial and Accounting Journal (Český finanční a účetní časopis), 2010, No. 4, pp. 4-6.

Mokošová, D., Molín, J. (2016): *Violation of the Slovak or Czech accounting legislation and its impact on entities*, Journal of East European Science and Research, Vol. VII, No. 1, pp. 233-242.

Nobes, C., Parker, R. (2008): *Comparative International Accounting*, Prentice Hall, UK

Official Gazette (2015): *Odluka o objavljivanju Hrvatskih standarda financijskog izvještavanja* (engl. *Decision for publication of Croatian Financial Reporting Standards*), No. 86/2015.

Official Gazette (2016): *Pravilnik o strukturi i sadržaju godišnjih financijskih izvještaja* (engl. *Ordinance on the structure and content of the annual financial statements*), No. 95/2016.

Official Gazette (2000): *Zakon o poreznom savjetništvu* (engl. *Tax Consultancy Act*), No. 127/2000, 76/2013, 115/2016.

Official Gazette (2015): *Zakon o računovodstvu* (engl. *Accounting Act*), No. 7/2015, 134/2015, 120/2016.

Official Gazette (2005): *Zakon o reviziji* (engl. *Audit Act*), No. 146/2005, 139/2008, 144/2012.

Official Journal of the European Union (2013): *Directive 2013/34/EU on the Annual Financial Statements, Consolidated Financial Statements and Related Reports of Certain Types of Undertakings*, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0034&from=HR> (accessed 6 February 2017)

Procházka, D. (2014): *The IFRS as Tax Base: Potential Impact on a Small Open Economy*, European Financial and Accounting Journal, 2014, No. 4, pp. 59-75.

Saudagaran, S.M. (2009): *International Accounting: A User Perspective*, Third edition, CCHGroup, USA

Slovenská komora auditorov (*engl. Slovak Chamber of Auditors*) <https://www.skau.sk/> (accessed 20 March 2017)

Slovenská komora daňových poradcov (*engl. Slovak Chamber of Tax Advisors*) <https://www.skdp.sk/> (accessed 20 March 2017)

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## **EFFECTS OF MONOPOLISTIC PRICES OF PRODUCTION FACTORS ON MARKET COMPETITIVENESS OF PRODUCTION COMPANY**

### **EFEKTI MONOPOLISTIČKIH CIJENA FAKTORA PROIZVODNJE NA TRŽIŠNU KONKURENTNOST PROIZVODNOG PODUZEĆA**

#### **ABSTRACT**

*Most companies focused on the market based entrepreneurship is to achieve the maximum level of competitiveness for their products. One of the key aspects in the process of achieving the aforementioned competitiveness, are the prices of production inputs, which determine the costs of final products, goods or services. The problem arises when companies purchase the production inputs from the state-owned monopolies which largely participate in the final price of the product. In this case, the high cost inefficiency is mirrored in the high price levels of final goods and services for the customers. The article aims to examine whether the destimulating monopolistic prices of key production inputs tend to diminish competitiveness of manufacturing firms on local, regional and european markets. Moreover, the overall objective of the work is to determine whether and to what extent the factors of production purchased from the monopolistic suppliers affect the market competitiveness of manufacturing firms. The research results identified primarily how much absolute and relative monopolistic inputs participate in the formation of the final product price, moreover, what are the negative effects of such pricing policies in the observed time interval, and the exact consequences it has on the competitiveness and market position of the observed company. Finally, a model was developed which can be used for computing costs and applied to other companies of similar activities or industries, whose procurement market largely relies on monopolistic suppliers.*

**Key words:** monopolistic prices, competitiveness, efficiency, cost, market share.

#### **SAŽETAK**

*Imperativ kojemu teže sva poduzeća usmjerena na tržišni način poslovanja jeste postizanje što je moguće veće konkurentnost svojih proizvoda na prodajnom tržištu. U procesu postizanja konkurentnosti poduzeća, ključnu ulogu imaju inputi i njihove cijene koji determiniraju konačnu cijenu određenog proizvoda, robe ili usluge poduzeća. Problem nastaje kada poduzeća usmjerena ka tržišnom načinu poslovanja svoje inpute nabavljaju od*

*monopolističkih poduzeća u državnom vlasništvu, a cijene tih inputa u velikom procentu participiraju u konačnoj cijeni proizvoda. U tom slučaju dolazi do transfera neefikasnosti, koji kreiraju ova poduzeća, preko svojih proizvoda na konačne cijene za svoje kupce. U radu smo nastojili utvrditi da li destimulirajuće monopolističke cijene ključnih faktora proizvodnje smanjuju konkurentnost proizvodnih poduzeća na domaćem, regionalnom i europskom tržištu. Opći cilj rada jeste utvrditi da li i u kojoj mjeri faktori proizvodnje nabavljeni od strane monopolističkih dobavljača utječu na tržišnu konkurentnost proizvodnog poduzeća. Rezultati istraživanja ustvrdili su prije svega koliko apsolutno i relativno monopolističke cijene inputa participiraju u finalnoj cijeni proizvoda, zatim koji su negativni efekti takve cjenovne politike u posmatranom vremenskom intervalu, te koje je posljedice to imalo na tržišnu konkurentnost analiziranog poduzeća. U okviru istraživanja, razvijen je i model koji se odnosi na izračunavanje finalnih cijena proizvoda, a koji je moguće primijeniti i na ostala poduzeća iz sličnih djelatnosti ili industrijskih grana, čije se tržište nabavke primarno oslanja na monopolističke dobavljače.*

**Ključne riječi:** *monopolističke cijene, konkurentnost, efikasnost, finalne cijene, tržišno učešće.*

## **1. Introduction**

Business in modern conditions is largely dependent on environment, its stability or instability, available chances and opportunities as well as weaknesses and threats that can jeopardize the company's management. The emphasis in this paper is placed on the production company Solana dd Tuzla, which performs its business by transforming inputs in the production process into finished products. The question is to what extent the prices of monopoly inputs threaten competitiveness of Solana dd Tuzla products on the market of perfect competition. In other words, it is needed to bring the inefficiency of public enterprises as the key supplier for Solana dd Tuzla in correlation with reduction in its efficiency and competitiveness.

For the purposes of this analysis, we abstracted other inputs and limited ourselves only to the inputs relating to materials and labor, and strategic raw materials of Solana dd Tuzla, without which it is impossible to imagine salt production industry, which constitute approximately 85% of direct costs of the production.

It is well known that public companies are monopolists that transfer their organizational, functional and any other inefficiency to the expense of the final product or services and so burden the budget of the consumer or the company which they supply. With this said, the position of companies that are focused on suppliers categorized this way is even more serious if it sells its products to the market of perfect competition. If we add the fact that the company places the majority of its products on the business spending market, where price above all, and then the terms of payment and delivery are key, then we can say that the situation for such companies is fatal. Such companies, as acquirers of the monopoly price, can only comply with rules or prices and terms of payment to the monopolist and seek space for their own competitiveness in internal economy and the reduction of costs that do not contribute to productivity.

It should be noted that most monopolies, as well as other companies apply different price strategies during performances in the domestic and regional market. In connection to this, the position of the company that is focused on monopoly supplier that has differentiated the price of its products in the domestic and regional market is interesting, and the company that is acquirer of the monopoly price (price taker), exports its products to regional markets as well.

It should be noted that regional and European markets are generally more competitive than the domestic one and that the competitiveness of the price taker is even more reduced by this. Summarizing all the above, the basic research hypothesis is: *"Discouraging monopolistic prices of the key factors of the production reduce companies competitiveness in the domestic, regional and European markets."*

## **2. Basic concept of competitive advantage**

Competitive advantage is the basis of the performance of each company in the competitive markets. However, many companies have in a multi-year or a decades long dynamic race for growth and diversification, more or less, lost focus from creating and maintaining competitive advantage. Today, many international companies are faced with the trend of slower growth and increased domestic and global competition (Župljanin, 2010). Competitive advantage of companies (Competitive Advantage) is a function of either a more efficient providing of similar value to customers than its competitors (low cost) or of performing activities with a similar cost but in unique ways that create more value for customer than its competitors, and therefore, can determine the highest price (differentiation) (Hindl, 2006).

Looking from the perspective of companies, being competitive means having a product of very good quality for which there is an interest of customers on a global level, with a cost equal to or lower than that of competitors. However, an innovative product for which there is demand on the global level is not a sufficient condition to achieve greater competitiveness, a key requirement is that the product has its economic justification and that low production costs determine low wholesale or retail price attractive to the end consumers. This confirms that the competitiveness is exclusively an economic concept.

Competitiveness is a multidimensional category that can be seen in terms of the overall national economy, sectors, activities, as well as the enterprise itself, which implies the possibility of observing competitiveness at the macro, mezzo and micro level. One could conclude that there is a lack of generally accepted definition of competitiveness by scholars who study this problem (Škuflić, 1999).

In order to succeed and survive in the market, the companies must achieve a competitive advantage. Competitive advantage cannot be understood by reviewing the company as a whole. It stems from a number of separate activities that the company implements in the design, production, marketing, delivery and support of its products. Each of these activities may contribute to the relative cost position of the company and create the basis for differentiation. That cost advantage can come from completely different sources, such as the physical distribution system of low cost, highly efficient production process or exquisite use of selling power. Differentiation can also result from a variety of factors, including the previously mentioned ones. To analyze the sources of competitive advantage, a systematic method of studying all the activities carried out by the company and their mutual interactions is required. At the micro level, competitiveness is viewed as the current and future ability of entrepreneurs to design high quality goods to compete with the top world competitors, and competitiveness is synonymous with long-term profit and the ability to provide high profits and satisfied employees (Škuflić, Kovačević, Sentigar, 2011).

## **3. The position of the company and the price policy in conditions of monopoly**

Monopoly is a market structure in which there is only one vendor, in which there are no close substitutes for goods that it sells and where there are barriers to enter the branch. In conditions of full competitiveness, companies accept the price and can not affect the price strategy. With

monopoly, individual companies have control over prices, but this does not mean that they have absolute power, but only a certain discretion.

In addition, the company in full competitiveness can sell any amount of output at a given price, which means that the demand curve with which the company is facing is a horizontal line. In terms of the monopoly, the company is faced with a declining curve of demand, meaning the curve has a downward, negative slope, because the monopolist reduces the price with the increased sale, ie, they can sell more products only if they lower the price.

From the aspect of the enterprise which has no other choice in these market conditions, and whose production process depends on the monopoly inputs, it can be stressed that dissuasive monopoly prices of the the key factors of production reduce the competitiveness of companies in the domestic, regional and European markets.

#### **4. Characteristics of Solana dd Tuzla business environment**

If we start from the fact that the basic aim of the company is profit, we can say that each company will seek to minimize their overall costs on the one hand and maximize the total revenue on the other hand, in order to achieve the highest possible profit.

Solana dd Tuzla operates in a very complex political, legal and economic environment in the process of maximizing their profit. The political environment from the perspective of Solana dd Tuzla, is among other things characterized by the unstable security situation in which there was devastation of the company assets. Also, the political environment is determined by the fact that Bosnia and Herzegovina as a state has still not become a full member of the Euro-Atlantic integration, by which the level of confidence of Foreign business partners is at a lower level than Solana dd Tuzla actually deserves.

The legal environment is marked by various forms of expropriation and domestication of the company assets by the Government of Tuzla and Herzegovina-Neretva cantons.

The economic environment can be displayed from two aspects - the supply market aspect and the sales market aspect. The supply market of basic factors of production is dominated by monopolists and oligopolists, so that the prices of the key factors of production are higher than they were in perfect competition. In regard to this, the key factors of production, ie, the strategic raw materials such as salt water, steam and electricity are the inputs purchased from public enterprises at monopoly prices. Also, calcium soda, as an important input in the production process of salt, is purchased from an oligopolist supplier at the oligopoly price. All this points to the fact that Solana dd Tuzla is in a subordinate position in relation to the strategic suppliers of inputs and that it is the price taker on the purchase market.

On the other hand, Solana dd Tuzla places its products on the market of perfect competition, where there is no effect on the market price of salt, ie. it admits the price as a predetermined category. This means that the position of Solana dd Tuzla is such that it has to be competitive with their products in the market of perfect competition, with products which are the result of transformation of the factors of production purchased on the supply market from the monopoly and oligopoly suppliers.

#### **5. Analysis of monopolistic inputs of Solana dd Tuzla**

The company Solana dd Tuzla uses many inputs in its production process, out of which the most important are the following: salt water, electricity, process steam, calcined soda, labor, amortization, sodium hydroxide, potassium ferrocyanide city water. Out of nine inputs that participate directly in the production of salt, the first four listed inputs ie. salt water, electricity, process steam and calcium soda are at their characteristics of a monopoly, and

their impact on the price cost of salt, ie. business competitiveness of Solana dd Tuzla for the period 2007-2014 will be analyzed.

The analysis of competitiveness for the period 2007 – 2014 due to increased prices of key production factors will be displayed later on. Also, the paper will make reference to the comparison of competitiveness between the cost of 1 ton of salt in 1990, as the record year in the history of Solana dd Tuzla in terms of production volume and price cost of 1 ton of salt in 2014. The comparison of cost for these two years is essential if we consider that 1990 was the last pre-war years in which the economy worked normally in the so-called central-planned economy, while 2014 was a record year for the production of salt in terms of the so-called market economy.

### 5.1. Analysis of the price of monopolistic raw materials of Solana dd Tuzla in 1990, and for the period 2007 – 2014

This analysis aims to present price increases of monopoly inputs for the period 2007-2014 with regard to 1990, then the increase of the cost price as the consequence of rising prices of inputs, and a drop in competitiveness as a result of the growth of the cost price.

*Table 1 Display of the four basic inputs for 1990 and for period 2007-2014*

| Raw material    | Measuring unit | Year  |       |       |       |       |       |       |       |       |
|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                 |                | 1990  | 2007  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  |
|                 |                | Price | Price | Price | Price | Price | Price | Price | Price | Price |
|                 |                | (KM)  | (KM)  | (KM)  | (KM)  | (KM)  | (KM)  | (KM)  | (KM)  | (KM)  |
| Salt Water      | m3             | 3,03  | 4,2   | 4,2   | 4,2   | 4,2   | 4,2   | 4,2   | 4,2   | 4,2   |
| Electric energy | kWh            | 0,057 | 0,1   | 0,1   | 0,1   | 0,1   | 0,1   | 0,1   | 0,1   | 0,1   |
| Process steam   | t              | 15,6  | 17,33 | 17,33 | 17,71 | 18,8  | 18,8  | 18,9  | 18,9  | 18,9  |
| Calcined soda   | t              | 160   | 173,8 | 173,8 | 173,8 | 340   | 345   | 345   | 380   | 380   |

*Source: Authors calculations based on the available data*

The supplier of salt water as a basic input in the salt production process is "Rudnik Soli Tuzla" dd Tuzla. When the price is in question, we can see its growth in 2007 compared to 1990 in the amount of 1.17 KM / m3 of brine delivered, which is an increase of 38.6%. At the very beginning, this information points to the fact that "Rudnik Soli Tuzla" dd Tuzla arbitrarily comes to price calculation, ignoring the impairment of competitive ability of Solana dd Tuzla at this price of salt water. Electricity is an important input in the production of salt. The supplier of this raw material is PC Elektroprivreda BiH dd. It should be noted that PC Elektroprivreda BiH dd is the supplier of process steam as well which will be discussed later in this paper, and which means that one supplier supplies two of the four inputs at monopoly prices, whose effects on the business competitiveness are considered below. Annual energy consumption in Solana dd Tuzla is approx. 1.000.000 KM and it is sure that this item has an important place in the cost structure of the company. The price of electricity in 2014 is 0.43 KM / kWh higher, or 75.4% higher compared to 1990.

Process steam is an important raw material in the production of salt, used to heat operation and dry salt. The steam price in 2014 was 21.2% higher compared to 1990, or 9.1% compared to 2007. Since crude salt water that we get from Rudnik Soli Tušanj contains calcium ions, calcium soda is used so these ions are removed from the crude salt water. The supplier of the raw materials is the company "Sisecam Soda Lukavac" Ltd. It is necessary to highlight that this supplier can be categorized as a monopolist considering the fact it is the only producer of calcium soda in Southeast Europe. The steady increase of this input is noticeable from the previous table. The price in 2014 has increased compared to 1990 even by 137.5%, while

compared to 2007 it increased by 118%, which is in largely administrative burden of Solana dd Tuzla, both in terms of cost growth and in terms of current liquidity.

## 6. Comparison of competitiveness of Solana dd Tuzla in 1990 and 2007

As an introduction to the analysis of falling competitiveness through the prism of expenditures for inputs for reference period 2007-2014 year, we can make a comparison of input price growth and cost price between 1990 and 2007 as the initial year in the period which is subject to analysis.

The reason for this very discontinuity in 1990-2007 is the fact that 1990 was the record year in the history of Solana production, which amounted to approximately 205,000 tons.

The trend of a steady decline in the competitiveness of Solana dd Tuzla, seen through the prism of growth of cost based on four monopoly inputs can be displayed by the cost price in 1990, as a record year for production in the history of Solana dd Tuzla. Comparative review of input prices for 1990 and 2007 will be displayed below. The following table presents a comparative review of monopoly inputs prices for 1990 and 2007, as well as the index of their increase.

**Table 2** Comparative review of monopoly input prices for 1990 and 2007

| Ord. number | Inputs        | Meas. unit     | Input prices for I-XII 1990 in KM | Input prices for I-XII 2007 in KM | Index of input prices increase |
|-------------|---------------|----------------|-----------------------------------|-----------------------------------|--------------------------------|
|             |               |                | 1                                 | 2                                 | (2/1)x100                      |
| 1           | Salt water    | m <sup>3</sup> | 3.029                             | 4.200                             | 138.7                          |
| 2           | Electricity   | kWh            | 0.057                             | 0.100                             | 175.0                          |
| 3           | Process steam | t              | 15.600                            | 17.330                            | 111.1                          |
| 4           | Calcium soda  | t              | 157.143                           | 173.800                           | 110.6                          |

Source: Authors calculations based on the available data

From Table 2 we can see a comparison of input prices in 1990 and 2007, and so we can conclude that in relative terms, the price of salt water increased by 38.7%, the price of electricity by 75.0%, then the price of steam rose by 11.1% and the price of calcium soda by 10.6%. The cost price of 1 ton of salt in silos for 1990, based on four inputs, was 40.4 KM/t of salt. This price results from the application of a mathematical model for calculating cost of KM/t salt in silos by the method of direct costs, which uses all spendings of all direct inputs involved in the production process, then their prices, and then the expenditure for each input is divided by the total production, and then the summation of all these costs per 1 ton of salt make the cost of salt. Cost price KM/t for 1990 will serve as a benchmark for proving impairment of competitive ability of Solana dd Tuzla in 2007, as well as in all other years that are the subject of the research.

## 7. Analysis of Solana dd Tuzla competitiveness movement for the period 2007 – 2014

In the following table the systematization of cost based on four key monopoly inputs for the period 2007 – 2014 was made, but it also shows the price costs for 1990.

**Table 3** Review of movement of cost price of KM/t of salt based on four monopoly inputs for 1990 and the period 2007-2014

| Ordinal Number | Year | Cost Price (KM/t) |
|----------------|------|-------------------|
| 1              | 1990 | 40.35             |
| 2              | 2007 | 51.10             |
| 3              | 2008 | 47.46             |
| 4              | 2009 | 49.69             |
| 5              | 2010 | 49.55             |
| 6              | 2011 | 46.58             |
| 7              | 2012 | 46.56             |



| Ordinal Number | Year | Cost Price (KM/t) |
|----------------|------|-------------------|
| 8              | 2013 | 48.86             |
| 9              | 2014 | 46.50             |

*Source: Authors calculations based on the available data*

We note that the cost price in 2007 experienced a growth of approx. 10.75 KM/t compared to 1990. Then in 2008, there is a slight decline in cost price, and the price increase in 2009. From 2009 to 2014, with certain exceptions, the trend of slight decrease cost of salt is noticeable.

### **7.1. Impairment of competitiveness in km/t, and the total cost incurred during rise in prices of monopoly inputs for the period 2007 - 2014**

Below is an overview of the cost price in KM/t of salt for the period 2007 - 2014 based on four monopoly inputs, with abstracted movement of their price, ie. with the price level from 2007. This analysis will allow us to see how reduced the competitiveness of Solana dd Tuzla is for the observed time frame, expressed in KM/t of salt for each year, and in the total amount for the whole observed period. In other words, this model allows us to look at how much the competitiveness of Solana dd Tuzla would be increased if there has not been an increase in price of monopoly inputs. In the following table, the systematization of the obtained cost prices of salt in KM/t with abstracted changes in prices of inputs was made for easier analysis.

**Table 4** *The movement of cost price of KM/t of salt, with abstracted movement of prices of four monopoly inputs for the period 2007-2014*

| Ord. number | Year | Cost price KM/t | Index of price cost decline with abstracted movement of prices of inputs 2007 = 100 |
|-------------|------|-----------------|---|
| 1           | 2007 | 51.10           | 100.0   |
| 2           | 2008 | 47.46           | 92.9  |
| 3           | 2009 | 49.21           | 96.3  |
| 4           | 2010 | 46.47           | 90.9  |
| 5           | 2011 | 43.49           | 85.1  |
| 6           | 2012 | 43.28           | 84.7  |
| 7           | 2013 | 45.09           | 88.2  |
| 8           | 2014 | 42.90           | 84.0  |

*Source: Authors calculations based on the available data*

From Table 4 we can see that if we excluded the price movement of four monopoly inputs, cost price in 2014 would amount to 42.90 KM/t, which is 19.1% lower compared to 2007, expressed in relative terms. This means that the business competitiveness of Solana dd Tuzla would have increased for this amount calculated in KM/t of salt if there was not a rise in prices of monopoly factors of production.

Below in Table 5, the comparison of the actual cost with abstracted changes in prices of inputs of KM/t of salt is given, which will allow us to determine the exact fall of business competitiveness of KM/t in absolute and relative terms in 2014 over 2007. From Table 5 we can see that if we put the actual and the cost price in correlation with the abstracted growth of monopoly prices of inputs, the difference between the two prices will amount in 2014 to 3.6 KM/t or 8.4% expressed in relative terms. The following Table 6 shows the effects of rising prices on business competitiveness of Solana dd Tuzla. From Table 6 we can exhaustively see by years the calculated total difference resulting from the increase in the cost price of KM/t of salt per year, and the overall value for a period of eight years.

**Table 5** Comparative review of the actual and the cost price with abstracted growth of prices of four monopoly inputs of KM/t for period 2007-2014

| Ord. Numb. | Year | Cost price of salt | Cost price (abstracted growth of prices of monopoly inputs) | Difference | Index     |
|------------|------|--------------------|---|------------|-----------|
|            |      | (KM/t)             | (KM/t)  |            |           |
|            |      | 1                  | 2   | 2-1        | (1/2)*100 |
| 1          | 2007 | 51.10              | 51.10   | 0.0        | 100.0     |
| 2          | 2008 | 47.46              | 47.46   | 0.0        | 100.0     |
| 3          | 2009 | 49.69              | 49.21   | -0.5       | 101.0     |
| 4          | 2010 | 49.55              | 46.47   | -3.1       | 106.6     |
| 5          | 2011 | 46.58              | 43.49   | -3.1       | 107.1     |
| 6          | 2012 | 46.56              | 43.28   | -3.3       | 107.6     |
| 7          | 2013 | 48.86              | 45.09   | -3.8       | 108.4     |
| 8          | 2014 | 46.50              | 42.90   | -3.6       | 108.4     |

Source: Authors calculations based on the available data

**Table 6** Total amount of the business competitiveness of Solana dd Tuzla impairment caused by the price increase of four monopoly inputs for the period 2007-2014

| Ord. num.   | Year | Salt production in (t) | Price cost of salt (KM/t) | Overall expenditure (KM) | Cost price (abstracted movement of input prices) | Overall expenditure (KM) | Difference (KM) |
|---|------|------------------------|---------------------------|--------------------------|--|--------------------------|-----------------|
| 1   | 2007 | 86,074                 | 51.10                     | 4,398,111                | 51.10  | 4,398,111                | 0.0             |
| 2   | 2008 | 80,156                 | 47.46                     | 3,804,080                | 47.46  | 3,804,080                | 0.0             |
| 3   | 2009 | 90,745                 | 49.69                     | 4,509,293                | 49.21  | 4,465,316                | -43,977.0       |
| 4   | 2010 | 101,085                | 49.55                     | 5,008,633                | 46.47  | 4,697,274                | -311,359.1      |
| 5   | 2011 | 139,313                | 46.58                     | 6,489,686                | 43.49  | 6,058,322                | -431,363.3      |
| 6   | 2012 | 140,822                | 46.56                     | 6,556,149                | 43.28  | 6,094,923                | -461,226.1      |
| 7   | 2013 | 135,241                | 48.86                     | 6,607,950                | 45.09  | 6,098,297                | -509,652.9      |
| 8   | 2014 | 134,701                | 46.50                     | 6,263,738                | 42.90  | 5,778,728                | -485,009.9      |
| THE ACCUMULATED EXPENDITURE INCURRED BY INPUT PRICES RISE FOR EIGHT YEARS |      |                        |                           |                          |  |                          |                 |

Source: Authors calculations based on the available data

The amount of 2,242,588.2 KM represents the amount by which the business competitiveness of Solana dd Tuzla is reduced in the last eight years, the amount Solana dd Tuzla paid into the accounts of monopoly suppliers.

## 8. Conclusion

As it is mentioned in the theoretical part of the research, the paradigms on which monopolistic and competitive company operate are diametrically opposed. Competition company takes the price as the given value from the market, and then chooses the amount of output to offer, so the price is equal to marginal cost. On the other hand, the monopoly company chooses the quantity of product at which the marginal revenue equals the border cost, and uses the demand curve to find prices consistent to that amount. The main difference between monopoly and competitive companies is on the market of perfect competition the price equals the marginal cost, and on the monopolistic market the price exceeds the marginal cost.

Making the analogy with the properties of monopolies and monopolistic suppliers from the conducted study, we can conclude that the prices of the products they supply are higher than

those on the market. However, the paper has also shown that these prices record a continuing trend of growth for the observed time frame.

These input prices and the trend of their growth have far-reaching consequences on the price cost and the competitiveness of Solana dd Tuzla. It has been established that the cost price calculated on the basis of four monopoly inputs in 2007 in relation to 1990 increased by 10.75 KM/t. If there had not been an increase in the price of monopoly factors of production, the cost price in 2014 would have amounted to 42.9 KM/t, which means the competitiveness increase by 8.2 KM/t or 19.1% compared to 2007. The overall expenditure which Solana dd Tuzla would have paid as a result of rising prices of these inputs had it not increased their efficiency would have amounted to 5,302,498 KM, while the actual cost that is paid for this period was 2,242,588 KM. All the above leads to the assumption that the trend of reduction of the competitive ability of Solana dd Tuzla will continue in the years ahead, unless not the attitude of monopoly suppliers towards the company changes.

## REFERENCES

Ahmetović, A. (2005): *Elaborat o tehničko-tehnološkim i ekonomskim parametrima utvrđivanja cijena tehnološke pare iz TE Tuzla za Solanu d.d. Tuzla*, Solana d.d. Tuzla.

Hindl, T. (2006): *Menadžment – Pojmovnik*, Adižes, Novi Sad, 2006.

Koutsoyiannis, A. (1996): *Moderna mikroekonomika*, Mate, Zagreb.

Muratbegović, M. (2001): *Cijena tehnološke pare iz Termoelektrane Tuzla, Fabrika Soli d.d. Tuzla*, Tuzla.

Porter, M. (2007): **Konkurentna prednost**, Asee, Novi Sad.

Porter, M. (2008): **Konkurentna prednost, postizanje i održavanje vrhunskog poslovanja**, Masmedia, Zagreb.

Škuflić, L., Kovačević, B., Sentigar K. (2011): **Uloga fiskalne politike u jačanju konkurentnosti Hrvatskog gospodarstva**, Tranzicija, Vol 13., 2011,

Škuflić, L. (1999): **Međunarodna strateška orijentacija i trgovinska politika Republike Hrvatske**: doktorska disertacija, Rijeka: Ekonomski fakultet.

Tatić, K., Tržišne strukture i ekonomska efikasnost, Nacionalna i univerzitetska biblioteka Bosne i Hercegovine, Sarajevo, 2003.

Župljanin, S. S. (2010): **Konkurentna prednost kao uslov kompanijskog razvoja i ostanka na tržištu**, Svarog, Banja Luka.

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## **ECONOMETRIC ANALYSIS OF MAYOR SALARIES AND THEIR DEPUTIES IN CROATIA**

### **EKONOMETRIJSKA ANALIZA PLAĆA HRVATSKIH GRADONAČELNIKA I NJIHOVIH ZAMJENIKA**

#### **ABSTRACT**

*Mayors have power to determine the level of their salaries. In this paper, we have investigated salaries of Croatian mayors and their deputies by using the latest available data from their property statement. Goal of this research is to investigate which factors determine the salary level of mayors and their deputies. In our econometrics model, we use OLS method to determine salaries by controlling for numerous explanatory variables (individual and city characteristics) such as population, budget expenditure, gender, political party, education, proxy for economic development and experience of a politician.*

**Key words:** *human capital, local government budget, public finance, salary, Croatia*

#### **SAŽETAK**

*Gradonačelnici sami određuju iznos plaće koji primaju dok su izabrani na čelu gradske uprave. U ovome radu istražili smo plaće hrvatskih gradonačelnika i njihovih zamjenika koristeći posljednje službene raspoložive podatke iz njihovih imovinskih kartica. Cilj rada je istražiti koji faktori i u kojem obujmu utječu na visinu plaće gradonačelnika i njihovih zamjenika. U našem ekonometrijskom modelu koristeći OLS metodu, plaće gradonačelnika i njihovih zamjenika kontroliramo za veliki broj objasnidbenih varijabla (koje su karakteristične za individualce i gradska obilježba) poput broj stanovnika pojedinog grada, rashode proračuna, spol, starost, stranka kojoj pripadaju, stručnu spremu.*

**Ključne riječi:** *ljudski kapital, proračun lokalnih jedinica, javne financije, plaće, Hrvatska*

## 1. Introduction

Last Croatian local elections were held in May and June in 2013. Mayors and their deputies (executive body) as well as the council members are elected for a four-year term. Executive body and council members should work together and are entrusted with representing and interpreting the needs of the citizens by balancing diverse public interests, establishing policies and providing leadership and vision for the city<sup>1</sup>.

Period in 2013 is characterized with a sharp fall in GDP in 2009 (-7.4%) that was continued in the following years. Until the end of 2013, the cumulative decline in economic activity was 12% i.e. the second strongest among EU countries after Greece. Extremely negative trends resulted in a significant worsening of the labor market situation where firms due to decreased demand for their products/services had to adjust the labor force.

Kunovac and Pufnik (2015) overview the strategies used by firms to reduce the labor input and report that the most used were: non-renewal of fixed-term contracts at expiration, individual layoffs, freeze or reduction of new hires, while the reduction of working hours and temporary and collective layoffs do not represent the most relevant strategies in the adjustment of labor input.

Clearly, those labor input adjustment were done mainly in private owned companies. The Croatian government adopted wage cuts in public sector by 3% in February 2013. This decision was done mainly for the purposes of the fiscal consolidation.

Unfortunately, salaries of mayors and their deputies are not reported each year so we are not able to follow the salary dynamics by looking at the data during the recession period and after in Croatia since executive body of a city needs to report finance situation at the beginning of the mandate that for most of them happened in 2013. Despite that, we wanted to investigate in this paper what are the determinants of mayor salaries and their deputies, since they represent an important human capital in the development of a city.

The first section of this paper provides an introduction and second section provides an overview of how salaries are determined and how we collected data. Third section explains which econometric model we used in analysis and shows results. At the end, we conclude.

## 2. Salary determination

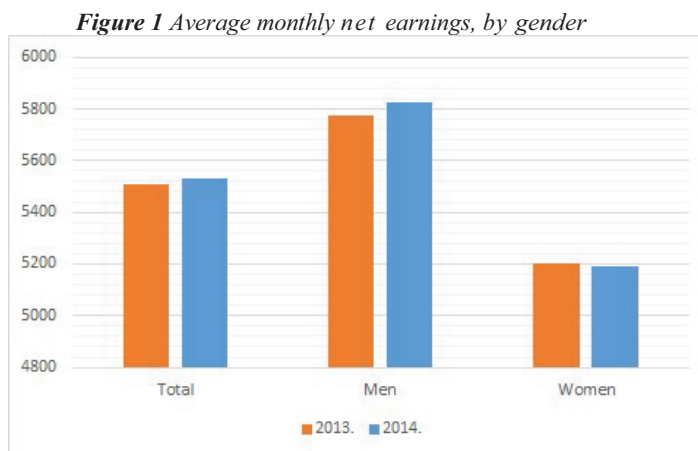
According to the law on salaries in local and regional government (Narodnenovine, 2010), each city council on the proposal of the mayor determines wages of the city administration. The basis for the calculation of salaries of mayors and their deputies is in gross terms 4 630 Croatian kuna (around 630 EUR). In total, salaries of mayors and their deputies' comprises of two parts, which are (1) basis for the calculation and (2) coefficient of complexity for calculation of salaries. Law on salaries requires that deputies have at least 15% less than mayors do. Another legal restriction is that none of the mayor in gross terms can have higher salaries than the mayor of the capital city of Zagreb. There are no other import and specific rules to set the salaries so in

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<sup>1</sup>For a detailed description on how executive and administrative bodies of self-government are formed and how they are supervised can be found in Đerđa and Antić (2016).

this paper we wanted to investigate which factors determine the salaries of mayors and their deputies.

As a comparison, in figure 1 we report average monthly net earnings in Croatia which for 2013 in Croatia was 5 507 Croatian kuna. Average monthly net earnings of a mayors and their deputies is 12 144 kuna, meaning that on average they earn 55% than Croatian average worker.



Source: Croatian Bureau of Statistics

## 2.1 Descriptive statistics and description of variables

In this paper, we report mayor salaries and their deputies from their property statements that are public and available on-line<sup>2</sup>. We are aware that some of them are not up to date since the last local elections in Croatia were in 2013, but this is the only source to find their income. Descriptive statistics for wages (both in terms of net and gross wage) can be found in table 1. In total in Croatia, we have 128 cities and some of them depending on the size have one or two deputies, which makes our data set of 332 observations, but in this paper, we analyze only those mayors and their deputies who do their work professionally. In total we have 217 of them meaning that 115 are volunteering, i.e. 35% of them.

Next, we wanted to check, how many of them are female (variable gender takes value 1 if female and 0 if male). In table 1, we see that just 15% of all mayors and deputies are female. This share is even lower if we condition variable gender on only female mayors (without deputies) since they represent only 8% of total mayors. Next in table 1 we report variable mayor which is a dummy variable which takes value 1 if mayor and 0 if deputy of a mayor. Variable population measures population of a city and variable county seat is also a dummy variable, which takes value 1 if city is county seat and 0 otherwise. Variable total expenditure was taken from the local city budget and it measures the size of a city budget. Variable budget transparency presents local budget transparency level. Variable povertyrates is a proxy for economic underdevelopment of a city and the last variable we used in this analysis is variable educated that takes value 1 if mayor or his deputy is college or university educated.

<sup>2</sup>Property statements can be found from [www.sukobinteresa.hr](http://www.sukobinteresa.hr)

**Table 1** Descriptive statistics

|                     | minimum   | MAXIMUM       | mean        | st.dev.     | N   |
|---------------------|-----------|---------------|-------------|-------------|-----|
| net salary          | 3 665     | 19 253        | 12 144      | 2 850       | 217 |
| gross salary        | 4 784     | 36 265        | 19 126      | 5 428       | 217 |
| gender              | 0         | 1             | 0.15        | 0.35        | 217 |
| age                 | 29        | 70            | 50          | 9.7         | 131 |
| mayor               | 0         | 1             | 0.45        | 0.49        | 217 |
| population          | 1 526     | 790 017       | 30 080      | 79 092      | 217 |
| county seat         | 0         | 1             | 0.22        | 0.41        | 217 |
| total expenditure   | 7 258 392 | 6 371 242 121 | 112 462 630 | 498 963 389 | 217 |
| budget transparency | 0         | 5             | 3.24        | 1.56        | 217 |
| poverty rates       | 6.7       | 43.7          | 19.09       | 0.24        | 217 |
| educated            | 0         | 1             | 0.79        | 0.40        | 217 |

Source: Author's calculation based on data from Commission for Conflict of Interest, Ministry of Finance, Institute for Public Finance, Croatian Bureau of Statistics.

### 3. Micro-econometric model

In our micro-econometric model, we use the following specification:

$$y_i = \alpha + \sum_k \beta_k * z_{ki} + \sum_j \beta_j * x_{ji} + \gamma * PP_i + \epsilon_i \quad (1)$$

where outcome  $y$  denotes earnings of each individual  $i$  which depends on  $k$  individual characteristics  $z$  and on  $j$  city characteristics  $x$ . We control for the following individual characteristics  $z$ : gender, dummy if college/university educated, age and dummy for a mayor. City characteristics  $x$  include: population, county seat, total budget expenditure, budget transparency level and poverty rates. We also include a dummy  $PP$  that denotes a political party. We used a simple OLS model. Table 2 shows results for our three models depending which additional control we take.

**Table 2** Regression results

|                       | (1)                   | (2)                   | (3)                   |
|-----------------------|-----------------------|-----------------------|-----------------------|
| net salary            | Coefficient           | Coefficient           | Coefficient           |
| gender                | -495.854<br>(-1.18)   | -429.603<br>(-0.92)   | -491.06<br>(-0.67)    |
| mayor                 | 2069.138<br>(6.81)*** | 2101.65<br>(6.71)***  | 1712.483<br>(2.78)*** |
| population            | 0.040<br>(3.58)***    | 0.040<br>(3.53)***    | 0.030<br>(2.06)**     |
| county                | 1232.066<br>(3.02)*** | 1083.75<br>(2.34)**   | 462.397<br>(2.06)**   |
| total expenditure     | -0.000<br>(-3.28)***  | -0.000<br>(-3.15)***  | -0.000<br>(-1.86)*    |
| budget transparency   | 146.438<br>(1.03)     | 53.950<br>(0.39)      | -18.238<br>(-0.09)    |
| poverty rates         | -88.278<br>(-4.27)*** | -64.996<br>(-3.29)*** | 19.750<br>(-3.29)***  |
| educated              | 811.835<br>(1.88)*    | 875.984<br>(2.09)**   | 419.098<br>(2.04)**   |
| age                   |                       |                       | 51.02<br>(2.04)**     |
| Included observations | 217                   | 217                   | 131                   |
| Political party FE    | No                    | Yes                   | Yes                   |
| R-squared             | 0.45                  | 0.54                  | 0.51                  |

Note: this table reports the coefficient estimates from an OLS regression on wages. Each regression included additional control variables. OLS robust standard errors are presented in brackets and \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

We replicated these results by taking gross salary as a dependent variable and get similar results. Variable gender is negative for female but insignificant meaning that on averagewomen do not have lower salaries in comparison to male colleagues. This result indicates that there is no significant gender earnings discrimination (in literature known as wage gender discrimination). Next, weget, asthe law on salaries alsorequires that on average mayors have approximately 2 000 kuna higher earning then their deputies (variable mayor). Variable population is significant but in magnitude almost negligible. For a city whose mayor comes from a county seat because of probably higher responsibility we get that on average they earn 1 000 kuna more. Variable total expenditure has in all three models unexpected and counter-intuitive sign (even though it is significant and small in magnitude) meaning that the bigger city budget you have, lower earnings your executive body has. Variable poverty rates is significant and shows that the more under developed the city is (in terms of people who are below the poverty line) the less their mayors earn. Dummy variable educated shows that in terms of earnings, mayors have what is called in economic literature wage premium meaning that those who are college/university educated, on average earn around 800 kuna more. Age which is a proxy variable for experience also has a significant effect meaning that for each extra year, mayors earn on average 51 kuna more<sup>3</sup>. Variable political party, which would indicate that either political parties who are more left of right oriented on average have higher or lower earning, is for each party insignificant.

<sup>3</sup>When we include variable age as an additional control, included observations drop significantly sinceitis hard to access this information publicly unless deputies of mayors put their CV online.



#### 4. Conclusion

New local government elections in May and June 2017 are in front us in Croatia. Some leading political parties have announced that they plan a huge public administration reform which will include that for the same jobs, government officials receive the same salaries. This would mean that all mayors, depending from the county as well as city they come from, would receive the same salaries.

This analysis showed that mayors have huge differences in salaries and this is not clearly supported with the size of the budget or with the size of the city in terms of population. Other city characteristics also do not play a bigger role. This leads us to conclude that mayor salaries and from their deputies are ad hoc determined and that their earnings are not associated with a particular party dominance. Only exception is that on average those politicians who declare to be independent on average earn significantly less when we control for other characteristics.

#### REFERENCES

Ashenfelter, O., Harmon, C., and Oosterbeek, H., (1999): *Empirical estimation of the school/earnings relationship – a review*. Labour Economics, 6(4), 453-470.

Croatian Bureau of Statistics, (2016): *Mapping and Estimation of the Geographical Distribution of the Risk of Poverty and Social Exclusion for Small Areas of Croatia*. Zagreb, Croatia.

Đerđić, D., Antić T. (2016): *Supervision of the work of executive and administrative bodies of units of local self-government in Croatia (in Croatian)* Zbornik radova Pravnog fakulteta u Splitu. 53(1), 165-205.

Institute for Public Finance, (2017): *Local budget transparency (November 2015–March 2016)*. Zagreb, Croatia.

Kunovac, M., Pufnik, A. (2015): *Features of the Labor Market and Wage Setting in Croatia: Firm Survey Results*. Croatian National Bank, S-19.

Levačić, D., Broz, T. (2015): *Gender Pay Gap in Croatia: Background Information to Develop New Solutions for an Old Problem*. Country report. Zagreb, Croatia: PROGRESS Programme of the European Union.

Ministry of Finance, (2017): *Ostvarenje proračuna JLP(R) S za period 2014.-2015.*, Zagreb, Croatia.

Narodne novine (2010): *Zakon o plaćama u lokalnoj i područnoj (regionalnoj) samoupravi*. Zagreb: Narodne novine d.d., 28/10.

Nestić, D. (2010): *The Gender Wage Gap in Croatia – Estimating the Impact of Differing Rewards by Means of Counterfactual Distributions*. Croatian Economic Survey. 12(1), 83-119.

Vujčić, B., Šošić, V. (2007): *Does it Pay to Invest in Education in Croatia?*. Faculty of Economics and Business Working Paper Series, No.07-08.

Wooldridge, J.M. (2013): *Introductory Econometrics: A Modern Approach*. South Western: Cengage Learning.

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**THE (IR)RATIONALITY OF MARKET PARTICIPANTS –  
BEHAVIORAL FINANCE PERSPECTIVE**

**(I)RACIONALNOST TRŽIŠNIH SUDIONIKA –  
POGLED BIHEVIORALNIH FINANCIIJA**

**ABSTRACT**

*Per behaviorism, as a primary psychological approach, human behaviour deserves to be the subject of scientific research. Behaviorism is a science studying and analysing the people's behaviour which seeks to explain, describe, and predict certain human behaviour, what people do and how they work, think, and why certain behaving decisions are made.*

*Behaviorism finds its place in various areas, including the economy, because it deals with the issue how psychology impacts the individuals (market participants in the economic context) - from individual to institutional investors, on the economic decision-making, as well as the price movements.*

*The theme of this paper is the specific research area studying different effects on the behaviour and decisions of market participants which is the area of behavioral finance. Although seemingly incompatible, the economy, especially financial one, can be put in the context of psychology through behaviour of market participants and their decision-making. Erroneous, irrational financial decisions are the result of different unpredictable reactions of individuals faced with losses and high market risks. Therefore, for decision-making it is essential to consider all the factors in the market, which creates place for behavioral finance.*

*As a new approach to the field of finance, when studying market participants' behaviour, behavioral finance considers different aspects of individuals (market participants), with psychological factors as extremely influential ones. Behavioral finance focuses on determining how and why market participants make certain decisions in a specific way, or how they respond to and interpret information from the environment. Therefore, the task of behavioral finance, and at the same time the main objective of this paper, is to explore the ways and the extent to which human behaviour can affect financial decisions of individuals and institutions, price trends, as well as the results it can have.*

**Key words:** behavioral finance, (ir)rationality of market participants, market risk, psychological factors, market deviations, decision-making

## SAŽETAK

Prema biheviorizmu, kao primarno psihološkom pristupu, ljudsko ponašanje zaslužuje biti predmetom znanstvenog istraživanja. Biheviorizam se kao znanost bavi proučavanjem i analiziranjem ponašanja ljudi te nastoji objasniti, opisati i predvidjeti određeno ljudsko ponašanje, odnosno što i kako ljudi rade, misle, kao i zašto se odlučuju na određena ponašanja. Biheviorizam nalazi svoje mjesto u različitim područjima, pa tako i u ekonomiji, jer se bavi pitanjem utjecaja psihologije pojedinaca, odnosno u ekonomskom kontekstu tržišnih sudionika - od pojedinaca do institucionalnih investitora, na ekonomsko odlučivanje, kao i kretanje cijena. Temu ovoga rada čini zasebno područje istraživanja utjecaja različitih učinaka na ponašanje i odlučivanje tržišnih sudionika, a to je područje bihevioralnih financija. Premda naizgled nespojivo, ekonomiju je, posebice financijsku, moguće dovesti u kontekst sa psihologijom - promatrajući aspekt ponašanja tržišnih sudionika te donošenja odluka od strane istih. Pogrešne, iracionalne financijske odluke rezultat su različitih i nepredvidivih reakcija pojedinaca na gubitke te prisutnost visokih tržišnih rizika. Stoga, nužno je pri odlučivanju uzeti u obzir sve čimbenike prisutne na tržištu, u čemu svoje mjesto pronalazi područje bihevioralnih financija. Kao novi pristup području financija, bihevioralne financije u proučavanju ponašanja sudionika na tržištu uzimaju u obzir različite aspekte pojedinaca (tržišnih sudionika), između kojih su iznimno utjecajni psihološki faktori. Glavna usmjerenost bihevioralnih financija jest utvrditi kako i zašto tržišni sudionici donose određene odluke na baš određeni način, odnosno kako reagiraju na informacije iz okoline i na koji ih način interpretiraju. Dakle, zadatak je bihevioralnih financija, a ujedno i glavni cilj ovoga rada istražiti na koje načine i u kojoj mjeri ljudsko ponašanje može utjecati na financijske odluke pojedinaca i institucija, kretanje cijena, kao i čime sve ono može rezultirati.

**Ključne riječi:** bihevioralne financije, (i)racionalnost tržišnih sudionika, tržišni rizik, psihološki faktori, tržišna odstupanja, donošenje odluka

## 1. Introduction

If stock prices and stock market indices are observed, in the both more developed markets or those less developed like the Croatian one, it could be noticed that occasional sudden ups and downs of the observed variables occur. These occurrences can hardly be considered as a result of the market participants' rational decisions. One such sudden decline of the stocks value at the Zagreb Stock Exchange occurred before the writing of this paper and thus became one of the motives for its creation. Namely, the sudden drop in the value of a few stocks followed by their equally rapid recovery points to the conclusion that market participants did not cause such movements by rational choices but rather emotional reactions. Their influence on financial trends is analysed by the behavioral finance. Therefore, this paper sought to explore advances of these economic researches incorporating human behavior, how they explain financial phenomena by psychological factors, and to what extent are they spread in Croatia. Since behavioral finance is part of a broader behavioral economics, the review will begin with this topic.

## 2. Behavioral economics

According to the usual definition of behavioral economics, it is a discipline that enhances the exploratory power of the economics by combining it with more realistic psychological settings (Camerer, Loewenstein, 2002, 1-2), using social, cognitive, and emotional factors to understand the economic decisions of individuals and institutions. Behavioral economics is not considered as a special branch of the economics, but a modelling style that uses evidence from psychology and other sciences to assess the human rationality, the willpower and his personal interests in answering fundamental economic questions. It explores the limits of people's rationality, and the results do not only relate to market decisions but to almost all areas of human decision-making. At the core of the behavioral economics there is a belief that the economic theory based on the psychological foundations will create theoretical insights and better predictions in this area as well as suggest better policies. This conviction does not suggest complete rejection of the neoclassical approach to economics based on utility maximization, equilibrium, and efficiency. According to Camerer and Loewenstein (2002, 1-2), this approach is useful for providing economists with a theoretical framework that can be applied to almost any form of economic behavior. It is common in behavioral economics' papers to modify one or two assumptions in standard theory to make it psychologically more realistic. These modifications are usually not radical as they relax simplifying assumptions that are not central to the economic approach. For example, it is not in core neoclassical theory that people should weight risky outcomes in a linear fashion, or that they have to discount the future exponentially at a constant rate. (Camerer, Loewenstein, 2002, 1-2) Other assumptions simply acknowledge human limits on computational power, willpower, and self-interest.

Many ideas of the behavioral economics are not new at all and they are just returning to the roots of the neoclassical economics. Psychology has not been a separate discipline for a long time, and economists usually did not accept it. Therefore, one part of the traditional economic literature (Adam Smith, John Maynard Keynes, Irving Fisher, Jeremy Bentham, Vilfredo Pareto and others) that was rich in psychological insights about the decision-making was long ignored. (Camerer, Loewenstein, 2002, 3) Those insights were left behind in the development of mathematical tools of economic analysis, consumer theory and general equilibrium. For example, Adam Smith believed there was a disproportionate aversion to losses which is a central feature of Kahneman and Tversky's prospect theory. (Camerer, 2005, 4) Adam Smith also wrote a less well-known book *The Theory of Moral Sentiments*, which laid out psychological principles of individual behavior as profound as his economic observations. It gives insights about human psychology, many of which presage current developments in behavioral economics. (Camerer, Loewenstein, 2002, 3) Adam Smith's world is not inhabited by dispassionate rational purely self-interested agents, but rather by multidimensional and realistic human beings. (Ashraf, Camerer, Loewenstein, 2005, 142) In the 1970s, cognitive psychology begins to study decision-making in economics. The dominant interest of cognitive psychology are psychological phenomena such as sensation and perception, attention, creation of concepts, and information processing. In this area, psychologists Daniel Kahneman, Amos Tversky, Paul Slovic, Ward Edwards and others compared the cognitive decision-making models in terms of risk and uncertainty with economic models of rational behavior. Psychologist Daniel Kahneman and economist Vernon Lomax-Smith, who won the Nobel Prize for Economics in 2002, significantly influenced the development of behavioral economics. Daniel Kahneman got it for inclusion of the psychological research in economics, especially in the field of human decision-making and decision-making in terms of risk.

Typically, modern economics has not engaged in the analysis of sociological and psychological factors and has focused on narrow behavioral assumptions in which expectations are formed by mathematical algorithms. Such behavioral approach adopted in most economic analysis, neglecting sociological and psychological forces and simplistically categorizing behaviour as either rational or not rational, is too narrow. Behaviour may reflect an interaction of cognitive and emotional factors. (Baddeley, 2010, 281) Some of these emotional factors are taking their place in some recent economic analyses. Akerlof and Shiller developed Keynes's insights about animal spirits which he analysed just in the context of entrepreneurship, stating that uncertainty about the future prevents entrepreneurs from properly calculating the future benefits of their business decisions. If there is no basis for rational calculation, entrepreneurs' decisions will be propelled by animal spirits which he described as a spontaneous urge to action. Akerlof and Shiller extend Keynes's animal spirits on socio-psychological, noneconomic motivations affecting macro-economic phenomena, including herding and speculation. They define five animal spirits: confidence, fairness, corruption, money illusion and storytelling. In the context of herding behaviour, confidence and storytelling will be the most crucial. Namely, Keynes argued that if the state of confidence is strong and people are optimistic, then the macro-economy will be vulnerable to waves of euphoria, optimism and overconfidence, precipitating herding, and speculative bubbles. But when the state of confidence is weak and people are pessimistic, then the macro-economy will be prone to slumps and financial crises. These forces will spread via storytelling, word of mouth and false intuitions that prices cannot fall, feeding herding and contagion. In this way, Akerlof and Shiller's animal spirits can explain market trends. (Baddeley, 2010, 284) Pech and Milan (2009, 891) found that recent empirical evidence suggested that many of the Keynes's psychological ideas have a defensible behavioral foundation and fit broadly the real behavior of economic agents. Therefore, they argued that Keynesian economics can benefit from issues related to judgment under uncertainty and building solid micro foundations for macroeconomics. Akerlof and Shiller (2009) reinforced this claim that macroeconomics can indeed be based on behavioral foundations.

### **3. Behavioral finance**

Behavioral finance, as a new approach to financial markets, emerged partly in response to the difficulties faced by the traditional paradigm. It argues that some financial phenomena can be better understood using models in which some agents are not fully rational from the financial point of view. (Barberis, Thaler, 2001, 4) Academic finance has evolved from the time when the efficient markets theory was widely considered to be proved beyond doubt. (Shiller, 2003, 83) Shiller argued empirically that stock price swings are too volatile to reflect only news, and DeBondt and Thaler discovered an important overreaction effect based on the psychology of representativeness. However, statistical work of these first behavioral economists was simply ignored. (Camerer, Loewenstein, 2002, 42) Behavioral finance looks at finance from a broader social science perspective including psychology and sociology. It is now one of the most vital research programs, and it stands in sharp contradiction to much of efficient markets theory. (Shiller, 2003, 83) Indeed, it is necessary to distance oneself from the presumption that financial markets always work well and that price changes always reflect genuine information. Behavioral finance gives evidence that the recent worldwide stock market booms and then crashes had their origins in human foibles and arbitrary feedback relations. Therefore, they must have generated a real and substantial misallocation of resources. According to Shiller (2003, 102), the challenge for economists is to make this reality a better part of their models. There are two groups of serious scientific research in behavioral finance. According to Šonje (2014, 16), the first one is the analysis of the momentum - inertia in the movement of the securities' prices. These surveys are the beginnings of behavioral finance. The inertia of prices adjusting to new information and

market circumstances has suggested a correlation between the behavior of actual traders with a psychological phenomenon of slow reaction to new information. The second group of serious research studies are those analysing use of a technical analysis which attempts to recognize trends and other visual patterns (such as Fibonacci series) in graphs of price movements that could serve to predict future price movements.

In Croatia, there are only few papers considering behavioral finance. Brajković and Radman Peša (2015, 65-66) presented behavioral finance through the term of Black Swan defining it as an unpredictable event with serious consequences although people tend to give explanations to make it predictable and explainable. Good example is the recent global financial crisis which is largely caused by the implementation of faulty mathematical models relying on risk assessments as a stable tool in banking systems. However, mathematical, and statistical models can only be one part of a crisis forecasting system and risk management that should be based on human experience of the observations and predictions of (non) rational people's behaviour and the (non) stability of the system as a whole. (Brajković, Radman Peša, 2015, 89) In addition, Ivanov (2008, 17) examined anomalies and phenomena on financial markets. The analysis of the irrationality on the financial market was explored on the case of Croatian stock market. In the period before the crisis, the Croatian stock exchange has seen a drastic boom in activity, making it one of the fastest growing markets in the world. However, the Croatia's stock market index CROBEX has plunged around 50 percent during the 2008. Instead of the former euphoria of optimism, a today human behavior on financial market reflects the strong euphoria of pessimism. (Ivanov, 2008, 17) This idea that the business cycle is driven by waves of optimism and pessimism has a long tradition. It was made popular by Keynes who called these waves animal spirits. According to De Grauwe (2008, 35) this idea is still widely accepted in explaining movements in economic activity.

Behavioral finance, as a financial discipline, has been affirmed over the past thirty years as a descriptive theory of financial decision making and functioning of financial markets. (Šonje, 2014, 2) Behavioral finance does not deny the existence of standard financial theories. They merely complement the deficiencies that cannot be explained with rationality. (Brajković, Radman Peša, 2015, 89) The specificity of financial markets is that decisions on purchasing financial assets are more complicated than decisions on purchasing ordinary goods. The reason lies in the expectations. They play a key role in assessing the value of an investment. The reason why the risks (price fluctuations) are more noticeable with financial assets than with ordinary goods, lies in the wavering of market participants' expectations. According to Šonje (2014, 3), the three main factors affect the estimation of financial assets value - estimating (expecting) the amount of future cash flows that one expects to realize as securities holder, the risk assessment of future cash payments and time preference of money which is a compensation for the fact that one cash unit today is worth more than one cash unit tomorrow.

The economic conception of human behavior assumes that a person has a single set of well-defined goals, and that the person's behavior is chosen to best achieve those goals. (Loewenstein, O'Donoghue, 2005, 1) Those goals are different as market participants differ based on the time preferences, estimates (expectations) of the future cash flows and the risk perception. Everyone assesses subjectively these elements. Therefore, there may exist thousands of buyers and sellers with different subjective estimates of the value for each security. Such variety is logical if people have different information. However, the variety of subjective estimates occurs even when people have the same information. One of the reasons behind is selective perception - people often see the same things differently. There is a need for a social mechanism enabling communication and convergence between different attitudes about values. A market is such a



mechanism that enables different individual valuations to face each other freely to the extent that everyone has the right not to buy or sell goods, services, or capital. Therefore, at any moment, hundreds of prices (and the amounts) at which someone is willing to buy or sell a security are pointed out. Individual expectations thus obtain a collective dimension that can be statistically described by the distribution of supply and demand prices. (Šonje, 2014, 4) Such a financial market enables filtering of individual differences (and eliminating errors) in estimates of value, which ultimately leads to the exposure of the representative value by which the largest number of transactions on the market is performed.

The previously mentioned behavioral principles examine the validity of the efficient markets hypothesis assuming that people behave rationally, can process all available information, financial prices efficiently incorporate all public information and prices can always be regarded as optimal estimates of true investment value. (Ivanov, 2008, 17) The efficient markets hypothesis is a financial theory that starts from the assumptions of the rationality of the participants which are in mutual competition and the availability of information relevant to trading. If rational participants have relevant information and compete with each other, the market prices of the financial assets will equal their fair value. Such efficient market will fulfil its social role of optimal allocation of economic resources. However, there is almost no peace in real stock exchanges. (Šonje, 2014, 8-9) Moreover, if the market is more liquid and the number of market participants is greater, trading will be livelier. This deviation of the real market behavior from theoretical prediction is based on the fact that the actual markets are immersed in political, historical, institutional, informational and sociopsychological circumstances that significantly complicate the achievement of the market equilibrium. According to Šonje (2014, 10), in the efficient markets hypothesis many of the features of the real world remain unrecognised and in descriptive terms it is not adequate.

Another important feature in finance is discount rate. It is generally assumed that the discount rate does not change in time (time preference does not change shape over time) and the discount factor has a classic exponential form. But in many cases, the reality might be different. Research in the field of behavioral finance has shown that many people have so-called hyperbolic rather than exponential time preferences. This means that the time preference is expressed towards the immediate future (when the gain is at hand) and is relatively weak in relation to the further future, although one expects it to be more profitable. Hyperbolic time preferences lead to time inconsistent choices that are highly represented in addicts. Psychologists have concluded that hyperbolic time preferences are associated with a psychological self-control problem, leading to irrationality in some people in the sense of insufficient self-control. (Šonje, 2014, 20) When studying market bubble causes (unjustifiable sudden growth in stock market or real estate prices), Kahneman had been exploring the influence of psychological factors on making decisions in unpredictable situations. In cases where safe gain cannot be predicted, an individual will avoid the risk although risk is giving the possibility of higher profit. However, in the case where individual moves from a sure loss, the risk becomes more attractive, though it could bring a more pronounced loss. (Ivanov, 2008, 10) Keynes also gives subtle messages about the relationship between financial markets, the formation of expectations and human rationality. (Šonje, 2014, 10) His perhaps most important message is extremely modern: at a time when there is no risk in the future (the possibility of calculating the probability of events ceases), uncertainty begins. (Šonje, 2014, 14) Due to the lack of information on which a sensible decision could be based, uncertainty opens the way to act based on the impulse.

Keynes had accurately identified the importance of imitation and strategic behavior in financial markets already in 1936. Later, these ideas could be associated with the psychological effect of

conformism which was proven in experiments. Regardless of being act of free will (autonomous and deliberate decision) or being act of obedience, imitation and subordination to force are well-known in psychology and occur in conditions of uncertainty. Most people in such situations, especially if uncertainty causes fear and panic, has the tendency to assume the wisdom of the mass and take the decision of the majority. A mass imitation or stampede sometimes affects financial markets. Moving of the S&P500 index in the days surrounding the downfall of the Lehman Brothers investment bank (September 15, 2008) is a good example. At the beginning of August, the index went around 1300 points, but at the beginning of October the index fell below 900. Most of the total loss was concentrated in a few days around the bankruptcy of the bank. For each market participant at that time, it was rational to smell the danger and follow the crowd. In such strategies, it is very difficult to find something that could be labelled as individually irrational. Under uncertainty conditions, the herd is driven by fear when the future becomes completely darkened. Fear is not always irrational. It can be a matter of rational action in the context of waves of emotions and forcible decision-making, when the uncertainty moves the decision-making process from the path of reason to the path of impulse. In other words, it was rational to fear and run away from the market in September and October 2008. (Šonje, 2014, 22-23) In any case, average investors often make incorrect investment decisions, which can be determined by reasons such as lack of investment knowledge and skills, inconsistency in investment decisions, irrational behavior of individuals and groups, the desire for quick earning, excessive self-confidence and propensity to speculation, imperfection of information in the market or simply as a result of inexplicable aimless stock or other assets price movements. (Ivanov, 2008, 12) An important factor in this process is the willingness of the investor to accept the risk in relation to the expected yield.

After three decades of development, behavioral finance met three important limitations. Firstly, psychological theories are no longer used merely as an explanation of market anomalies because some psychological explanations (models with varying risk aversion) support the efficient markets hypothesis. Secondly, it is accepted today that the evidence of so-called market anomalies is not a proof that the efficient markets hypothesis does not hold. Thirdly, proof of so-called market anomalies is not a proof that market participants are not rational because financial economists have not yet designed the appropriate empirical test of market participants' rationality. Reasons may lie in a lack of clear distinction between individual and collective rationality or insufficiently clear differentiation of causes and mechanisms of market anomalies, which, besides (ir)rationality, may involve poor regulation and institutions, insufficient competition, poor information structure and the problem of learning speed. (Šonje, 2014, 25-26) If there are a lot of compelling explanations of anomalies, with the irrationality of participants being only one, one cannot ignore the fact that there is no reliable empirical test that would identify the ultimate cause of market anomaly. Therefore, a large market oscillation cannot be interpreted as an automatic confirmation of the existence of individual irrationality. (Šonje, 2014, 15-16) Financial economists are far from developing empirical tests good enough to clearly distinguish the effects of some potential explanations and thus isolate the effect of (ir)rationality. (Šonje, 2014, 25-26) If anything can distinguish rational from irrational actors, then it is the ability and speed of learning. Gamblers and addicts thrive on emotions so they are constantly driven by impulse, and regardless of feedback (losses), continue with the same behavioral strategy even after they lose everything. Learning in order to adapt to changing circumstances could be at the very core of the concept of rationality that would apply to realistic historical situations. The real rationality of participants and market outcomes should be judged on how fast and reliable learning takes place. (Šonje, 2014, 27) It is irrational when learning is lacking or when it is so slow that most people are unable to respond to changed circumstances.



Roa Garcia (2011, 16) also emphasised the role of information in financial decision-making. She finds that both the behavioral finance and financial-education literature reach the same conclusion that there are various important psychological aspects that determine individuals' behavior regarding the use and acquisition of information. Two dominant aspects in financial decision-making are overconfidence and limited cognitive capabilities. Individual and group overconfidence leads individuals to reject important signals from the market. Empirical evidence shows that the effect of overconfidence is especially important in investment decisions. Many authors argue that this may be one of the factors underlying the current global financial crisis. On the matter of cognitive capabilities, according to Roa Garcia (2011, 16) the empirical results provide clear examples of individuals' limited capacity to process a large and complex body of information.

#### **4. Implications and conclusion**

Research in the field of behavioral finance has deepened the knowledge of how and why the differences occur between behavior and outcomes in real markets when compared with the predictions of standard theory. Their contribution in linking psychological theories with so-called anomalies in the financial markets is also important. (Šonje, 2014, 25-26) Critics of behavioral economics usually point out the rationality of economic entities. They argue that experimentally observed behavior has only limited applications in market conditions, as learning opportunities and competition generally ensure convergence to an ideal type of rational behavior. They say that behavioral economics can contribute to strengthening of the existing economic theory, but offers no realistic prospect of replacing it. Certain types of behavioral models are already important in mainstream economics like models of learning, models of habit formation and models of the related phenomenon of consumer locking. However, those behavioral models that ignore the great increase in the scope and accuracy of classic theory miss the mark entirely. (Levine, 2009, 16) On the other hand, behavioral economists note that their models achieve the same exact predictions as traditional models. In addition, they correctly predict some outcomes in situations where traditional models produce inaccurate predictions.

However, economics, especially financial economics, and psychology, are in touch when it comes to assumptions about people's behavior on the markets. However, within the mainstream of the financial economic thought, there was no readiness to review the behavioral settings of rational economic man *homo economicus*. Since the end of the 1970s, two types of change have started. On the one hand, the development of behavioral finance has opened room for the interpretation of market anomalies by psychological bias, such as risk aversion, excessive self-confidence, acclimatization, etc. The most important consequence of the development of behavioral finance was finding that the market also includes people whose preferences may be irrational. However, the results of behavioral finance were not enough to abandon the efficient markets hypothesis. Classical models have been parallelly improved, so it has been shown that introducing variations in risk aversion can explain large fluctuations in market prices. When changes in the risk preferences are allowed, it is no longer possible to determine which part of the price fluctuation is rational (the fluctuation of the fair value) and which is irrational (the deviation of the current market price from the fair value). This case illustrates a deeper problem mentioned before. So far, it was not possible to create an empirical test that would adequately control the parameters of the market context (information, intensity of competition, regulation) and psychological variables such as change of preferences and learning speed. (Šonje, 2014, 29) Therefore, it was not possible to deny the efficient markets hypothesis.

To conclude, it is obvious that an interdisciplinary approach is needed to understand the mechanisms that affect economic and financial decision-making. This approach should combine ideas from many disciplines like sociology, economic psychology, evolutionary biology and neuroeconomics. (Baddeley, 2010, 281) Such approach should be backed up with empirical tests as the only one scientific way to compare behavioral and rational theories. According to Barberis and Thaler (2001, 55), there are two outcomes of those tests – one is that most of the current theories, both rational and behavioral, are wrong, and the second one is assurance that better theories will be produced.

## REFERENCES

Akerlof, G. A., Shiller, R. J. (2009): *Animal spirits: How human psychology drives the economy, and why it matters for global capitalism*, Princeton University Press, Princeton.

Ashraf, N., Camerer, C. F., Loewenstein, G. (2005): *Adam Smith, behavioral economist*, The Journal of Economic Perspectives, Vol. 19, No. 3, pp. 131-145.

Baddeley, M. (2010): *Herding, social influence and economic decision-making: socio-psychological and neuroscientific analyses*, Philosophical Transactions of the Royal Society B: Biological Sciences, Vol. 365, No. 1538, pp. 281-290.

Barberis, N., Thaler, R. (2003): *A survey of behavioral finance*, Handbook of the Economics of Finance, Vol 1, No. 2, pp. 1053-1128.

Brajković, A., Radman Peša, A. (2015): *Behavioral Finance and "Black Swan" Theory*, Oeconomica Jadertina, Vol. 5, No. 1, pp. 65-93.

Camerer, C. F., (2005): *Behavioral Economics*, prepared for the World Congress of the Econometric Society, London 18-24 August 2005, pp. 1- 49.

Camerer, C. F., Loewenstein, G. (2004): *Behavioral economics: Past, present, future*, Advances in Behavioral Economics. Princeton University Press, Princeton, pp. 3-51.

De Grauwe, P. (2011): *Animal spirits and monetary policy*, Economic theory, Vol. 47, No. 2, pp. 423-457.

Ivanov, M. (2009): *Utjecaj psiholoških čimbenika na djelatnost financijskih tržišta*, u/in: Zbornik radova/Journal of economy and business, Sveučilište u Mostaru, Ekonomski fakultet, Fram-Ziral d.o.o., Mostar, pp. 7- 30.

Levine, D. K. (2009): *Is behavioral economics doomed?: The Ordinary versus the Extraordinary*, Mimeo: Max Weber lecture, European University Institute, Italy, Florence.

Loewenstein, G., O'Donoghue, T. (2004): *Animal spirits: Affective and Deliberative Processes in Economic Behaviour*, available at SSRN: <https://ssrn.com/abstract=539843>, <http://dx.doi.org/10.2139/ssrn.539843>.

Pech, W., Milan, M. (2009): *Behavioral economics and the economics of Keynes*, The journal of socio-economics, Vol. 38, No. 6, pp. 891-902.

Roa Garcia, M. J. (2013): *Financial education and behavioral finance: new insights into the role of information in financial decisions*, Journal of Economic Surveys, Vol. 27, No. 2, pp. 297-315.

Shiller, R. J. (2003): *From efficient markets theory to behavioral finance*, The Journal of Economic Perspectives, Vol. 17, No. 1, pp. 83-104.

Šonje, V. (2014): *Financije i racionalnost: što možemo naučiti od bihevioralnih financija*, in Polšek, D., Bovan, K., ed.: Uvod u bihevioralnu ekonomiju, Institut Društvenih Znanosti Ivo Pilar, Zagreb.

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## **DO OIL PRICES AFFECT CROATIAN STOCK MARKET?**

### **UTJEČU LI CIJENE NAFTE NA HRVATSKO TRŽIŠTE KAPITALA?**

#### ***ABSTRACT***

*The impact of oil prices on capital markets usually implies that the increase of oil prices results in increased input costs at the microeconomic-company level, thereby reducing profits. Also, if oil prices increase, consumers will spend more of their income on petroleum products thereby reducing the share of consumption on other goods. As a consequence, profits fall, as well as company share values. When it comes to spending on petroleum products, income elasticity is higher than price elasticity, so strong economic activity can result in growth of company profits and their share values even if oil prices rise. The existing literature on the subject does not indicate a single conclusion; sometimes there is a negative correlation between oil prices and capital markets, sometimes there is none. The aim of the paper, using data on the CROBEX as the official index of the Zagreb Stock Exchange and oil prices data, is to examine whether there is a statistically significant relationship between oil prices and the movement of the Croatian capital market. In an effort to thoroughly check the direction and the nature of oil prices influence on the Croatian capital market, we used several different indicators of oil prices, to take cognizance of the possible significance of the volatility of oil prices or the effect of surprise, and possible differences in the nature of the impact of oil prices on the capital market depending on whether oil prices rise or fall. The paper also uses two additional variables; the exchange rate, introduced by the nominal effective exchange rate variable, and the industrial production index as a proxy for gross domestic product (GDP), for GDP information are published on a quarterly basis. The model uses monthly data for the period from 01/2000 to 12/2015, for this data frequency was considered optimal in terms of being able to detect the possible impact of explanatory variables on the movement of Zagreb Stock Exchange index - CROBEX. VAR (Vector Auto Regression) methodology was employed in order to detect the possible capital market reaction to the explanatory variables with a time lag.*

**Key words:** *oil prices, CROBEX, capital market, nominal effective exchange rate*

## SAŽETAK

*Postojanje utjecaja cijena nafte na tržišta kapitala podrazumijeva da rast cijena nafte rezultira povećanjem troškova inputa na mikroekonomskoj razini. Također, kupci će veći dio dohotka trošiti na naftne derivate čime se smanjuje udio potrošnje dobara ostalih tvrtki. I tako padaju profiti, a usporedno i indeksi tržišta kapitala. Kako je, kad je u pitanju potrošnja na naftne derivate, dohodovna elastičnost veća od cjenovne, jaka gospodarska aktivnost može rezultirati i rastom profita i tržišta kapitala, čak i kada cijene nafte rastu. Stoga, postojeća istraživanja ne upućuju na istovjetan zaključak; ponekad postoji negativna korelacija cijena nafte i tržišta kapitala, ponekad ne. Cilj ovoga rada je, koristeći podatke o CROBEX-u kao službenom indeksu Zagrebačke burze i cijenama nafte ispitati postoji li statistički značajna veza između cijena nafte i kretanja hrvatskog tržišta kapitala. U nastojanju da se detaljno provjeri smjer i način utjecaja cijena nafte na hrvatsko tržište kapitala, korišteno je nekoliko različitih pokazatelja cijene nafte, kako bi se uvažio eventualni značaj volatilnosti cijena nafte ili pak efekta iznenađenja, kao i moguće razlike u prirodi utjecaja cijena nafte na tržište kapitala ovisno o tome dali cijene nafte rastu ili padaju. U radu se također koriste varijable; deviznog tečaja, korištenjem nominalnog efektivnog deviznog tečaja, te indeks industrijske proizvodnje kao proxy varijabla za bruto domaći proizvod čiji se podaci objavljuju na kvartalnoj razini. Model obuhvaća mjesečne podatke, za period od 01/2000 do 12/2015, jer se ova frekvencija podataka smatra optimalnom s aspekta mogućnosti detektiranja utjecaja eksplanatornih varijabli na kretanje CROBEX-a. U radu je korištena VAR (Vektorska Auto Regresija) metodologija kako bi se detektirala eventualna reakcija tržišta kapitala na eksplanatorne varijable s vremenskim odmakom.*

**Ključne riječi:** cijene nafte, CROBEX, tržište kapitala, nominalni efektivni devizni tečaj

### 1. Introduction

The relationship between stock markets and energy prices, mainly oil prices, has been an issue of growing importance in energy economics. There is no economic growth without energy, and oil is still, by far, the most important global energy source and the most tradable commodity in the world. In recent years there has been growing interest in exploring the relationship between stock prices and oil prices. After the pioneering work of Jones and Kaul (1996) a great amount of research has followed. However, the relationship between oil prices and stock returns still remains a controversial issue; with research conclusions being that either oil prices influence stock prices negatively, positively or no way at all. While there exists a literature on relationship between oil prices and stock prices, and a separate literature on the relationship between oil prices and exchange rates, the relationship between these two streams has, however, not been closely studied, especially within the context of emerging stock market prices (Basher, Haug & Sadorsky, 2012). Apart from the afore mentioned, the studies of the oil price to stock market influence are mainly preoccupied with developed economies and considerably less research is devoted to other Asian and European markets, especially emerging Europe whose growth perspectives suggest an increasing role of energy for their economies. As for the Croatian stock market, to the best of our knowledge, the only study performed is the one of Benaković and Posedel (2010) who analysed the returns of fourteen stocks on Zagreb Stock Exchange (ZSE) in a multivariate framework using inflation, industrial production, interest rates, market index and oil prices as factors. The aim of the paper is to contribute to the existing literature by enriching the understanding of the stock market oil price nexus in an emerging economy. As opposed to Benaković and Posedel, we use several oil price indicators in order to detect the possible

asymmetrical and/or nonlinear reaction of stock market to oil prices, and try to link both exchange rate and oil prices to stock market movements.

The outline of the paper is as follows; Section 2 Presents the literature review. Section 3 presents the model and estimation results, including data and methodology description. Finally, Section 4 Summarizes and concludes.

## **2. Literature Review**

There are numerous papers dealing with the influence of oil price shocks on the overall economy of a particular country. There is also an increasing body of literature on the effects of oil price shocks on the stock market. However, these mostly deal with developed countries. Some of these papers will be described below.

Jones and Kaul (1996) were among first to analyse the impact of oil prices on international stock markets, analysing U.S., Canada, UK and Japan. They found that strong oil price changes had a significant and, on average, negative effect on stock markets of all the countries under investigation.

Sadrosky (1999) wanted to find out the impact that oil price shocks may have on stock market returns. The author employed a generalised autoregressive conditional heteroskedastic GARCH model of oil price volatility as well as an unrestricted vector autoregression (VAR) model for examining the dynamic interaction between oil prices and other economic variables. It was found that oil prices and oil price volatility play an important role in affecting real stock returns. Specifically, it was found that oil price shocks have asymmetric effects on the economy. The results also suggest that the dynamics of oil price shocks have changed across time; oil price shocks had a significantly negative impact on real stock returns although this impact was strongest after 1986.

In her empirical analysis, Papapetrou (2001) performs a VAR analysis to explain oil price changes and its effects on stock returns, economic activity and employment for Greece. Two specifications are estimated, the industrial production specification and employment specification. Both specifications include real oil prices, interest rate and real stock return variables. The empirical evidence suggests that oil prices play an important role in affecting economic activity and employment. Oil price shocks explain a significant proportion of the fluctuations in output growth and employment growth, having an immediate negative effect on industrial production and employment. Impulse response functions show that oil prices are also important in explaining stock price movements. For both specifications, the results suggest that a positive oil price shock depresses real stock returns.

Ciner (2001) revised the conclusions of Huang et al. (1996) who claimed that there was a significant influence of oil futures on some company stock prices, but found no influence on the whole market (measured by S&P 500). Huang et al. concluded that the oil price - stock market hypothesis is a myth and not a reality. Ciner (2001), inspired by the work of Hamilton (2001), discarded such an implication as he tested the same data but had taken into account the nonlinear nature of oil price changes and their influence on stock market. He found that, when applying different methodology, there was a correlation between oil futures and S&P 500. Later on, Chen (2010) also analysed S&P 500 indices and claims that there is high probability of a bear market emergence as a result of high oil prices.

In their study, Park and Ratti (2008) examine the effect of oil price shocks on real stock returns in the U.S. and in 13 European countries over 1986:1–2005:12. In order to capture the complexities of the dynamic relations between variables, a multivariate VAR analysis has been used with linear and non-linear specification of oil price shocks. Variables include short-term interest rates, consumer prices and industrial production. The main findings are that oil price shocks have a statistically significant impact on real stock returns in the same month or within one month. As opposed to other countries, Norway, as an oil exporter, shows a statistically significant positive response of real stock return to an oil price shock increase. For many European countries, but not for the U.S., increased volatility of oil prices significantly depresses real stock returns. Counter to findings for the U.S. and Norway, there is little evidence of asymmetric effects on real stock returns of positive and negative oil price shocks for oil importing European countries.

Degiannakis, Filis and Kizys (2013) investigated the effects of oil price shocks on stock market volatility in Europe by focusing on three measures of volatility, i.e. the conditional, the realised and the implied volatility using a Structural VAR model. Specifically, it studies the effects of three different oil price shocks –an oil supply shock, an aggregate demand shock and an oil specific demand shock on the stock market. In order to estimate the volatility figures the authors use daily data from January 1999 to December 2010 on; the stock market index - Eurostoxx 50, the industrial sector indices and the pan-European stock market index constructed by Dow Jones. The authors provide evidence that supply-side shocks and oil specific demand shocks do not affect stock market volatility, whereas, oil price changes due to aggregate demand shocks lead to a reduction in stock market volatility. The results hold for the industrial sectors' volatilities, as well. Prominent among their results is the finding that oil price shocks have a qualitatively similar impact for both the current-looking volatility measures and implied volatility, which is a forward-looking measure.

Kang, Ratti and Yoon (2015) investigated how structural oil price shocks drive the contemporaneous stock market return and volatility relationship. They estimate a structural vector autoregression (SVAR) model using rolling samples. The main findings suggest that positive shocks to aggregate demand and to oil-market specific demand are associated with negative effects on the covariance of return and volatility. Oil supply disruptions are associated with positive effects on the covariance of return and volatility. Furthermore, the spillover index between the structural oil price shocks and covariance of stock return and volatility is large and highly statistically significant.

While there have been numerous attempts to explore the influence of oil prices on stock market returns, the majority is still concerned with developed countries and their stock markets.

As for the Croatian stock market, to the best of our knowledge, the only paper linking stock market with oil prices is the one of Benaković and Posedel (2010) who analysed returns on fourteen stocks of the Croatian capital market from January 2004 to October 2009 using: inflation, industrial production, interest rates, market index and oil prices as factors. Their findings suggested that the market index has the largest statistical significance for all stocks and a positive relation to returns. Interest rates, oil prices and industrial production also marked a positive relation to stock returns.

### 3. Empirical research

#### 3.1. Data and methodology

Following the work of Narayan & Narayan (2010), we used oil prices and exchange rate to explain their influence on stock market return. Apart from these variables, we also used industrial production index as a proxy variable for GDP, as an indicator of the overall economic health. It is worth noting that real economic activity and financial markets are correlated in the long run whereas in the short run, financial markets can act quite unpredictably and not in relation to the overall economic situation.

As for the exchange rate, traditional open economy model suggests a link between financial markets and exchange rate as exchange rate variations influence the firm competitiveness (Dornbusch & Fischer, (1980)). For an import dependent economy, as Croatia, depreciation of the national currency increases the cost of import, so if a firm is import dependent, this would lower its stock value.

The study uses monthly data of selected variables covering the period from 01/2000 to 12/2015 including 192 observations per variable. The selected variables include; Croatian stock market index (CROBEX), industrial production index (IPI), oil prices (OIL) and nominal effective exchange rate index (NEER). CROBEX is the official Zagreb Stock Exchange market index where monthly data was calculated by averaging the daily values (retrieved from: <http://zse.hr/CROBEX>). OIL prices we used are monthly Brent spot FOB prices (retrieved from: <https://www.eia.gov>) and these prices are also the basis for calculation of the other oil price indicators: MORK+, MORK- and NOPI. MORK+ and MORK- were originally constructed by Mork (1989) where the two are calculated as monthly percentage changes of oil prices (a linear oil price indicator). After this calculation the time series is split in two (see eq. (1) and (2)); with MORK+ including positive oil price changes, zero otherwise, and MORK- including negative oil price changes, zero otherwise ( $o_t$  is the oil price percentage change).

$$o_t^+ = o_t; o_t > 0; \quad o_t^+ = 0; o_t \leq 0 \quad (1)$$

$$o_t^- = o_t; o_t < 0; \quad o_t^- = 0; o_t \geq 0 \quad (2)$$

Finally, NOPI – Net Oil Price Increase is an oil price indicator proposed by Hamilton (1996) capturing the surprise effect of an oil price change (a nonlinear oil price indicator). NOPI is calculated as a log value of the ratio of the oil price in time  $t$  through the highest oil price level in the previous four periods (eq. 3); if the current price level does not exceed the price from the previous four periods, NOPI is given the value zero.

$$NOPI = 100 \cdot \log\left(\frac{p_t}{\max(p_{t-1}, \dots, p_{t-4})}\right)^+ \quad (3)$$

It is evident that NOPI only takes into account oil price increases, and not all of them but only significantly high ones. This reveals Hamilton's thesis that oil price influence is asymmetric e.g. important when oil prices rise, but not vice versa, and that the effect of surprise is crucial in the oil price-economy nexus. Industrial production index, IPI (2010=100), was taken from the Croatian Bureau of Statistics (<http://www.dzs.hr/>) and nominal effective exchange rate data,



NEER (2010=100), from Eurostat database (<http://ec.europa.eu/eurostat/en/data/database>). NEER is a measure of the value of a currency against a weighted average of several foreign currencies. An increase in NEER indicates an appreciation of the local currency against the weighted basket of currencies of its trading partners (<http://imf.org/neer>). We used monthly data as did; Sadorsky (1999) and Park and Ratti (2008), among others.

The model estimation is carried out using vector auto regression (VAR) methodology in order to explore the dynamic relationship among the selected variables; CROBEX, OIL, MORK+, MORK-, NOPI, IPI and NEER, using EViews 7.1.. As we decided to use several oil price indicators; namely; OIL, MORK+, MORK- and NOPI, our analysis includes three models to be estimated depending on which oil price indicator is being used;

⇒ Model 1 includes: CROBEX, OIL, IPI and NEER,

⇒ Model 2 includes: CROBEX, MORK+, MORK-, IPI and NEER.

⇒ Model 3 includes: CROBEX, NOPI, IPI and NEER.

Preceding VAR analysis, unit root testing as well as co-integration tests are employed in order to detect the possibility of co-integration among selected variables. The initial step in the analysis is checking for stationarity using unit root test. To avoid spurious regression results, variables used in model estimates must be stationary; so if a variable turns out to be non-stationary at level, it is transformed by differentiation. Where applicable, we used log values to stabilize time series variance. After checking for stationarity of variables, the existence of co-integration is checked. The analysis is completed with Impulse response functions and Variance decomposition analysis.

### 3.2. Model estimation and results

There are various unit root tests that could be used to check for stationarity; Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), Kwiatkowski-Phillips-Schmidt-Shin (KPSS), Ng-Perron (NP) etc.. For the purpose of our analysis ADF and PP test were used and they both indicated same unit root test results ( $H_0$ : variable X has a unit root). Table 1 gives ADF unit root test results indicating lnCROBEX, lnIPI, lnNEER and lnOIL to be nonstationary at level, however, upon their differentiation, they all become stationary at the 1% significance level for both intercept and trend and intercept position. On the other hand, oil price indicators; MORK+, MORK- and NOPI are stationary at level.

*Table 1 ADF unit root test results*

| Variable | Intercept | Trend and intercept | Variable  | Intercept    | Trend and intercept |
|----------|-----------|---------------------|-----------|--------------|---------------------|
| lnCROBEX | -1,884083 | -1,533967           | DlnCROBEX | -9,209477*** | -9,282806***        |
| lnIPI    | -2,546256 | -2,027813           | DlnIPI    | -10,50161*** | -10,89259***        |
| lnNEER   | -2,133886 | -2,129261           | DlnNEER   | -12,30401*** | -12,32994***        |
| lnOIL    | -1,595592 | -0,934517           | DlnOIL    | -11,02660*** | -11,12044***        |
|          |           |                     | MORK+     | -13,76176*** | -13,73326***        |
|          |           |                     | MORK-     | -11,36685*** | -11,36567***        |
|          |           |                     | NOPI      | -11,17493*** | -11,28667***        |

\*\*\*indicating statistically significant result at 1%

*Source: Authors' calculations*

The next step is checking for co-integration by using Johansen co-integration test. Co-integration was only tested for Model 1 for all of its variables were I(1) as opposed to Models 2 and 3 were oil price indicators (MORK+, MORK- and NOPI) were found to be stationary at level, or I(0). Trace test as well as Max-eigenvalue test indicated no co-integration at the 0.05 level (see Table 2).

**Table 2** Johansen Cointegration test results (Model 1)

| Hypothesized<br>No. of CE(s) | Trace<br>Statistic | 0.05<br>Critical Value | Prob.** | Max-Eigen<br>Statistic | 0.05<br>Critical Value | Prob.** |
|------------------------------|--------------------|------------------------|---------|------------------------|------------------------|---------|
| None                         | 43.85278           | 47.85613               | 0.1131  | 26.28390               | 27.58434               | 0.0726  |
| At most 1                    | 17.56889           | 29.79707               | 0.5980  | 9.419339               | 21.13162               | 0.7972  |
| At most 2                    | 8.149547           | 15.49471               | 0.4496  | 5.023937               | 14.26460               | 0.7388  |
| At most 3                    | 3.125610           | 3.841466               | 0.0771  | 3.125610               | 3.841466               | 0.0771  |

\*\*MacKinnon-Haug-Michelis (1999) p-values

Source: Authors' calculations

Next, in order to construct the VAR model, Granger causality among the selected variables in our models was checked. Granger causality tests implied causality as shown in Table 3 (only statistically significant results at the 5% level are shown). The results imply that DLNCROBEX Granger causes DLNOIL as well as NOPI and not vice versa. An evident consistency in our results is found in all models indicating a Granger causality running from nominal effective exchange rate (NEER) to industrial production (IPI).

**Table 3** Bivariate Granger causality test results

| Null Hypothesis:                        | Obs | F-Statistic | Prob.  |
|---|-----|-------------|--------|
| <b>MODEL 1:</b>                         |     |             |        |
| DLNCROBEX does not Granger Cause DLNOIL |     | 6.01261     | 0.0151 |
| DLNNEER does not Granger Cause DLNIPI   |     | 4.05669     | 0.0454 |
| <b>MODEL 2:</b>                         |     |             |        |
| DLNNEER does not Granger Cause DLNIPI   |     | 4.05669     | 0.0454 |
| <b>MODEL 3:</b>                         |     |             |        |
| DLNCROBEX does not Granger Cause NOPI   |     | 5.58087     | 0.0192 |
| DLNNEER does not Granger Cause DLNIPI   |     | 4.05669     | 0.0454 |

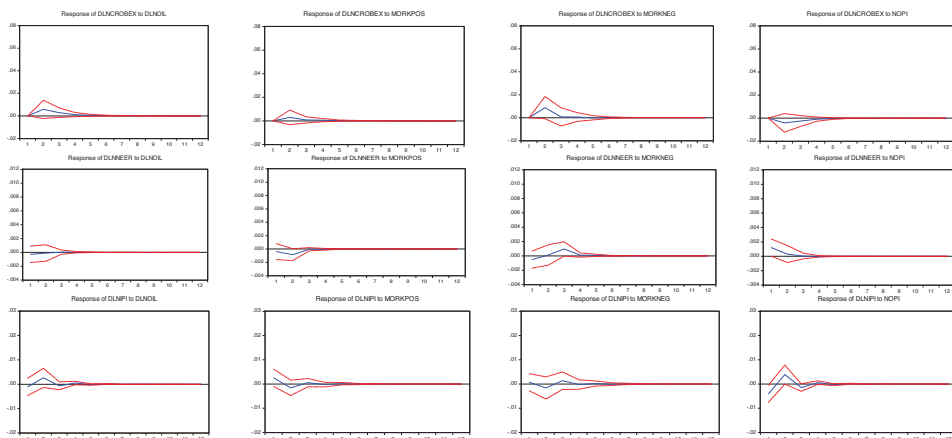
Source: Authors' calculations

In order to determine the appropriate lag length of the model based on VAR Lag Order Selection Criteria we used; sequential modified LR test statistic (LR), Final predictor error (FPE) as well as Akaike (AIC), Schwartz (SC) and Hannah-Quinn (HQ) information criterion. According to all the information criteria used but LR, the optimal lag length for all models is one (month).

### 3.3. Impulse response functions and variance decomposition

After analysing the optimal lag length, we move forward to plotting (a selection of) the impulse response functions (IRFs) in Figure 1. Each column shows the response of the selected model variables to oil price indicator; first column being the responses to DLNOIL, the second and third to MORK+ and MORK- and the last one to NOPI. At the same time, the first row shows the responses of DLNCROBEX to oil price indicators, the second one the response of LNNEER and the last one the response of DLNIPI to oil price indicators.

**Figure 1** Impulse response functions; response to Cholesky One S.D. Innovations  $\pm$  2 S.E.



Source: Authors' calculations

Observing the IRFs in the first row, it is evident that the reaction of CROBEX to oil price indicators is quite modest, with positive reaction in the case of DLNOIL, MORK+ and MORK-, as opposed to a negative reaction to NOPI, with the response of CROBEX fading after four months. It is interesting to note that both MORK+ and MORK- exert a positive effect on CROBEX indicating no asymmetry in the response of stock market behaviour to oil price movements. On the other hand, NOPI is the only oil price indicator effecting the stock market negatively. A plausible explanation might be the nature of NOPI itself, for it incorporates only positive oil price changes and, most importantly, the ones that exceed a four period oil price average, so NOPI itself has an effect of surprise built in indicating that an unanticipated increase in oil prices leads to a decrease of CROBEX.

The effects of oil price changes to NEER depend on the oil price indicator; while NEER does not seem to respond to DLNOIL at all, the response to MORK+ is negative, indicating a depreciation of HRK in the case of an oil price increase, and for MORK- positive (after one month), indicating an appreciation of the local currency. The results suggest that an oil price increase pushes upward the demand for foreign currency used to purchase oil (mainly USD) thus depreciating the local currency. More importantly, as Granger causality runs from NEER to IPI in all the models, the IRFs of IPI response to NEER (available upon request) indicate a significant positive impact of NEER to a shock in IPI (fading after three months).

In the final step we turn to Variance decomposition analysis which provides information on the movements of the dependent variables due to their own shocks as well as shocks to other variables (variance decomposition tables available upon request) over the period of twelve months. The results of the variance decomposition analysis are consistent with the findings of IRFs. Variability of CROBEX variable in all the models is best explained by itself (with over 97% after one year), with oil price influence being quite modest at the end of the one-year period. Another result that stands out, in line with what has been found so far; while 86,38% of the LNOIL variable in Model 1 is explained by itself, 11,09% of the variability is explained by CROBEX movement (NEER; 0,87% and IPI; 1,65%). Similarly, 5,72% of the CROBEX variability (93,19% explained by itself) in Model 3 is explained by NOPI. An earlier established

connection between NEER and IPI is found to cause very little variation in IPI as a consequence of a shock in NEER; 1,75% in the first, 1,73% in the second and 1,48% in the third model (at the end of the year).

#### 4. Concluding remarks

In this article, we investigated the links between; CROBEX – official stock market index of Zagreb stock exchange, oil prices, exchange rate and industrial production over the period from January 2000 to December 2015 using VAR methodology. The main findings of the study are as follows. The models used in our study indicated some form of positive relationship between oil prices and CROBEX, however, this relationship does not seem to be unidirectional. As suggested by Granger causality test, CROBEX Granger causes both DLNOIL and NOPI variables. These results are in line with those of Kilian and Park (2007), Apergis and Miller (2009) and Narayan and Narayan (2010). To draw a common conclusion among these papers; the response of stock returns depends whether the increase in oil price is driven by supply side or demand side shock; higher oil prices, driven by an unanticipated global expansion, have positive effects on stock returns.

The relationship between oil prices and stock markets is very complex and varies over time, thaw the link between the two seems to be positive when looking at the entire period under investigation. On the other hand, this is not true if we look at shorter periods of time. This indicates another problem that could have influenced our results. Traditional time series techniques, such as VAR, depend heavily on the integration properties of the selected variables. The existence of structural breaks or nonlinearities in series distorts the reliability of the conventional unit root and co-integration tests (Phillips, 1986), thus it would be advisable to further investigate for possible structural breaks in the selected variables. In addition, it could be plausible to analyse weekly data to check for result robustness in relation to data frequency. Finally, it should be noted that different economy sectors react differently to oil price changes, in other words, the economy is too complex to expect oil prices to push overall business activity, as well as stock prices in general, in a predictable way at all times.

#### REFERENCES

- Apergis, N. and Miller, S. M. (2009): *Do structural oil-market shocks affect stock prices?*, Energy Economics, 31, pp. 569-575
- Basher, S., Haug, A. and Sadorsky P. (2012): *Oil prices, exchange rates and emerging stock markets*, Energy Economics, 2012, vol. 34, issue 1, pp. 227-240
- Degiannakis, S., Filis, G. and Kizys, R. (2013): *Oil Price Shocks and Stock Market Volatility: Evidence from European Data*, Bank of Greece, Working Papers No. 161, <http://www.bankofgreece.gr/BogEkdoseis/Paper2013161.pdf> (accessed 1 February 2017)
- Dornbusch, R. and Fischer, S. (1980): *Exchange rates and current account*, American Economic Review 70, pp. 960-971
- Hamilton, J. D. (1996): *This Is What Happened to the Oil Price-Macroeconomy Relationship*, Journal of Monetary Economics, 38, pp. 215-220

Huang, R.D., Masulis, R.W., Stoll, H.R. (1996): *Energy shocks and financial markets*, J. Futures Mark. Vol. 16, No. 1, pp. 1-27.

Jones, C. M., Kaul, G. (1996): *Oil and the stock markets*, J. Finance, Vol. 51, No. 2, pp. 463-491.

Kang, Ratti and Yoon (2015): *The impact of oil price shocks on the stock market return and volatility relationship*, Journal of International Financial Markets, Institutions and Money, Vol. 34, pp. 41–54

Kilian, L. and Park, C. (2007): *The impact of the oil price shocks on the US stock market*, CEPR, London, Discussion Paper No. 6166, <http://www-personal.umich.edu/~lkilian/ier22166r1.pdf> (accessed 20 January 2017)

Mork, K. A. (1989): *Oil and the Macroeconomy When Prices Go Up and Down: An Extension of Hamilton's Results*, Journal of Political Economy 97, pp. 740-744

Narayan, P. K. and Narayan S., (2010): *Modelling the impact of oil prices on Vietnams stock prices*, Applied Energy, 87, pp. 356-361

Papapetrou, E. (2001): *Oil price shocks, stock market, economic activity and employment in Greece*, Energy Economics, Vol. 23, pp. 511-532.

Park, J. and Ratti, R. A. (2008): *Oil price shocks and stock markets in the U.S. and 13 European countries*, Energy Economics, Vol.30, pp. 2587- 2608

Phillips, P. C. B. (1986): *Understanding spurious regressions in econometrics*, Journal of Econometrics, 33, pp. 311-340

Sadrosky, P. (1999): *Oil price shocks and stock market activity*, Energy Economics, Vol. 21, pp. 449-469.

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**DIVIDEND BEHAVIOR OF COMPANIES ON THE ZAGREB STOCK EXCHANGE**

**PONAŠANJE I UGLAĐIVANJE DIVIDENI KOMPANIJA NA ZAGREBAČKOJ BURZI**

**ABSTRACT**

*Dividend decisions, as determined by a firm's dividend policy, are a type of financing decisions that affect the amount of earnings that a firm distributes to shareholders versus the amount it retains and reinvests. In 1956, Lintner has set postulations regarding dividend behaviour according to which dividends are a function of long-term sustainable earnings. According to Lintner (1956), managers try to manage the dividends. By managing the dividends, they try to lower their volatility (dividend smoothing) in comparison to earnings volatility that companies achieve. Companies have target dividend payout ratios. Changes in dividends follow a shift in earnings with managers being reluctant to cut dividend payments except when they are forced to do so. This represents the basis of research. The authors will conduct a research trying to prove that joint stock companies listed on the Zagreb Stock Exchange (ZSE) implement a managed dividend policy with a higher degree of dividend smoothing relative to the earnings. Previous research on dividend behaviour can be divided in two directions. One that deals with questionnaires and interviews with corporate managers and the other one based on empirical research set on Lintner's theory. Methodology applied in this paper is based on concepts of Lintner's research conducted with the use of regression analysis that will be conducted in STATA. The sample is consisted of joint stock companies listed on the ZSE that in the period 2003 to 2016 at least seven consecutive years pay out a dividend.*

**Key words:** *Dividend smoothing, Dividend, Volatility, Speed of adjustment coefficient, Earnings*

## SAZETAK

Odluka o dividendama predstavlja politiku prema kojoj menadžment donosi odluku o iznosu dobiti koja će se isplatiti dioničarima u odnosu na zaradu koja će se zadržati i reinvestirati. Lintner je svojim radom iz 1956. godine postavio i dandas održive zaključke o ponašanju dividendi prema kojima su dividende u funkciji dugo održivih zarada. Prema Lintneru, menadžeri nastoje upravljati dividendama. Upravljajući dividendama smanjuju njihovu volatilnost (uglašuju ih) u odnosu na volatilnost zarada koje kompanije ostvaruju. Dionička društva imaju ciljani pokazatelj isplate dividendi kojem društva teže, dividende prate promjene u zaradama i menadžeri nisu skloni smanjivanju ili ukidanju dividendi, osim u situacijama kada su to primorani učiniti. Navedeno predstavlja temelje kojim se ovaj rad bavi. U radu se provodi istraživanje kojim se nastoji potvrditi da dionička društva izlistana na Zagrebačkoj burzi provode upravljaju politiku sa višim stupnjem uglašivanja dividendi u odnosu na zaradu. Današnja istraživanja ponašanja dividendi kreću se u dva moguća smjera. Anketnog istraživanja i donošenja zaključka o dividendama temeljem odgovora menadžera s jedne strane ili empirijskog istraživanja temeljenog na Lintnerovim postavkama s druge strane. Metodologija istraživanja koja se provodi u ovom radu temelji se na pretpostavkama Lintnerovog istraživanja gdje se istraživanje provodi putem regresijskog modela koje će biti provedeno putem STATA računalnog softvera. Uzorak čine kompanije izlistane na Zagrebačkoj burzi koje su u periodu od 2003. godine do 2016. godine isplatile dividendu minimalno 7 godina uzastopce.

**Ključne riječi:** Uglašivanje dividendi, Dividenda, Volatilnost, Koeficijent brzine prilagodbe, Zarada

### 1. Introduction

One of the pionir and the most influential papers on dividend behavior is John Lintner's work from 1956 in which, according to many economists, he has set postulations in modern understanding of dividend behavior and dividend policy. Based on conducted interviews, Lintner set the hypothesis on target dividend payout ratio in which dividends are a function of long-term sustainable earnings.

John Lintner noted three consistent patterns (Damodaran, 2011, 511). First, firms set target dividend payout ratio, by deciding on the fraction of earnings they are willing to pay out as dividend in the long term. Second, they change dividends to match long-term and sustainable shifts in earnings, but they increase dividends only if they feel they can maintain these higher dividends. Because firms avoid cutting dividends, dividends lag earnings. Finally, managers are much more concerned about changes in dividends than about levels of dividends.

Lintner has set a model where he has shown conclusions of his research on managers regarding making decisions on payment of dividends. Specifically, according to Lintner most dividend decisions are a function of earnings in current year ( $E_{i,t}$ ) and dividend payments in the preceding year ( $D_{i,t-1}$ ). His model is shown based on the following equation:

$$\Delta D_{i,t} = a_i + c_i \times (D_{i,t}^* - D_{i,t-1}) + \mu_{i,t} \quad (1.1.)$$

with  $a_i$  being the constant. Positive value of  $a_i$  reflects the greater reluctance to reduce dividends. The parameter  $c_i$  indicates the speed of adjustment coefficient varying between  $0 \leq c_i \leq 1$ . If  $a_i$

equals zero and  $c_i$  equals one, the real change in dividends equals targeted.  $D_{i,t-1}$  is the amounts of dividends paid in the preceding year ( $t-1$ ), a  $\Delta D_{i,t}$  is the change in dividend payments.

Lintner tested his regression model with actual corporate dividend data and found that in his model 85% of the variation in changes of dividend was explained by his model. It is important to mention that the intercept  $a_i$  was significant and positive (Lease et al., 2000, 126).

Lintner's research, although carried out in 1956, has long-viable conclusions. According to Lintner, managers try to manage the dividends. By managing the dividends, the managers try to lower their volatility (dividend smoothing) in comparison to earnings volatility that companies achieve.

According to Lintner dividend policy is a managed dividend policy which arises from the conclusions of his paper stating that companies have target pay-out ratio, changes in dividends follow a shift in earnings with managers being reluctant to cut dividend payments except when they are forced to do so.

Starting information based on which many scientists try to show how dividends are managed is dividend volatility in comparison with earnings volatility. Therefore, in the United States standard deviation of the paid dividends at the aggregate level was \$72 billion in the period 1950-1997, compared to \$119 billion for profits (Lease, 2000, 12). These statistics, confirming the lower volatility of dividends versus earnings, suggest that managers are managing dividends. Similar data for the period 1960-2008 in the United States, however not at the aggregate level, suggest that the variability of dividends is significantly lower than the variability in earnings (Damodaran, 2011, 514). In the above mentioned period the standard deviation of year-to-year changes in dividends was 5.17% whereas the standard deviation in year-to-year changes in earnings was 14.69%. Moreover, the standard deviation in earnings yields was significantly higher than the standard deviation in dividend yields. In other words, there are far greater differences in profitability across companies than in dividend policy. Another research conducted by Andres et al. regarding dividends in Germany suggest that standard deviation in dividend per share amounts to 11.9 whereas standard deviation in earnings per dividend 47. At the same time variation coefficient in dividend per share amounts 0.99 while variation coefficient in earnings per share accounts for 2.62. The authors state that these data provide for "approximate" assessment of the level in dividend smoothing in Germany (Andres, 2009, 179).

Companies' dividend volatility at the ZSE is aligned with previously stated findings of conducted analyses. Results of dividend and earnings volatility investigation for companies from our research sample are shown in table 1.

**Table 1** *Volatility of dividends and earnings*

|         | $\sigma$ DPS | $\sigma$ EPS | <i>cv</i> DPS | <i>cv</i> EPS |
|---------|--------------|--------------|---------------|---------------|
| Average | 43.0478      | 185.9437     | 0.3838        | 0.4873        |
| p value | 0.1719       |              | 0.0213        |               |

*Source: authors' research*

Volatility of dividends is lower than volatility of earnings. Average standard deviation of dividend per share (DPS) amounts to 43.05 while average standard deviation in earnings per share of the companies accounts for 185.94.



Employing two-tail t-test statistical significance in differences between these data has been tested, however no statistical significance has been found.

Since we are dealing with the companies with different values of dividends per share as well as with different earnings per share, more appropriate measure for comparison is variation coefficient. Regarding DPS it amounts to 0.38 while variation coefficient for EPS accounts for 0.49. These results prove that dividends per share show lower volatility than earnings per share for the sample of companies listed on the ZSE. With the use of two-tail t-test for dependent samples differences between variation coefficients of DPS and EPS is statistically significant (p-value 2.13%). Based on data shown in Table 1 it can be determined that the companies which pay dividends try to manage dividends and lower their volatility compared to earnings. Moreover, based on above stated data one can say that companies in Republic of Croatia do not conduct pure residual dividend policy, in which case volatility of dividends and earnings would be similar, but a managed dividend policy.

## 2. Methodology and data description

Indicator that can be used as a measure for dividend behavior is Lintner's speed of adjustment coefficient. With the aim of conducting research on dividend behavior, the sample must consist of companies paying out the dividends in several consecutive years. Croatian capital market is relatively young and small; therefore, there is no large amount of companies that were paying out dividends for longer period of time.

With the aim of defining the sample basic criteria has been set up. In order to enter the sample companies listed on the ZSE in the period 2013-2016 needed to pay out a dividend at least in seven consecutive years. 24 companies have met the specified criteria. At the end of 2016, 147 companies were listed on ZSE, which means that 16.33% of all listed companies met the specified criteria.

Calculation of the speed of adjustment coefficient can be subject to the small-sample bias in AR(1) models similar as it is Lintner's model. To overcome this problem Leary and Michaely developed the alternative procedure for calculating the speed of adjustment coefficient. (Leary, Michaely, 2011, 3205).

First, target payout ratio for every company is calculated as ratio of means of dividend per share and means of earnings per share. The first step is shown with next formula:

$$TPR_i = \frac{\frac{\sum_{t=1}^{z_i} DPS_{i,t}}{z_i}}{\frac{\sum_{t=1}^{z_i} EPS_{i,t}}{z_i}} \quad (2.1)$$

where  $TPR_i$  stands for target payout ratio company  $i$ ,  $DPS_{i,t}$  presents dividend per share of company  $i$  in the year  $t$ .  $EPS_{i,t}$  stands for earning per share of company  $i$  in the year  $t$  and  $z_i$  stands for number of consecutive years in which dividend was paid out.

This is the main difference between regular calculation of  $TPR_i$  where it is indirectly calculated using Lintner's regression model. However, in this procedure it is calculated directly.

Based on target dividend payout ratio  $TPR_i$ , deviation from target dividend payout ratio is calculated for each observation:

$$dev_{i,t} = TPR_i \times EPS_{i,t} - DPS_{i,t} \quad (2.2.)$$

where  $dev_{i,t}$  presents dividend per share deviation of company  $i$  in the year  $t$  from target payout ratio of company  $i$ .

After these two steps, speed of adjustment coefficient ( $kp_i$ ), is represented as  $\beta$  in next linear regression formula:

$$\Delta DPS_{i,t} = a_i + \beta \times dev_{i,t} + \mu_{it} \quad (2.3.)$$

$\Delta DPS_{i,t}$  is calculated by the following formula:

$$\Delta DPS_{i,t} = DPS_{i,t} - DPS_{i,t-1} \quad (2.4.)$$

$\Delta DPS_{i,t}$  stands for change of dividends of company  $i$  in the year  $t$ ,  $DPS_{i,t}$  stands for dividend per share of company  $i$  in the year  $t$  and  $DPS_{i,t-1}$  stands for dividend per share of company  $i$  in the year  $t-1$ .

### 3. Empirical results

Methodology applied in this paper is based on concepts of Lintner's research conducted with the use of regression analysis. Regression analysis is conducted in STATA and is based on equation 2.3. shown in chapter 2. Empirical results are shown in table 2.

*Table 2 Regression results*

|           |            |           |           |               |                      |
|-----------|------------|-----------|-----------|---------------|----------------------|
| Source    | SS         | df        | MS        | Number of obs | = 226                |
| Model     | 17243.6327 | 1         | 17243.633 | F( 5, 39)     | = 25.51              |
| Residual  | 151411.199 | 224       | 675.94285 | Prob > F      | = 0.0000             |
|           |            |           |           | R-squared     | = 0.1022             |
|           |            |           |           | Adj R-squared | = 0.0982             |
| Total     | 168654.832 | 225       | 749.57703 | Root MSE      | = 25.999             |
| DELTA_DPS | Coef.      | Std. Err. | t         | P>  t         | [95% Conf. Interval] |
| dev       | 0.1906355  | 0.377437  | 5.05      | 0.000         | 0.1162574 0.2650136  |
| _cons     | -0.1688217 | 1.756012  | -0.10     | 0.923         | -3.629238 3.291594   |

*Source: authors' research based on data from statistic software STATA*

Speed of adjustment coefficient for companies listed on ZSE amount to 0.19 and is significant at 1% level (p-value is 0,00). Specifically, percentage of dividend adjustment towards target

amount is 19% annually. If this coefficient is significant and ranges between 0 and 1, companies conduct dividend smoothing policy.

Based on the previous we can confirm the conclusion obtained by interpretation of the „approximate“ indicator of dividend smoothing provided in Introduction. I.e. dividend policy of the companies that pay out dividends is a managed dividend policy. Lintner's model had R-squared as high as 85% which was interpreted that variables of the model explain 85% of dividend change, while results show that variables in the model explain 10% of changes of dividends. Moreover, Lintner also got the speed of adjustment coefficient amounting to 0.30.

Results obtained on the sample of companies listed on the ZSE are similar to results obtained on data referring to developed markets. Companies operating in the developed markets make lower changes of dividends over time. Therefore, they will need more time to get to target dividend payout ratio. In their research covering G7 countries Bahng, Hyonsok i Jeong came to conclusion that speed of adjustment coefficient for primarily market-oriented countries (USA and Canada) is lower than coefficient in bank-oriented countries such as Italy and Japan (Bahng, Hyonsok i Jeong, 2011, 57). Speed of adjustment coefficient according to the different approaches of investigation is between 0.21 and 0.58 (Goergen, M., Renneboog, L., Correia da Silva, L. 2004, 16). Leary and Michaely for companies in USA calculated that speed of adjustment coefficient is 0.14 (Leary, Michaely, 2011, 3215).

#### 4. Conclusion

The higher the speed of adjustment coefficient, or closer to 1, the faster the adjustment of dividend to target level. If it equals one, company instantly adjusts (changes) its dividend towards target level. On the contrary, if this coefficient reaches zero, the company does not react with a change of dividend towards target level. The findings of the analysis show that speed of adjustment coefficient for companies listed on ZSE amounts to 0.19, i.e. percentage of dividend adjustment towards target level is 19% per year. This means that companies from the sample make smaller changes over time meaning they will need more time to reach target payout level.

The lower changes of dividends imply conclusion obtained by Lintner's research that managers avoid to reduce dividends. Therefore, the managers are increasing the dividends only when they are certain that they will not be forced to reduce them.

Dividends of the companies listed on ZSE fluctuate over time similarly to developed markets where speed of adjustment coefficient has been changing recently reaching values closer to zero.

#### REFERENCES

Andres, C., et al. (2009): *Dividend policy of German firms. A panel data analysis of partial adjustment models*, Journal of Empirical Finance 16, pp. 175-187.

Bahng, J. S., Hyonsok, L., Jeong, H. C. (2011): *Adjustment behaviours of dividend payouts in G7 countries: A different look*, Australian Journal of Business & Management Research, Vol 1, No. 9, pp. 53-72.

Damodaran, A. (2011): *Applied corporate finance, 3<sup>rd</sup> edition*, John Wiley & Sons, Inc, New York

Goergen, M., Renneboog, L., Correia da Silva, L. (2004): Dividend policy of German firms  
*A dynamic panel data analysis of partial adjustment models*,  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=642402](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=642402)

Lease, R. C., et al. (2000): *Dividend policy: its impact on firm value*, Harvard Business School Press, Boston

Leary, M. T., Michaely, R. (2011): *Determinants of dividend smoothing: empirical evidence*,  
Review of Financial Studies, Vol 24, No.10, pp. 3197-3249.

Lintner, J (1956): *Distribution of Incomes of corporations among dividends, retained earnings and taxes*, American Economic Review, Vol 46, No.2, pp. 97-113.

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**ANALYSIS OF EUROPEAN CENTRAL BANK'S POLICIES AS A  
RESPONSE TO THE EUROZONE CRISIS AND AN ASSESSMENT OF  
THEIR EFFECTS**

**ANALIZA EFEKATA PODUZETIH MJERA EVROPSKE CENTRALNE  
BANKE U RJEŠAVANJU KRIZE U EURO ZONI**

**ABSTRACT**

*Global recession after collapse of Lehman Brothers in 2008, triggering deterioration of many domestic labour markets as well as rapid increase of public debt, have forced main world's central banks to implement extensive monetary policy. The financial crisis commenced in the U.S. spilled over very quickly to the EU through a transmission mechanism particularly affecting European monetary union's countries (ie. Euro zone). At early stage the ECB reacted by cutting interest rates to historically lowest levels. However, the application of only conventional monetary policy measures turned out to be insufficient for groaning economies underpinning. Avoiding the worst case scenario i.e. the insolvency of some peripheral European countries was the essential ECB task at the crisis height thereby introducing some atypical monetary policy measures. The main goal of this paper is the analysis of the ECB monetary policy responses to the global financial crisis and the debt crisis in Eurozone and comparison of the ECB and FED policies. This papir on one hand tends to chronologically explain the main measures in conventional and unconventional policies adopted by the ECB and to analyse their effects on key interest rates and the monetary aggregates, on the other. It may be assessed that the ECB's monetary policy responses to the crisis are constrained by the institutional framework, which tied up its acting as well as the strong member states jurisdiction over fiscal policy.*

**Key words:** *European Central Bank, unconventional monetary measures, financial crisis, euro zone, European financial market.*

**SAŽETAK**

*Globalna recesija nakon propasti Lehman Brothersa u 2008. godini, koja je uslovila pogoršanje na mnogim nacionalnim tržištima rada, te veliki porast javnih dugova, prisilila je mnoge centralne banke u svijetu na primjenu ekspanzivnije monetarne politike. S obzirom da se finansijska kriza započeta u SAD veoma brzo, putem određenih transmisionih mehanizama*

prelila i na EU, posebno pogađajući zemlje evropskog monetarnog područja (tzv. Euro zone), u ranim fazama krize ECB reagirala je smanjivanjem kamatnih stopa na najniži historijski nivo. Međutim, ispostavilo se da je korištenje samo konvencionalne monetarne politike nedovoljno za podsticanje oslabljenih privreda. Najvažniji zadatak Evropske centralne banke na vrhuncu krize bilo je izbjegavanje najgoreg mogućeg scenarija, odnosno insolventnosti pojedinih perifernih evropskih zemalja, zbog čega je dodatno posegnula za primjenom nestandardnih mjera monetarne politike. Glavni cilj predmetnog rada je analiza efekata mjera i aktivnosti ECB poduzetih u cilju sprječavanja širenja finansijske krize u eurozoni, te njihova komparacija sa mjerama poduzetim od strane FED-a. U tom kontekstu se, s jedne strane, hronološki prikazuju glavne poduzete mjere u konvencionalnim i nekonvencionalnim politikama ECB a, s druge strane, analizira efikasnost tih mjera u sprečavanju širenja krize, odnosno smirivanju tenzija na evropskom finansijskom tržištu. Procjenjuje se da su odgovori monetarne politike ECB na krize ograničeni institucionalnim okvirom, koji je sprječava da djeluje kao klasična centralna banka, ali i nadležnošću nad fiskalnom politikom, koja je još uvijek čvrsto u rukama zemalja članica.

**Ključne riječi:** *Evropska centralna banka, nekonvencionalne monetarne mjere, finansijska kriza, euro zona, evropsko finansijsko tržište.*

## 1. Introduction

The most serious financial crisis since World War II, which began in mid-2007 real estate market in the US, was soon spread to the global market. In 2007 The Federal Reserve System (Fed) responded to the global financial crisis in a very aggressive way. The reduction of the reference interest rate from 5.25% to 0-0.25% was an extraordinary and rapid monetary policy response. The European Central Bank (ECB) had not yet responded to the crisis which led to a rapid decline in the value of USD against the euro. The growth in value of the euro against the US dollar led to a great competitive pressure on European manufacturers. The crisis resulted in serious disturbances in the interbank market, and the ECB had to react and direct its efforts towards the improvement of the newly emerged conditions in the banking sector, so it reduced interest rates. However, such a conventional monetary policy proved to be insufficiently effective in the circumstances. In order to stabilize the financial market and preserve the proper functioning of the transmission mechanism, the ECB was forced to create new tools and adapt the existing ones of monetary policy. Since the market turmoil stage, through the intensification of the financial crisis and the beginning of the intensification of the debt crisis, the ECB has taken a number of measures. It is estimated that the initiative of the ECB was successful and led to a reduction in interest rates, reduction of difference between Member States, but also to the growth of confidence. Still, it should be noted that the growth of the European economy remains weak and uneven, and that the planned accelerated growth did not occur as it had been expected. However, this trend is not surprising, because in the years preceding the global financial crisis, it was evident that some EU countries had been continuously achieving balance of payments deficit, budget deficit and high public debt. On the other hand, in some Member States the mentioned indicators had the opposite trend, which indicates a certain level of internal imbalances in the EU, during the years preceding the global financial crisis. The difference in competitiveness among the Member States is one of the problems of the euro zone, whose roots date back to the early 2000s and in the (un) fulfilment of the required criteria for receiving State in the euro zone. These differences eventually led to the imbalances within the euro zone.

## 2. Review and analysis of the economic performance of EU countries in the period of the spillover of the global financial crisis and the intensification of the European debt crisis

The sequence of events that led to the unfavourable economic situation and ultimately the global crisis is already well known today. Lallement (2013) states the following sequence: the general crisis of confidence that has gripped the world, the accumulated losses of banks, declining value of stock market indexes which preceded by the fall in the value of the shares themselves in the financial markets, the decline in value of assets (primarily real estate), reduced bank lending, a drastic reduction consumption, loss of jobs, increasing unemployment, and reduced employment opportunities. The EU has become a victim of two successive crises - first the financial crisis, which lasted from 2007 to 2009, followed by the debt crisis caused by accumulated large debts of the member states. The common monetary policy, created and led by the ECB closely links all the countries of the euro zone, and because of the aforementioned association, negative circumstances caused by the emergence of the crisis in one of the member countries of the euro zone has spilled over onto other Member States very shortly. Turkish economist Yilmaz (2013) explains that a higher degree of integration of financial and real sector of European countries increases the level and speed of interaction, and therefore the debt crisis of Greece, in the second quarter of 2010, impacted the euro zone and created negative occurrences in other countries. Members of the euro zone most affected by the recession are Portugal, Ireland, Italy, Greece and Spain which gained popular, but also a derogatory term PIIGS. In order to examine whether the PIIGS countries financed their deficits in current account balance by borrowing abroad, the countries have been divided into two groups: peripheral countries (PIIGS) and the core countries, ie. EU member states that are the biggest creditors and which have the highest credit risk exposures to peripheral countries.

**Table 1** Current account balance as a percentage of GDP (2003-2015)

| PERIPHERY COUNTRIES |      |      |      |       |       |       |       |       |      |      |      |      |      |
|---------------------|------|------|------|-------|-------|-------|-------|-------|------|------|------|------|------|
|                     | 2003 | 2004 | 2005 | 2006  | 2007  | 2008  | 2009  | 2010  | 2011 | 2012 | 2013 | 2014 | 2015 |
| Ireland             | -    | -    | -3,4 | -3,4  | -5,1  | -5,6  | -2,1  | 1     | 1,2  | 4,1  | 6    | 3,5  | 10,2 |
| Greece              | -6,3 | -5,6 | -7,4 | -10,8 | -14,0 | -14,5 | -10,9 | -10,1 | -9,9 | -2,5 | -2,1 | -1,6 | 0,1  |
| Spain               | -3,9 | -5,6 | -7,5 | -9    | -9,7  | -9,3  | -4,3  | -3,9  | -3,2 | -0,3 | 1,5  | 1    | 1,4  |
| Italy               | -1,2 | -0,9 | -1,6 | -2,5  | -2,3  | -2,8  | -1,8  | -3,4  | -3   | -0,4 | 1    | 1,8  | 1,6  |
| Portugal            | -7,2 | -8,4 | -9,9 | -10,7 | -9,8  | -12,2 | -10,4 | -10,2 | -6   | -1,8 | 1,6  | 0    | 0,4  |
| CORE COUNTRIES      |      |      |      |       |       |       |       |       |      |      |      |      |      |
| Germany             | 1,4  | 4,5  | 4,6  | 5,7   | 6,8   | 5,6   | 5,8   | 5,6   | 6,1  | 7    | 6,8  | 7,3  | 8,4  |
| France              | 0,9  | 0,4  | 0    | 0     | -0,3  | -1    | -0,8  | -0,8  | -1,0 | -1,2 | -0,9 | -1,1 | -0,2 |
| Netherlands         | 5,2  | 6,8  | 6,1  | 7,9   | 6     | 4,2   | 5,8   | 7,4   | 9,1  | 10,8 | 9,9  | 8,9  | 8,7  |

Source: [www.databank.worldbank.org/data/reports](http://www.databank.worldbank.org/data/reports) [accessed 20 December 2016]

As shown in Table 1, the periphery countries recorded an increase in the deficit in current account balance by 2007, while the creditor countries recorded continuous growth in surplus (excluding France). The table below (Table 2) presents the budget deficits (% GDP) of the peripheral countries and core countries from 2003 to 2015. It is obvious that the periphery countries constantly increased the budget deficit in the period before the crisis.

**Table 2** Government deficit/surplus as a percentage of GDP (2003-2015)

| PERIPHERY COUNTRIES |      |      |      |      |      |      |       |       |      |      |       |      |      |
|---------------------|------|------|------|------|------|------|-------|-------|------|------|-------|------|------|
|                     | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009  | 2010  | 2011 | 2012 | 2013  | 2014 | 2015 |
| Ireland             | 0,4  | 1,4  | 1,7  | 2,9  | 0,1  | -7,3 | -14,2 | -31,3 | -13  | -8,1 | -7    | -4,7 | -3,1 |
| Greece              | -5,6 | -7,5 | -5,2 | -6   | -6,8 | -9,9 | -15,8 | -10,8 | -9,6 | -8,9 | -12,7 | -2,5 | -1,4 |

| PERIPHERY COUNTRIES |      |      |      |      |      |      |       |      |      |       |      |      |      |
|---------------------|------|------|------|------|------|------|-------|------|------|-------|------|------|------|
| Spain               | -0,3 | -0,1 | 1,3  | 2,4  | 1,9  | -4,5 | -11,2 | -9,7 | -9,6 | -10,6 | -7,1 | -5,5 | -4,5 |
| Italy               | -3,6 | -3,5 | -4,4 | -3,4 | -1,6 | -2,7 | -5,4  | -4,5 | -3,6 | -2,9  | -2,8 | -2,7 | -2,1 |
| Portugal            | -3,7 | -4   | -6,5 | -4,1 | -3,2 | -3,7 | -10,2 | -9,8 | -4,3 | -6,5  | -5   | -4   | -2,4 |
| CORE COUNTRIES      |      |      |      |      |      |      |       |      |      |       |      |      |      |
| Germany             | -4,2 | -3,8 | -3,3 | -1,7 | 0,2  | -0,1 | -3,2  | -4,3 | -0,8 | -0,1  | 0    | -0,2 | 0,2  |
| France              | -4,1 | -3,6 | -2,9 | -2,4 | -2,7 | -3,3 | -7,6  | -7,1 | -5,2 | -4,9  | -4,3 | -3,8 | -3,1 |
| Netherlands         | -3,1 | -1,7 | -0,3 | 0,5  | 0,2  | 0,5  | -5,5  | -5,0 | -4,3 | -4    | -2,4 | -2,7 | -2   |

Source: [www.oecd-ilibrary.org](http://www.oecd-ilibrary.org) [accessed 20 December 2016]

When it comes to public debt, the data in Table 3 show that Italy was in equally bad situation as Greece, while, among the all the periphery countries, Ireland and Spain had the lowest percentage of public debt in relation to GDP. Apart from the negative trend of all the above mentioned indicators, the periphery countries had the negative net investment position in the reporting period, which leads to a conclusion further suggests that the mentioned deficits were financed by borrowing abroad. The net investment position by countries is shown in Table 4.

**Table 3** General government debt as a percentage of GDP (2003-2015)

| PERIPHERY COUNTRIES |       |       |       |       |       |       |      |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
|                     | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009 | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  |
| Ireland             | 32,9  | 31,5  | 31,3  | 27,6  | 27,4  | 47,4  | 67,7 | 84,1  | 109,7 | 129,2 | 132,7 | 122,9 | 91,5  |
| Greece              | 109,2 | 111   | 113,3 | 115,2 | 112,8 | 117,5 | 135  | 127,1 | 109,2 | 164,5 | 178,8 | 179   | 181,2 |
| Spain               | 54,4  | 52,5  | 50    | 45,7  | 41,7  | 47,1  | 61,7 | 66,5  | 77,6  | 92,4  | 105,6 | 118,9 | 116,9 |
| Italy               | 114,3 | 114,7 | 117,4 | 115   | 110,7 | 113   | 126  | 124,9 | 117,9 | 136,2 | 143,7 | 155,8 | 157,3 |
| Portugal            | 70,6  | 76,7  | 80    | 79,4  | 78,1  | 82,8  | 96,1 | 104,1 | 107,8 | 137,1 | 141,4 | 151,7 | 149,6 |
| CORE COUNTRIES      |       |       |       |       |       |       |      |       |       |       |       |       |       |
| Germany             | 64,6  | 67,5  | 70,1  | 68,3  | 64,2  | 68,1  | 75,5 | 84,5  | 84,3  | 87,0  | 82    | 82,4  | 78    |
| France              | 78,5  | 80    | 81,7  | 76,9  | 75,6  | 81,5  | 93,2 | 96,8  | 100,7 | 110,4 | 111   | 120,4 | 121   |
| Netherlands         | 58,4  | 58,3  | 57,4  | 51,3  | 48,5  | 61,4  | 64,1 | 68    | 72    | 77,8  | 76,6  | 81,2  | 77,9  |

Source: [www.data.oecd.org](http://www.data.oecd.org) [accessed 20 December 2016]

Data in Table 4 confirm the thesis that, in the period before the crisis, foreign loans were used to finance the balance of payments and budget deficits. Greek net investment position was continuously deteriorating year after year, so from 59.6% of GDP in 2003 it reached a level of 89.68% of GDP in 2007. Apart from Greece, similar conclusions apply in the cases of Spain and Portugal. The negative net investment position in these countries deteriorated further, and with 47.33% and 61.95% of GDP (as it was in 2003), it reached a level of 75.68% and 84.18% of GDP in 2007. Italy also worsened the net investment position in the reporting period, while in Ireland the situation was slightly more favorable until 2007, but also the least favorable in the period thereafter. On the other hand, the net investment position of Germany was positive throughout the period. The positive net investment position in the Netherlands was recorded in the period from 2010 to 2015, while in France the net investment position was negative during the observed period.



**Table 4** Net international investment position as a percentage of GDP (2003-2015)

| PERIPHERY COUNTRIES |        |        |        |        |        |        |         |         |         |         |         |         |         |
|---------------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
|                     | 2003   | 2004   | 2005   | 2006   | 2007   | 2008   | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    |
| Ireland             | -25,85 | -25,67 | -44,48 | -39,18 | -29,48 | -67,93 | -114,65 | -111,85 | -132,55 | -142,05 | -140,38 | -160,8  | -229,3  |
| Greece              | -59,6  | -64,39 | -72,63 | -81,43 | -89,68 | -82,68 | -86,73  | -95,73  | -100,1  | -108,58 | -122,68 | -133,93 | -133,8  |
| Spain               | -47,33 | -51,78 | -59,18 | -63    | -75,68 | -81,18 | -89,15  | -90,4   | -92,4   | -91,18  | -91,95  | -97,8   | -94,05  |
| Italy               | -13,15 | -12,8  | -17,18 | -17,85 | -22,6  | -21,75 | -22,5   | -21,48  | -21,2   | -21,7   | -24,85  | -26,58  | -24,17  |
| Portugal            | -61,95 | -66,63 | -68,95 | -75,7  | -84,18 | -91,03 | -104,53 | -105,53 | -102,98 | -111,3  | 117,6   | -118,03 | -112,73 |
| CORE COUNTRIES      |        |        |        |        |        |        |         |         |         |         |         |         |         |
| Germany             | 0,8    | 3,48   | 10,13  | 18,48  | 19,45  | 20,48  | 21,15   | 25,5    | 24,5    | 26,25   | 31,55   | 38,13   | 45,63   |
| France              | 3,2    | -3,78  | -3,08  | -5,63  | -8,78  | -9,65  | -13,75  | -12,28  | -10,03  | -11,78  | -15,63  | -17,8   | -19,08  |
| Netherlands         | 2,43   | -1,45  | -5,73  | -6,73  | -14,58 | -11,23 | -18,7   | 6,78    | 17,05   | 24,28   | 30,35   | 45,03   | 63,85   |

Source: [www.ec.europa.eu/eurostat/](http://www.ec.europa.eu/eurostat/) [accessed 20 December 2016]

As a result of this crisis, which has surely had strong implications to both, the real economy and the financial sector in the area of Europe, there was a need for the introduction and implementation of the system to preserve financial stability in the euro zone as well as the need of running adequate policies in order to prevent negative effects, and gain back confidence to all the participants. In this regard, this article elaborates activities undertaken towards resolving and preventing effects of the crisis by the ECB through the stages of the crisis.

### 3. Review and records of the activities undertaken by the ECB and the Fed towards resolving and preventing effects of the crisis

#### 3.1. Activities and effects of the measures taken by FED

The Fed responded to the global financial crisis in a very aggressive way. The reduction of the reference rate from 5.25% to 0-0.25% was an extraordinary and rapid response of the monetary policy. In addition, the Fed implemented several programs aimed at increasing the liquidity of financial institutions and improvement of the conditions on financial markets. New programs to increase liquidity have led to dramatic changes in the balance sheet of the Fed, which increased by 100% in a very short period. As a part of their activities the Fed has entered into bilateral agreements with 14 foreign central banks, relating to currency swaps, to help them to provide liquidity in the USD banks under their jurisdiction. Then, part of the activities refers to the programs providing direct liquidity to borrowers and investors. After a drastic reduction in reference rate, the Fed started increasing liquidity of financial institutions in the form of an extended role of lender of last resort. Given that the commercial papers are of the exceptional significance for economy, the Fed has started creating these benefits with an aim to directly purchase these securities from their issuers. This means that the real sector is directly refinanced at a central bank without interference from the commercial banking sector. The Fed's activities are related to the expansion of the traditional tools of monetary policy, open market operations, as support in the form of buying longer-term securities. By purchasing long-term securities, the Fed increased the liquidity of financial institutions and improved conditions in the financial markets. The quick downfall in the real estate market, which caused the global financial and economic crisis, forced the Fed to resort to unconventional measures of purchasing the agency MBS securities and agency bonds, in order to stabilize the real estate market and the volume of housing loans.

### 3.2. Activities and effects of the ECB the measures

After 9th August 2007 BNP Paribas, the French biggest bank, was forced to freeze three investment funds, there was a strong turmoil in the interbank market throughout the world, including in the euro zone, hence the name of the period - the market turmoil. The ECB was the first central bank to respond, allowing banks an overnight withdrawal of the full amount of liquidity they needed. It turned out that the demand of the banks was extremely strong: overnight the ECB left 95 billion euros in the system in return for adequate collateral so that the tension on the short-term markets somewhat dissolved a bit. During this period, the ECB introduced the so-called "Frontloading", ie it provided the greater amount of the loan at the beginning, and smaller amounts of loans at the end of each relevant period instead of constantly providing the same amount of credits in each operation. Besides, the ECB entered into several foreign currency swap agreements with other central banks. The most important was a swap agreement which the ECB signed with the Fed in order to exchange the euro denominated collateral for allowing the dollar liquidity. In July 2008, the ECB decided to increase its key interest rates by 25 basis points to 4.25 percent (ECB, 2010)) in order to lower the risk to price stability. In the next phase, the intensifying global financial crisis phase from 2008 to 2010, the collapse of The Lehman Brothers increased the risk of a counterparty not fulfilling its obligations, which was increased by the asymmetry of information among the market participants. The insecurity which had been felt since the summer of 2007 was emphasized due to exposure of balance of numerous European banks to the US subprime market. Consequently, there was a cease of interbank lending and collapse in the financial market which restricted the financing of economy. At that moment the priority of the ECB was to meet the needs of banks. In order to achieve this, the ECB drastically reduced the key interest rate and in addition to standard, also introduced non-standard measures. Since the financial sector is unable to function without the interbank cash markets, their function was supposed to be performed by the ECB. In order to achieve this, the ECB introduced Enhanced credit support - ECS. A high demand for liquidity through the above-mentioned measure exerted a significant downward pressure on short-term money market rate with a corresponding decline in nominal yields on longer maturities. Real interest rates on longer maturities also fell significantly and were an instrument in the fight against the economic downfall. Furthermore, in September 2009 the ECB provided liquidity to the banking system of the euro area in the amount of 442 billion euros by LTRO1 measure (ECB, 2010). All liquidity which had been put into the system led to an increase in the balance of the ECB of 30 percent in less than a year, whereas it grew by four percent per year before the crisis. During 2009, financial markets were showing signs of stabilization. Spreads on the money market were gradually reduced, and the shares and bonds markets started to revitalize. Lending to the real economy grew, as well as economic activity. Given the improvements observed in the financial markets, in December 2009 the Governing Council announced that it would begin to phase out those non-standard measures which would no longer be necessary. In the third phase of the crisis, the so-called. the beginning of the debt crisis in early 2010, tensions reappeared in some segments of financial markets, especially the markets of European government bonds. Markets were hit by the expectation of a Greek bankruptcy. Apart from Greece, Ireland, Portugal, Spain and Italy were faced with a difficult economic situation as well. Real estate crisis developed into a financial crisis in Spain and Ireland, public debt in Italy was increasing, and the proportion of debt to GDP in Portugal was increasing (Deliverias, 2015). As a result of increasing market concerns about the growth of government deficit and debt, the spreads between ten-year bonds of PIIGS countries of the euro zone compared to German bonds started to increase. This concern was such that it led to the drying up of the secondary market. The expansion of bond spreads accelerated, and these event represented a risk of disrupting the transmission mechanism through the price channel, liquidity channel and balance sheet channel. Then ECB announced the

following measure, which is the program of interventions on the securities market (Securities Markets Program). Under the program, the operation could be carried out on the public and private debt securities in the euro zone, and intervention in government bonds are strictly limited to secondary markets. In order to ensure that this program does not affect the conditions of liquidity, all purchases were fully neutralized through operations to absorb liquidity, since the objective of the program was not injecting additional liquidity into the banking system. After that, the next phase, from August 2011 to January 2013, marks the intensification of both crisis: the financial and debt ones. This forced the ECB to finally become a true lender of last resort for the banking system. With the announcement that the ECB will act as a lender of last resort, it was also reported that the non-standard measures will be available as long as needed. The ECB had previously claimed that all nonstandard measures were temporary so it led to greater uncertainty among banks, a higher demand for liquidity out of caution but also to the rapid deleveraging. Unfavourable developments on the bond market were recorded in Italy and Spain at the end of July 2011, which prompted the ECB to cut its key interest rate to 0.75 percent. In addition to changes in interest rates, the ECB reactivated a program intervention in the bond market (SMP) in July 2011, achieving the maximum amount of purchases of 220 billion euros in February 2012. Furthermore, in December 2011, the ECB announced three key elements of their policy (Cour-Thimann & Winkler, 2013), i.e.: (1) reduction of mandatory reserves from 2% to 1%, and the purpose of the measure was to reduce liquidity needs of banks; (2) Increase of the availability of collateral with further reduction of credit quality threshold for some securities backed by warranty and acceptance of additional lucrative credit claims (bank loans) as collateral; (3) Stimulation of the development of alternative sources of credit assessment in the choice of acceptable collateral. In the beginning of 2013, tensions on the money markets and bond markets decreased and banks started repaying the loans, resulting in a reduction in the size of the ECB balance sheet and excess liquidity. At the same time, another problem began to emerge. Inflation, which reached a peak of 3 percent during the crisis began to decline, and reached 1.2 percent in April 2013. The low level of inflation, slow growth of the economy of the euro zone, growth and volatility of interest rates on the money market of the euro zone prompted the ECB to introduce another non-standard measure: forward guidance. At the end of 2013 the Governing Council further reduced the key interest rate, which was in line with forward guidance. Finally, the policy package introduced in 2014 consisted of two main elements (ECB (2015)), as follows: (1) lowering the key interest rate of the ECB to the effective lower limit, and (2) the introduction of Targeted Longer Term refinancing operations TLTROs. Key interest rates of the ECB were lowered to the effective lower bound. The interest rate on the main refinancing operations and the interest rate on cash deposit were lowered on two occasions for a total of 20 basis points, to 0.05% i.e. -0.20%, while the interest rate on the marginal lending instrument of the central bank reduced twice for a total of 45 basis points, to 0.30.

**Figure 2** Consumer price inflation in the euro-area measured by the Harmonised Index of Consumer Prices (HICP)



Source: [www.ec.europa.eu/eurostat/statistics](http://www.ec.europa.eu/eurostat/statistics) [accessed 10 March 2017]

The series of Targeted Longer Term Refinancing Operations (TLTRO) announced in 2014 was aimed at stimulating bank credit to non-financial private sector of the euro area. The TLTRO ensure long-term financing at attractive conditions for a period up to four years for all banks which meet certain benchmarks applicable to their loans to the real economy. Selection of these measures reflected the predominantly bank-based financial structure of the economy the euro area and the importance of weak bank lending as a factor that slows down the recovery. By providing incentives for lending to the real economy, the targeted long-term refinancing operations were focused on strengthening the transmission of monetary policy. At the end of 2014, the ECB established a Single Supervisory Mechanism (SSM) One-year comprehensive assessment of the balance of 130 largest banks in the euro area, which was completed in 2015, increased transparency and prompted many institutions to perform preventive activities in order to strengthen the balance sheet, including the sale of securities and capital increase. On the other hand, this contributed to the banking system taking a better position in order to realize the transmission of monetary policy and, more generally, in order to encourage the recovery of more normal performance of its duties, effective distribution of loans to the real economy. After reviewing the activities of the ECB in the field of monetary policy, whose responsibility is maintaining low inflation rates, and as an introduction to the next part of this article, it needs to be emphasized that all of members of the euro zone have full sovereignty and carry out its fiscal policy independently. There are no fiscal transfers that can be used as a form of assistance against asymmetric shocks among the Member States within the Union.

#### **4. Challenges and prospects of further activities**

The last, and still ongoing crisis has pointed out to significant shortcomings of the EMU within which the ECB is fully independent to conduct the monetary policy, and where the implementation of fiscal policies is defined at the national level of the countries. However, there are a number of factors which explain the success of different economies that have monetary and fiscal integration. Such Union with the states are based on the achievement of common goals and political unity. The elements of success include a common currency with Central Bank as its head which provides price stability, free trade, mobility among Member States, a common fiscal policy with effective long-term fiscal discipline. Bordo, Jonung, & Markiewicz (2010) believe that the crisis of 2008, which was transferred from the US through banks, would have had significantly lesser impact on peripheral countries in Europe, with the existence of a European fiscal union. European peripheral countries, which already had a disadvantage and inferior level of development compared to the developed center of Europe, were more affected by the global recession and put into the debt crisis. With the existence of a fiscal union during a recession, tax revenues would fall in the Member States, but because of the possible transfers, their deficits and debts ratio to GDP would be lower. In addition, if the “no bailout rolls” rule were credible and if members of the EMU followed balanced budget rules there might not have been a debt crisis. Housing market decline would have an impact on Spain and Ireland, but with the consolidation of their budgets and fiscal transfers for help by the less affected members of the eurozone, the impact on their economies would be milder. Jonung & Drea (2010) believe that the euro zone got a fiscal union with the The Stability and Growth Pact, that monitors the deficit and indebtedness of the fiscal side of the Member States, to determine whether they exceed the limits that were agreed in the Maastricht Treaty and also impose sanctions to countries that do not obey the rules. Baldwin & Gros (2010) are of the opinion that the solution of the euro zone lies in strengthening of The Stability and Growth Pact. The proposal is to establish an independent agency to monitor the economic statistics of countries, and the establishment of independent fiscal councils to implement the rules of the Maastricht Treaty. Besides, if the euro zone does not turn to the development of fiscal policy among the member states, the next crisis could lead to its

dissolution. They believe that the eurozone members would have to accept fiscal union as well because otherwise the euro experiment is doomed to failure.

The introduction of the euro as a common currency directly eliminated currency risk and transaction costs, which had a positive impact on trade and financial integration within the EU. There was an increase in direct foreign investment and capital movements from the center of Europe to the countries of somewhat lower level of development that recorded significant economic growth from the beginning of the 2000s to 2008. However, after 2008, with the crisis, the cost of loss of monetary independence becomes prominent in many countries. Many authors point out the shortcomings of the euro zone in insufficient labor mobility and the absence of criteria of fiscal integration. The two afore mentioned criteria can replace the loss of monetary independence. Some authors believe that the euro zone got a fiscal union with The Stability and Growth Pact that monitors the deficit and indebtedness of the fiscal side of the Member States to determine whether they exceed the limits that were agreed in the Maastricht Treaty and impose sanctions countries that do not stick to the rules. Perhaps the biggest drawback is in insufficient sanctions imposed to Member States due to poor fiscal discipline, because almost all of the countries within the euro area fail to meet at least one of the three conditions set in Maastricht.

## **5. Conclusions and recommendations**

The crisis that occurred in the United States quickly spread to Europe through certain transmission mechanisms, particularly affecting countries in the eurozone, actually those who had crossed the limits of enormous budget deficit and public debt (the so-called PIIGS). During this period certain anomalies became visible in the EMU, actually in its functioning, especially in the field of fiscal policy and economic management. Insufficient interaction of fiscal and monetary policies proved to be a fundamental weakness of the EMU. In order to prevent the spread of tensions in European financial markets and restore confidence in it, the ECB took a number of standard and non-standard measures of monetary policy (the Fed in the had acted in the US in a similar way). Some of them were in relation to the purchase of government securities and injection of billion euros into the market, which was contrary to the provisions of the Maastricht agreement. Furthermore, it was the lowering interest rates to a record low level, in order to stimulate demand for loans, and thus the overall economic activity, which threatened to lead to inflationary disturbances, and jeopardize the fundamental objective of the ECB's price stability. It also involved providing credit support to the banking system, taking over the role of lender of last resort and financial intermediates. All these measures, however, stabilized the market only somewhat in the short term, without significant effects on the revival and the launch of the economy in the long run. It is obvious that the crisis in the EMU at the end of 2009 contains elements of debt, banking and balance of payments crisis. Research shows that for example the crisis in Greece is primarily a consequence of financing payment balance and the budget deficits by borrowing abroad. Unlike Greece, Ireland was among earliest countries which had been hit by the banking crisis as a result of the credit crunch on the housing market and falling asset prices. Portugal's budget deficit was 9.8% of GDP in 2010, while the budget deficit of Spain was at a similar level (9.7% of GDP). Although Italy had a slightly better level of budget deficit (4.5% of GDP), the country had a level of public debt of 124.9% of GDP, which is after Greece, the largest public debt in the EU. Based on the analysis, we have come to the following conclusions: (1) The European crisis corresponds best with the theory of crisis twin. On the one hand, the debt crisis is the result of balance of payment problems in several countries, and on the other hand, the debt crisis in some countries is closely linked to a typical banking crisis. (2) One of the main problems of the EU is the existence of serious imbalances within the Union itself. (3) Some of the main advantages of the euro were eventually turned into disadvantages. Here it needs to be emphasized the fact that membership in the eurozone affected

the underestimation of credit risk by investors in the process of lending money to countries with insufficient creditworthiness. In this way, the common currency had an indirect influence on the crisis in the euro zone. (3) Finally, after reviewing the effects of the measures of the ECB, the authors see as a key response to the financial crisis and the deficits and the debts of the government in the implementation of fiscal rules to limit the country in the current fiscal policies, reduce deficits and debts and improve their fiscal position and fiscal discipline. Based on the above, we believe that EMU needs to redefine, in order to make its functioning stable in the following period and to reduce the intervention of the ECB, especially in terms of non-standard measures. First of all, it refers to the establishment of greater interaction between fiscal and monetary policy, given that the establishment of a fiscal union is not possible, at least for some period of time, due to strongly opposing views of the main initiators of integration in this area - Germany and France.

## REFERENCES

Baldwin, R., & Gros, D. (2010): *Completing the Europe Rescue: What More Needs to be Done?*. *Vox EU Ebook* .

Bordo, D. M., Jonung, L., & Markiewicz, A. (2010): *The Euro needs a Fiscal Union: Some Lessons from History*. *SOMC symposium on October 12, 2010, sponsored by e21*.

Cour-Thimann, P., & Winkler, B. (2013): *The Ecb's Non-Standard Monetary Policy Measures The Role Of Institutional Factors And Financial Structure*, [www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1528.pdf](http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1528.pdf) [accessed 20 December 2016]

Deliverias. (2015): *Monetary policy of the European Central Bank*. *European Parliament*.

ECB. (2010): *The ECB's response to the financial crisis*. *Monthly Bulletin*.

ECB. (2014): *Annual Report.*, [www.ecb.europa.eu/pub/pdf/annrep/ar2014en.pdf](http://www.ecb.europa.eu/pub/pdf/annrep/ar2014en.pdf) [accessed 20 December 2016]

Eurostat, [www.ec.europa.eu/eurostat/statistics](http://www.ec.europa.eu/eurostat/statistics) [accessed 10 March 2017]

Jonung, L., & Drea, E. (2010): *It Can't Happen, It's a Bad Idea, It It's a Bad Idea, It Won't Last: U.S. Economists on the EMU and the Euro, 1989-2002*. *Econ Journal Watch*, 7(1), pp. 4-52

Lallement, M. (2013): *Economic crisis and new modes of social integration in Europe (2008-12)*. *Employee Rights & Employment Policy*, 17(2), pp. 257-290

OECD Better Policies For Better Lives, [www.oecd-ilibrary.org](http://www.oecd-ilibrary.org), [www.data.oecd.org](http://www.data.oecd.org)

The World Bank Data, [www.databank.worldbank.org/data/reports.aspx](http://www.databank.worldbank.org/data/reports.aspx), [www.databank.worldbank.org/data/reports](http://www.databank.worldbank.org/data/reports) [accessed 20 December 2016]

Yilmaz, B. (2013): *Reflections of the global economic crisis on the countries of PIIGS and Turkey's macroeconomic variables*. *Marmara Üniversitesi.*, 1, pp. 229-252.



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**ESTIMATION OF ECONOMIC IMPLICATIONS OF FTT ON THE  
CROATIAN FINANCIAL SYSTEM<sup>1</sup>**

**PROCJENA EKONOMSKIH IMPLIKACIJA UVOĐENJA FTT-A NA  
HRVATSKI FINANCIJSKI SUSTAV**

**ABSTRACT**

*Financial transaction tax (FTT) is one of the most controversial and most discussed form of taxation in recent decades. The growing interest for the introduction of new tax regulations of the financial sector was triggered by the outbreak of the financial crisis. The idea of implementation of FTT is to generate significant fiscal revenues, to properly share the cost of the crisis with the financial sector, and to reduce the possibility of a new crisis. Therefore, nine European Union countries have agreed to adopt a unified FTT along with enhanced cooperation which should come into force during 2018.*

*The aim of this paper is to investigate the possibilities of introduction FTT in EU, with special reference to the question of the potential application in the Republic of Croatia. Preliminary analysis suggests the conclusion that the economic and fiscal effects of the introduction of FTT in Croatia could not justify the cost of its implementation. Due to the underdeveloped, illiquid and highly concentrated capital market, introduction of the new tax burden might repel potential investors. Furthermore, tax base for the Croatian capital market is very narrow, because there is no trading in derivatives, which in the initial proposal for introduction of FTT, made up the largest part of the tax base in securities trading.*

**Key words:** *financial transaction tax, effects, tax revenues, capital market, Croatia*

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<sup>1</sup> This work has been supported in part by the Croatian Science Foundation under the project number IP-2013-11-8174 and by the University of Rijeka under a project number 13.02.1.2.02 .

## SAŽETAK

*Porez na financijske transakcije (FTT) jedan je od oblika oporezivanja koji je izazvao najviše kontroverzi te bio predmetom rasprava znanstvene i stručne javnosti. Rastući interes za uvođenjem nove porezne regulative u najvećoj je mjeri potaknula financijska kriza. Razlozi za implementaciju FTT-a sastoje se u generiranju značajnih fiskalnih prihoda, pravednijoj raspodjeli troškova krize s financijskim sektorom te smanjenju mogućnosti izbijanja novih kriza. U skladu s navedenim, 9 zemalja EU dogovorilo je prihvaćanje jedinstvenog FTT-a u sklopu mehanizma pojačane suradnje, koji bi trebao stupiti na snagu tijekom 2018. godine.*

*Cilj rada je istražiti mogućnosti uvođenja FTT-a u EU-i, s posebnim naglaskom na potencijalnu implementaciju u Republici Hrvatskoj. Preliminarna analiza ukazuje na zaključak da ekonomski i fiskalni efekti ne mogu opravdati trošak uvođenja FTT-a u Hrvatskoj. S obzirom na nerazvijeno, nelikvidno i visoko koncentrirano hrvatsko tržište kapitala, novo porezno opterećenje bi moglo odbiti potencijalne investitore. Štoviše, porezna baza za hrvatsko tržište kapitala je vrlo uska, jer ne postoji trgovanje derivatima, koji prema inicijalnom prijedlogu za oporezivanje financijskih transakcija, čine najveći dio porezne baze u trgovanju vrijednosnim papirima.*

**Ključne riječi:** porez na financijske transakcije, efekti, porezni prihodi, tržište kapitala, Hrvatska

### 1. Introduction

The financial market collapse of 2007 has pointed out the shortcomings in the regulatory and supervisory framework of the financial system and the tendency of financial institutions to speculative behaviour and excessive risk taking. The public interest was particularly focused on reforming a financial sector to ensure fair contribution to public finances and to provide fair and long-term growth. Therefore, in addition to improvement of supervisory and regulatory structures and new legislation with aim to strengthen the European Monetary Union, the European Commission (EC) has prompted the question of changes in the system of indirect taxation.

This idea has gained undeniable support from the public and the scientific community.<sup>2</sup> After its implementation was repeatedly postponed, some EU states have maintained their existing taxes while others including France and Italy, independently introduced new ones (in 2012 and 2013 respectively). The first formal initiative for unification of levying the financial transaction came with the EC proposal in September 2011. Due to the lack of unanimous Member States' support for this initiative, eleven European Union countries (EU) have agreed to continue work on unified financial transaction tax (FTT) implementation under the procedure of enhanced cooperation. Discussions on this proposal are still ongoing in the Council. In parallel, the proposal to use some of its proceeds as an own resource to the EU budget has been abandoned. Presently, FTT legislation has been tabled by the EC and 9 EU states are preparing to adopt a FTT during the 2018, namely Austria, Belgium, France, Germany, Greece, Italy, Portugal, Finland and Spain<sup>3</sup>. However, taking into account the previous changes in the agenda, delays in implementation are likely.

This paper investigates the possibilities of implementing a FTT in EU, with special reference to the question of the potential application in the Republic of Croatia. It will assess the impact and effects of a hypothetical implementation of FTT in Croatia which include revenue estimates and

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<sup>2</sup> The FTT was endorsed in 2011 by 1,000 leading economists, including Joseph Stiglitz and Paul Krugman, and 1,000 parliamentarians from 30 countries. More than 200 economists signed an open letter published by Center for Economic Policy Research (CEPR) (Šramko 2015, 53).

<sup>3</sup> Slovenia finally rejected introduction of FTT in 2016, while Belgium ongoing participation is in doubt.



the impact on the domestic capital market performance. Although the Croatian Ministry of Finance announced in 2016 that it does not plan to participate in the implementation of EU FTT's, we hope that this paper will contribute to the interest of the scientific community for participation in researching new opportunities that would contribute to financial stability and crisis prevention. The structure of the paper is as follows. The introductory remarks provide insight into the subject and the research problem, followed by the designing issues of the proposed European FTTs. The next section reviews the estimated effects of FTTs on revenues and economic efficiency in the EU. Prior to the conclusion, authors conducted a preliminary analysis of the effects on the growth of tax revenues as well as the level of Croatian GDP. The impact of FTT's has been analysed in terms of a financial system, especially for the domestic capital market. The last section offers conclusion.

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## 2. Characteristics of proposed FTT in the EU

In most general, financial transaction tax represents a turnover tax which covers transactions with different types of financial instruments. European FTT is based on a so called “AAA approach” (*all institutions, all markets, all instruments*). It refers to a broad fiscal framework, proposing a unique tax burden on trading in all financial instruments by all financial institutions within the EU, which takes place on organized financial markets (exchange and OTC markets). Nevertheless, according to the last proposal from February 2013 (EC, 2013), FTT would apply to the purchase of a equity or derivatives for a exchange-based transactions but also to over-the-counter transactions. Tax rates for basic financial instruments are 0.1% of the value of buying and selling transaction (except the primary market for shares and bonds), whereas the tax rates of 0.01% of nominal contract value are defined for derivative products (Olgić Draženović, Maradin, Buterin, p. 1067).

The tax will be triggered by either issuance or residence principle. In other words, all transactions done by financial institutions based in the EU as well as by those based outside the EU are to be taxed as long as the transaction takes place in the FTT region. The scope of FTT is primarily aimed at financial transactions made by financial institutions. It is limited to financial industry, while it excludes the impact on daily citizens' and small and medium enterprises transactions. Furthermore, the proposal of the single European FTT leaves out of its scope traditional bank lending, deposit taking, currency trading, investment banking activities and the transactions carried out by the central banks of participating nations and the European Central Bank, with the European Financial Stability Facility and the European Stability Mechanism, and transactions with the European Union.

Arguments in favour of FTT were presented by the work of numerous authors (Stiglitz 1989; Summers and Summers 1989; Spahn 2002) who stand out the view about trading and price dynamics in asset markets and the effects of a transaction tax. A general FTT with a low and uniform tax rate will most probably reduce excessive liquidity in financial markets and, hence, will mitigate the instability of asset prices (Schulmeister 2010).

Some of the first arguments for the introduction of FTT were elaborated by Keynes (1936), who argued that speculation based on psychology drives market prices rendering them unable to allocate capital efficiently. These arguments were later also used by Tobin (1984), who originally proposed the idea of FTT on foreign exchange markets (Šranko 2015).

Taxing gross transactions on secondary financial markets at relatively low rates in general would prevent crises in the future and ensure safer and more stable financial markets. Besides reducing speculative behaviour of market participants and decreasing risk by disincentive to high frequency

trading<sup>4</sup>, FTT should reduce the fragmentation of internal market and pay attention of the financial sector to the long-term activities rather than being focuses on the fees from short-term investments<sup>5</sup>. It will also make the finance fit for the purpose of long term financing small and medium-sized enterprises instead of being focussed on the fees that they get from short-term investments (Griffith-Jones, Persaud 2015).

However, one of the main pros arguments for introduction of unified European FTT is revenue raising which could be used for the achievement of political goals, particularly on the supranational level. Matheson (2011) argue that collecting levies on exchange-based transactions in general would be easy and inexpensive to administer. Additionally, FTTs are meant to discourage financial transactions that do not enhance efficiency of financial market and as a consequence to curb excess volatility observed in financial markets (Šranko 2015). Davilla (2014) has paid attention to welfare implications of taxing financial transaction.

The opposite view, in the light of disadvantages of FTT, points to lower market liquidity and higher capital acquisition costs. Impact of FTTs on trading volume and market liquidity suggests that a narrowly based transaction tax would provide a strong incentive for traders to migrate to foreign markets and furthermore, a reduction in trading volume would widen the bid-ask spread while decreasing market liquidity (Wang, Yau Jot 2012). Critics of the most fundamental assumptions suggest that market efficiency will be reduced by introducing a new tax burden. In addition, it would increase capital cost, shrink investments and consequently hinder economic growth. Findings for volatility change suggests either mixed or absent effect of FTT, while impact on returns is relatively straightforward and negative.<sup>6</sup>

Without any doubt, FTT can be seen as supplementing regulatory tools for limiting undesirable market behaviour and. FTT will help create economic disincentives for speculative transactions as a means to stabilize capital markets and reduce the frequency of crises. Also, there is an issue of FTT significant importance in political sense and as a matter of economic justice.

### **3. Effects of introduction of FTT to the European financial system**

FTT is a policy tool that can raise a substantial amount of revenue and also reduce the size of financial trading relative to the economy's level of productive activity. The revenues that could be raised are in fact quite significant, despite the deceptively low tax rates.

European Commission estimated the macroeconomic effects of introduction of FTT using Dynamic Stochastic General Equilibrium Model (Lendvai, Raciborki 2010). The initial version of the European Commission model calculated a long-run loss of GDP of -0.53% from the FTT. In updated model by the same authors of the study (Lendvai, Raciborki, Vogel 2012) a far lower estimate of negative effect on growth was given, equal to only -0.2%. New estimations considered that only 15% investments by credit institutions in EU are funded via the stock market (10%) or by debt securities (5%), while the rest of the external funding of European companies is done by the bank loans and retained profits. Research findings point to lowering financial market volatility. Also, FTT would cause significantly reducing of high frequency trading, which represents 40% of EU financial transactions. This would imply significant breakthrough for

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<sup>4</sup> There is a remarkable discrepancy between the levels of financial transactions and the levels of the "underlying" transactions in the "real world". Trading in derivatives markets has expanded significantly stronger than trading in spot markets. As a consequence, derivatives trading in Europe was already in 2006 84 times higher than nominal GDP, whereas spot trading was "only" 12 times higher (Schulmeister 2010, p. 5).

<sup>5</sup> It is estimated that 70% of the profitability of banks comes from short-terming clients and as a result, they do not invest in their long-term clients (Griffith-Jones, Persaud 2015)

<sup>6</sup> Comprehensive empirical literature review was given by Šranko (2015).

financial stability and growth without any costs to the real economy. Furthermore primary markets would be excluded as would be financial transactions that do not involve financial institutions. If we take account of these additional effects, the net impact on long-term GDP would be only -0.1%.

According to Griffith-Jones and Persaud (2012) the introduction of FTT could benefit even more to the European financial system, considering its contribution to reducing the risk of a future crises. They estimated a positive effect on growth of 0,25% GDP. Table 1, below is an estimate of the effect on revenues and turnover, using the elasticity measures of the proposal for a 0.1% tax on equity and bond transactions alike. The table shows that at this tax rate, reductions in equity volumes would be modest and the taxes raised still significant and the effect on turnover will be greater in the bond markets, but because of their size, the tax take would still be highly significant.

**Table 1 Revenue matrix – The FTT calculator**

| Countries                  | Current Turnover, \$ millions |            | Assumed max. loss of turnover (3) (4) |       | FTT revenues |        |                  |
|----------------------------|-------------------------------|------------|---------------------------------------|-------|--------------|--------|------------------|
|                            | Equities (1)                  | Bonds (2)  | Equities                              | Bonds | Equities     | Bonds  | Equities & Bonds |
| Argentina                  | 2,567                         | 52,920     | 8%                                    | 33%   | 2            | 36     | 38               |
| Australia                  | 1,013,594                     | 811,188    | 8%                                    | 33%   | 933          | 547    | 1,480            |
| Brazil                     | 859,258                       | 763,560    | 8%                                    | 33%   | 791          | 515    | 1,306            |
| Brazil                     | 1,395,994                     | 1,143,072  | 8%                                    | 33%   | 1,285        | 771    | 2,056            |
| China                      | 8,068,722                     | 1,781,892  | 8%                                    | 33%   | 7,425        | 1,203  | 8,627            |
| France/Netherlands/Belgium | 2,010,284                     | 3,847,284  | 16%                                   | 42%   | 1,691        | 2,230  | 3,921            |
| Germany                    | 1,467,487                     | 2,032,884  | 16%                                   | 42%   | 1,234        | 1,179  | 2,413            |
| Hong Kong                  | 1,488,664                     | 75,600     | 13%                                   | 42%   | 1,302        | 44     | 1,346            |
| India                      | 1,059,712                     | 369,684    | 8%                                    | 33%   | 978          | 249    | 1,227            |
| Italy                      | 972,649                       | 1,663,200  | 16%                                   | 33%   | 818          | 964    | 1,782            |
| Japan                      | 3,980,240                     | 8,070,300  | 16%                                   | 42%   | 3,348        | 4,679  | 8,026            |
| South Africa               | 251,365                       | 91,476     | 6%                                    | 33%   | 236          | 62     | 298              |
| South Korea                | 1,596,275                     | 690,228    | 5%                                    | 33%   | 1,520        | 466    | 1,986            |
| Spain                      | 1,351,791                     | 1,108,296  | 16%                                   | 42%   | 1,137        | 643    | 1,779            |
| Switzerland                | 785,234                       | 505,008    | 11%                                   | 42%   | 696          | 293    | 989              |
| Taiwan                     | 894,685                       | 9,072      | 6%                                    | 33%   | 844          | 6      | 850              |
| UK                         | 2,505,677                     | 3,031,560  | 7%                                    | 42%   | 2,335        | 1,758  | 4,092            |
| US                         | 27,540,235                    | 23,566,032 | 16%                                   | 42%   | 23,163       | 13,662 | 36,825           |
| G20                        | 52,724,059                    | 47,915,280 | 10%                                   | 37%   | 45,757       | 28,321 | 74,078           |
| Less countries with FTT    | 40,517,508                    | 42,747,264 | 9%                                    | 26%   | 34,303       | 24,968 | 59,271           |
| Euro-6                     | 5,802,211                     | 8,651,664  | 16%                                   | 42%   | 4,062        | 5,016  | 9,896            |
| Emerging                   | 12,732,584                    | 3,758,832  | 7%                                    | 33%   | 11,796       | 2,537  | 14,332           |

| Assumptions | Equities | Bonds |
|-------------|----------|-------|
| FTT rate    | 0,10%    | 0,10% |

|   |       |       |
|---|-------|-------|
| Elasticity  | -0,6  | -0,6  |
| <b>Current transaction costs in most liquid markets</b> |       |       |
| Institutional   | 0,20% | 0,04% |
| Retail  | 0,50% | 0,18% |
| Average   | 0,30% | 0,07% |
| <b>Current transaction costs in less liquid markets</b> |       |       |
| Institutional   | 0,45% | 0,09% |
| Retail  | 1,13% | 0,18% |
| Average   | 0,67% | 0,11% |

*Source: Griffith-Jones, Persaud (2012)*

Schulmeister (2010) findings appointed that FTT main consequence would be expected to reduce excessive liquidity stemming from transactions which are very short-term oriented and that can be destabilizing at the same time. a general FTT would affect the (relative) profitability of different types of activities within the financial sector. Financing, insurance and risk transformation would practically remain unaffected by a FTT whereas short-term trading would become more costly (in particular derivatives transactions).

The size of this reduction effect depends on the tax rate, the pre-tax transaction costs and the leverage in the case of derivatives instruments. Most of these revenues would stem from derivatives trading at EUREX. Tax revenues from spot transactions of stocks and bonds would be small (less than 0.1% of GDP even at a tax rate of 0.1%). In Europe, tax revenues at a rate of 0,01% are estimated to lie between 0.59% and 0,78% of GDP.<sup>7</sup>

Effects on the financial system could be wide-ranging and difficult to assess. However, some include cascade effects, sectoral shifts, geographical shifts, the possible impact on the ISE, and on selected financial markets such as sale and repurchase agreements markets and sovereign debt markets. For financial intermediaries, introduction of FTT could lead to lower volumes of transactions and less liquid markets. The proposal may mean that intermediaries also face additional costs due to the administrative burden of collecting the tax (ESRI 2012).

#### **4. Reflections on the possibilities of introducing tax on financial transactions in Croatia**

Croatian financial system is underdeveloped as compared with financial systems in developed countries. Banks are the most important financial institutions and bank loans represent the most important source of external financing of the economy. The main characteristic of the Croatian bank market are high market concentration, foreign ownership of the banks, high spread of interest margins and prevalence of universal banking. The banks are statutorily authorized to offer a wide range of financial services. The non-deposit sector is relatively small and not enough diversified and it mainly consists of financial institutions like pension funds, insurance companies, investments funds and brokerage houses in the money and capital market (Prohaska, Olgić Draženović 2005, p. 26).

Croatian capital market can be defined as underdeveloped, narrow and low liquid. It is characterized by low standards of corporate governance, inadequate application of accounting standards and concentrated ownership structure in the medium and large companies. In addition, corporate governance, reporting to the investment public and the role of supervisory boards, are not developed to the extent that would upgrade investor confidence in the domestic capital market. Croatian institutional investors do not invest significant funds in non-domestic capital markets. Most of the investments are extremely conservative structured and focused in long-term

<sup>7</sup> For estimation of FTT revenues for the world economy as a whole as well as for the main regions, see Schulmeister (2010); Table 10: Hypothetical transaction tax receipts in the global economy In % of GDP, p. 52.

government bonds and to a lesser extent in domestic equities. For all these reasons, introduction of FTT in Croatian regulatory framework wouldn't be opportune because the realized costs would exceed benefits from the introduction of the new tax burden. Furthermore, taking into account the stability of financial institutions, along with the regulatory measures of the Croatian National Bank, state interventions in the financial sector have not been necessary after the emergence of financial crises.

**Table 2 Revenue matrix – The FTT calculator for Croatian capital market**

| Countries | Current Turnover, \$ millions |       | Assumed max. loss of turnover |       | FTT revenues |       |                  |
|-----------|-------------------------------|-------|-------------------------------|-------|--------------|-------|------------------|
|           | Equities                      | Bonds | Equities                      | Bonds | Equities     | Bonds | Equities & Bonds |
| Croatia   | 446                           | 99    | 7%                            | 33%   | 0,415        | 0,092 | 0,507            |

Source: own calculation; Griffith-Jones, Persaud (2012); <http://zse.hr/UserDocsImages/reports/ZSE-2016.pdf>

According to Griffith-Jones and Persaud FTTs revenue matrix, total revenues for Croatia as an emerging country would be 0,507 mil. USD. Given the fact that the in the Croatian capital market trading with derivatives doesn't exist and that speculative trading is minor in importance, the main reason (raising revenues) for the introduction of FTT for the Croatian capital market is not acceptable. Preliminary analysis of the possibilities of FTT in Croatia, according to this proposal, leads to a conclusion that Croatian capital market is not developed enough to generate substantial tax revenues. This simplified approximation of FTT revenues doesn't take into account the possible impacts on the liquidity, cost of capital and market efficiency, by which results would be much worse.

It can be concluded, then, that by taxing transactions on the Croatian capital market would be generated relatively small amounts of tax revenue and that the taxation of turnover in securities on the Zagreb Stock Exchange would be insufficiently effective, especially with taking into account the essential administrative costs involved in the collection of the tax. This form of taxation, then, would be insufficiently productive. On the other hand, non-taxation of financial transactions in Croatia would impose a fiscal burden for domestic financial institutions when transactions take place in Member States of the FTT jurisdiction or when trading in financial instruments issued in these countries. Such a provision would cause an outflow of tax revenue outside Croatian borders (Milevoj, 2013, p. 34).

## 5. Conclusion

The financial market collapse of 2007 has caused to frequent calls for the taxation of financial transactions. The main premises for the planned introduction of FTT as a form of indirect taxation recommended by the European Commission, is that the financial sector has benefited most from the globalisation and liberalisation but it is still one of the most under taxed industries. At the same time it has been excessively publicly subsidized in the recent crises.

Undeniable advantage of introducing the FTT is in limiting high frequency trading and disruptions which should lead to improvement of system stability. Moreover, it will ensure and generate substantial public revenues. However there is no consensus about macro-economic well-being considering GDP growth and tax revenues.

Croatian capital market can be defined as underdeveloped, narrow and low liquid. Introduction of FTT in Croatian financial system would generate relatively small amounts of tax revenue and the taxation of securities turnover on domestic capital market would be insufficiently effective. One

can conclude that introduction of FTT in Croatian regulatory framework wouldn't be opportune because the realized costs would exceed benefits from the introduction of the new tax burden.

## REFERENCES

Burman, L. E. et. al. (2016): *Financial Transaction Taxes in Theory and Practice*, National Tax Journal, Vol. 69, No. 1, pp.171-214.

Davila, E., (2014): *Optimal Financial Transaction Taxes*, Society for Economic Dynamics, 2014 Meeting Paper No. 114.

ESRI (2012), *The EU financial transactions tax proposal: a preliminary evaluation*, available at [<https://www.esri.ie/pubs/BKMNEXT217.pdf>].

European Commission, (2013): *Impact assessment: Proposal for a Council Directive Implementing Enhanced Cooperation in the Area of Financial Transaction Tax, Analysis of Policy, Options and Impacts*, WD28, EC.

Griffith Jones, S., Persaud, A. (2013): *The Financial Transaction Tax*, available at [[http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/swd\\_2013\\_28\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/swd_2013_28_en.pdf)].; [<http://www.globalprogressiveforum.org/content/19-march-2013-financial-transaction-tax-stephany-griffith-jones-and-avinash-persaud>].

Keynes, J.M. (1936): *The General Theory of Employment, Interest and Money*, Harcourt Brace, New York, NY.

Lendvai, J., Raciborski, R., Vogel, L. (2013): *Macroeconomic effects of an equity transaction tax in a general-equilibrium model*, Journal of Economic Dynamics and Control, Vol. 37, No. 2, pp. 466-482.

Matheson, T. (2011): *Taxing Financial Transaction: Issues and Evidence*, International Monetary Fund Working Paper 11/54.

Milevoj, M., (2013): *Zajednički porez na financijske transakcije u Europskoj uniji: što je na raspolaganju Republici Hrvatskoj?*, Porezni vjesnik, Vol. 22, No. 10, pp. 29-36.

Olgić Draženović, B., Maradin, D., Buterin, V. (2016): **Tax -framework of Croatian financial system**, 5th International Scientific Symposium "Economy of Eastem Croatia – Vision and Growth", Mašek Tonković, A. (ur.), Osijek, Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet Osijek, pp. 1060-1068.

Prohaska, Z., Olgić Draženović, B. 2005, *Consolidated Supervision of Financial Institutions and Financial Market in the Republic of Croatia*, Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu., Vol. 22, No. 2, Sveučilište u Rijeci, Ekonomski fakultet, Rijeka, pp. 25-41.

Schulmeister, S., (2010): *Asset Price Fluctuations, Financial Crises and the Stabilizing Effects of a General Transaction Tax*, SUERF - The European Money and Finance.

Spahn, P. (2002): *On the Feasibility of a Tax on Foreign Exchange Transactions*, Report to the Federal Ministry for Economic and Development (Bonn).

Šramko, F. (2015): *The impact on securities transaction tax on market quality: Evidence from France and Italy*, International Journal of Economic Sciences, Vol. IV, No 3.

Stiglitz, J. E. (1989): *Using tax policy to curb speculative short-term trading*, Journal of Financial Services Research, 3, pp. 101-15.

Summers, L., Summers, V. (1989): *When Financial Markets Work Too Well: A Cautious Case For a Securities Transactions Tax*, Journal of Financial Services Research, 3, p. 261-286.

Tobin, J. (1978): *A Proposal for International Monetary Reform*, Eastern Economic Journal, Vol. 4, No. 3-4, pp. 153-59.

Wang, G., Yau, J. (2012): *Would a Financial Transaction Tax Affect Financial Market Activity? Insights from Futures Markets*, Policy Analysis, July 2012.

Zagrebačka burza, 2017. Pregled trgovine u 2016. godini. available at: [<http://zse.hr/UserDocsImages/reports/ZSE-2016.pdf>].

Zator, M. (2014): *Transaction costs and volatility on Warsaw Stock Exchange: implications for financial transaction tax*, Bank i Kredyt, Vol. 45, No. 4, pp. 349-372.

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**THE IMPACT OF COST STRUCTURE ON THE BUSINESS RESULT****UTJECAJ STRUKTURE TROŠKOVA NA POSLOVNI REZULTAT*****ABSTRACT***

*Today's business is determined by the world economic crises which are significantly changed business conditions. Emphasis is placed on the costs optimization which represents an essential element of business. However, the most economic subject were realized costs optimization exclusively as their reduction, which has led to decreasing business activities and increasing the unemployment, declining consumption and ultimately on the poorer business results. Consequently, it can conclude that cost reduction does not necessarily mean the business improvement, but to the opposite leads to a reduction business activities and poorer business results. This implies changing of approach on the costs optimizations and respectively considering the fact that every business activities cause the costs, the focus should be on the business activities and the incurred costs. Respectively, the economic subjects have to determine relationship between certain businesses activities with achieved business result, according to which they can predict which business activities or which costs are significantly contribute to achieving to the business result. Business policies which includes the selling policy, purchasing policy, human resourcing policy, financial policy and the public relation policy determine the business activities which are measurable by the level of the caused costs and with which the economic subjects tries to ensure business prosperities. Business policies and arising business activities determine the company business according to those business areas from which expects the most significant benefits. Accurately from the business cost structure can be determined the business focus on the corresponding activities, because the level of realized costs indicates the business activities. The impact of cost structure on the business results is measuring on the correlation basis between cost level which represent correspond business policies and the realized business results. Therefore, the aim of research is to determine which business activities or which cost structure contributes to achieving more favourable business result. The research was conducted on sample of commercial companies by the statistics panel data analysis.*

**Key words:** *cost, activity, business policy, cost structure, business results.*



## SAŽETAK

Današnje poslovanje determinirano je svjetskom gospodarskom krizom koja je značajno promijenila uvjete poslovanja. Naglasak je stavljen na optimiziranje troškova koji su neizostavan čimbenik poslovanja. Međutim, većina gospodarskih subjekata su optimiziranje troškova shvatili isključivo kao njihovo reduciranje što je dovelo do smanjenja poslovne aktivnosti i uzrokovalo povećanje nezaposlenosti, pad potrošnje i u konačnici lošijih poslovnih rezultata. Samim time može se zaključiti da smanjenje troškova nužno ne znači poboljšanje poslovanja već upravo suprotno dovodi i do smanjenja poslovne aktivnosti i lošijih poslovnih rezultata. Navedeno implicira promjenu pristupa optimiziranju troškova, odnosno polazeći od činjenice da svaka poslovna aktivnost uzrokuje trošak, fokus treba staviti na poslovne aktivnosti i proizašle troškove iz istih. Odnosno, gospodarski subjekti moraju utvrditi povezanost određenih poslovnih aktivnosti s ostvarenim poslovnim rezultatom, temeljem koje mogu predvidjeti koja poslovna aktivnost odnosno koji trošak najviše doprinosi ostvarenju poslovnih rezultata. Poslovnim politikama koje uključuju prodajnu, nabavnu, kadrovsku, financijsku i politiku odnosa prema javnosti gospodarski subjekti determiniraju poslovne aktivnosti koje se mjere razinom troškova i kojima se nastoji osigurati prosperitet poslovanja. Poslovne politike odnosno proizašle poslovne aktivnosti usmjeravaju poslovanje prema onim područjima od kojih gospodarski subjekti očekuju najznačajnije koristi. Upravo se temeljem strukture troškova poslovanja može iščitati fokus poslovanja gospodarskih subjekata na odgovarajuće aktivnosti jer razina ostvarenih troškova ukazuje na poduzete poslovne aktivnosti. Utjecaj strukture troškova na poslovni rezultat mjeri se temeljem korelacije između razine troškova specifičnih za odgovarajuću poslovnu politiku i ostvarenog poslovnog rezultata. Stoga je cilj istraživanja utvrditi koje poslovne aktivnosti odnosno koja struktura troškova doprinosi ostvarenju povoljnijih poslovnih rezultata. Istraživanje je provedeno na uzorku trgovačkih kompanija, primjenom statističke panel analize.

**Ključne riječi:** trošak, aktivnost, poslovna politika, struktura troškova, poslovni rezultat.

### 1. The cost function and the cost accounting

World economic crises has put emphasis on the cost and cost management. Starting from the fact that each activities causing the cost and don't need cause the benefit, can be seen the crucial role of costs in business as well as impossibility of their avoiding in the business. It is important to point out that costs are not necessarily negative item, because they represent the transfer of value, i.e. materials and labours are investing in order to create something new and more valuable (product or service) and this confirms following definition: costs are investment of achieving the future benefits. (Belak, 2010, 50). The role of costs in business is justified on the basis of activities with which company trying to ensure business prosperity, what give conclusion that cost function is determined by the range of activities. Cost accounting provides cost information, which is crucial for business management. Cost accounting collects and analyse the costs, assign the costs to activities and give cost information's for business decision. The main objectives of cost accounting are (Davies, 2002, 6):

- Ascertainment of costs - with the utilisation of a sophisticated cost accounting system and detailed knowledge of the composition of costs and cost behaviour, management can identify the source of each cost and pinpoint responsibility for it.
- Planning and control of costs - plans can be formulated on the information provided by the costing system and the costing system enables actual results to be compared with those plans for cost control purposes.

- Decision-making - Because the costing provides detailed information as to the sources of costs, their behaviour, composition and nature, certain decision-making processes (e.g. discontinuing a product line) can be improved and the effects of various alternative courses of action presented in a reliable and accurate form.

## 2. Cost effectiveness

Economic crises were drastically changed business conditions what caused the new company's strategy with focus on the costs and cost managing. The main goal of cost managing is to achieve the highest possible current and long term benefits of the costs or to achieve the goal with as possible lower costs, but without long terms negative consequences on business results and company competitive position (Belak, 2010, 51). Costs are not necessarily the negative business component and the same should be observed through the cost benefit approach by comparing costs and benefits of each activity. Therefore, cost managing does not necessarily mean the costs reduction or costs cut, the cost managing should mean to achieve as great benefit from the costs. However, the most economic subject were realized costs optimization exclusively as their reduction, which has led to decreasing business activities and increasing the unemployment, declining consumption and ultimately on the poorer business results. This implies the changes approach in cost managing, i.e. cost managing should be based on the benefits arising from the undertaken costs. Starting from the fact that each business activity causing cost and don't need to cause benefit, the companies should be focused on the cost effectiveness of undertaken activities.

## 3. The impact of cost structure on the business result

Cost effectiveness of undertaken activities will be analysed based on the cost structure which describes all costs incurred by the business activities. Business activities are determined by the business policies which direct company business in their environment. Business policies with which companies try to impact their environment are selling policy, purchasing policy, human resource policy, financial policy and public relations policy. With mentioned policies the companies direct their business and do those activities from which they expect maximum benefit. So from the cost structure can be seen focus on the business policies through different business activities which are measurable by the level of different costs, what gives an answer on the question "What are the most important business policies in company business?". Connections between the business policies and regarding costs are shown by table 1.

**Table 1** Operationalization of variables of the business policies

| Business policy         | Costs                                   | Source           |
|-------------------------|---|------------------|
| Selling policy          | Marketing cost - MT                     | Income statement |
| Human resources policy  | Additional cost of employees - NTZ      | Income statement |
| Purchasing policy       | Purchasing cost of products sold - TNPP | Income statement |
| Financial policy        | Financial cost - TFS                    | Income statement |
| Public relations policy | Sponsorship and donations cost - TSD    | Income statement |

*Source: authors' research*

Research included the above mentioned costs which on the best way describes the adequate business policies for a period of three years (2010, 2011, 2012). For the purpose of econometric data analysis static panel data analysis was conducted. Model (1) forms the basis of estimation.

$$Y_{it} = c + \sum_{k=1}^K \beta_k X_{it}^k + \varepsilon_{it} \quad (1)$$

Where  $Y_{it}$  is the dependent variable  $i$  at time  $t$ , with  $i = 1, \dots, N$  and  $t = 1, \dots, T$  presented with business result of companies.  $X_{it}$  stands for  $k$  independent variables.

Static panel data analysis was used to determine which business activities or which cost structure contributes to achieving more favorable business result. Using several independent variables can lead to distorted and unrealistic assessment of contributions of individual independent variables when trying to explain the dependent variable. This problem is created by high dependence (collinearity) of two, i.e. multicollinearity between more than two independent variables. The assumptions that should be followed in multiple regression models assert that the independent variables are inter-independent (Rozga, 2006, 197).

The consequences of multicollinearity are unrealistically high standard errors regarding estimates of regression coefficients, i.e. unrealistically low values of t-tests and can lead to a wrong conclusion about the significance of certain variables in the examined model. To avoid the problem of multicollinearity in the set of independent variables, only the ones that are not highly correlated are to be chosen; i.e. the ones with the correlation coefficient in absolute value below 0,7 (Miletić, Barbača, 2015, 746).

Table 2 shows the results of the research and examines the problem of multicollinearity between the independent variables.

**Table 2** Correlation matrix

|       | AMORT  | B_EXP  | MT     | NTZ    | TNPP   | TFS    | TSD    |
|-------|--------|--------|--------|--------|--------|--------|--------|
| AMORT | 1,0000 |        |        |        |        |        |        |
| B_EXP | 0,7906 | 1,0000 |        |        |        |        |        |
| MT    | 0,5439 | 0,4555 | 1,0000 |        |        |        |        |
| NTZ   | 0,8759 | 0,7175 | 0,4633 | 1,0000 |        |        |        |
| TNPP  | 0,7209 | 0,9839 | 0,3381 | 0,6530 | 1,0000 |        |        |
| TFS   | 0,1177 | 0,1088 | 0,1085 | 0,1564 | 0,0014 | 1,0000 |        |
| TSD   | 0,1438 | 0,1753 | 0,5000 | 0,2113 | 0,0947 | 0,2945 | 1,0000 |

*Source: authors' research based on data from statistic software STATA*

Table 2 shows that there is a high degree of dependence among certain independent variables, i.e. there is a problem of multicollinearity. Following the instruction that asserts that one of the solutions to the problem of multicollinearity is excluding independent variables that contribute to multicollinearity problem, this research did the same. The independent variables AMORT and B\_EXP were excluded from further research.

As mentioned before, for the purpose of econometric data analysis, static unbalanced panel data analysis was conducted. F-test, Lagrange Multiplier test and Hausman test were used to determine which static panel is most appropriate between pooled, static panel with fixed effects or static panel with random effects. F test was applied to analyse the applicability of the panel

with fixed effects compared to pooled panel, whereas Lagrange Multiplier test analysed the applicability of panel with random effects compared to static pool panel. Finally, the applicability between models with fixed and random effects was determined using Hausman test. Results of these tests are in table 3.

**Table 3** Tests for determination which static panel is the most appropriate

|   |           |
|---|-----------|
| F test                                  | 4,5***    |
| Breusch and Pagan Lagrangian multiplier | 0,14      |
| Hausman test                            | 157,63*** |

\*\*\* Statistically significant at the 1% level,

Source: authors' calculation

F test showed that static model with fixed effects is more suitable than pooled model. Lagrange Multiplier test showed that pooled model is more proper than static model with fixed effects. Hausman test showed that static model with fixed effects is more appropriate than static model with random effects. At the end static model with fixed effects proved to be the most suitable.

Results of static panel model with fixed effects are shown in table 4.

**Table 4** Empirical results

| Fixed-effects (within) regression |  | Number of obs    | =                   | 148                         |
|-----------------------------------|--|------------------|---------------------|-----------------------------|
| Group variable: ID                |  | Number of groups | =                   | 59                          |
| R-sq:                             | within                                       | = 0.6021         | Obs. per group: min | = 1                         |
|                                   | between                                      | = 0.1089         | avg                 | = 2.5                       |
|                                   | overall                                      | = 0.0840         | max                 | = 3                         |
|                                   |  | F (5, 84)        | =                   | 25.43                       |
|                                   |  | Prob > F         | =                   | 0.0000                      |
| corr (u_i, xb) = -0.9292          |  |                  |                     |                             |
| B_RESULT                          | Coef.  | Std. Err.        | t                   | P>  t  [95% Conf. Interval] |
| MT                                | 0.7431110                                    | 0.855309         | 0.87                | 0.387 -0.95775645 2.443987  |
| NTZ                               | -2.611299                                    | 1.914797         | -1.36               | 0.176 -6.419083 1.196485    |
| TNPP                              | 0.317919                                     | 0.32878          | 0.97                | 0.336 -0.0335895 0.971733   |
| TFS                               | -0.42654                                     | 0.0867638        | -4.92               | 0.000 -0.5990794 -0.2540007 |
| TSD                               | 15.35027                                     | 3.451888         | 4.45                | 0.000 8.485813 22.21473     |
| _cons                             | 297824.3                                     | 9474729          | 0.03                | 0.975 -1.85e+07 1.91e+07    |
| sigma_u                           | 69756857                                     |                  |                     |                             |
| sigma_e                           | 14533829                                     |                  |                     |                             |
| rho                               | 0.95839635 (fraction of variance due to u_i) |                  |                     |                             |
| F test that all u_i=0             |  | F(58, 84) = 4.50 |                     | Prob > F = 0.0000           |

Source: authors' research based on data from statistic software STATA

Table 4 shows that variable TFS (Financial cost) and TSD (Sponsorship and donations cost) are statistically significant at the 1% level. Variable TFS has negative impact on business result coefficient -0.42654, while variable TSD has positive effect on business result coefficient 15.35027. Based on the above mentioned results can be concluded that companies which have higher level of financial costs probably has a currently business problems or takes additional investment what has negative impact on business results. Also regarding with level of sponsorship and donation costs can be concluded that companies which have higher level of sponsorship and donation costs probably have achieved public's affections what causes a better company business results.

#### 4. Conclusion

Starting from the fact that costs are not exclusively negative component of the business and that costs managing are not oriented exclusively on the cost reduction can be concluded significant role and opportunities which arising from the costs. Also the cost structure describes the most important costs incurred by the business activities with which company tried to create a new value, new relationship with customers, suppliers, publics and etc. Following the mentioned this research have aim to give an answer on following question: if the cost structure impacts on the business results. The obtained results indicate:

- that for the higher level of financial costs has negative impact on the business results,
- that for the higher level of sponsorship and donation costs has positive impact on the business results,

what leads to the conclusion that cost structure has significant impact on the business results.

#### REFERENCES

Belak, V., (2010): **Poslovna izvrsnost i upravljanje performansama**, Faculty of Economics Zagreb, Zagreb.

Davies, A., (2002): **Cost and Management Accounting**, Business school Staffordshire University, Stafford.

Miletić, M., Buljan Barbača, D. (2015): **Determinants of the amount of banks' loans to non-financial corporations in the Republic of Croatia**, in: Fourth International Conference International Scientific Symposium Economy of Eastern Croatia – Vision and Growth, Osijek 21<sup>st</sup> – 23<sup>rd</sup> May 2015,

Papić, M. (2005): **Primjenjena statistika u MS Excelu**, ZORO, Zagreb.

Rozga, A. (2006): **Statisika za ekonomiste**, Faculty of Economics Split, Split.

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**WHAT IS THE COHERENCE BETWEEN THE CASH GAP AND LIQUIDITY RATIOS ? – THE CASE OF CROATIAN MANUFACTURING INDUSTRY**

**KAKAV JE ODNOS IZMEĐU NOVČANOG JAZA I POKAZATELJA LIKVIDNOSTI ? – SLUČAJ HRVATSKE PRERAĐIVAČKE INDUSTRIJE**

**ABSTRACT**

*Manufacturing industry is a significant industry in the Republic of Croatia and it represents a significant share in gross domestic product. Depending on the type of production and the output of the production cycle, the production process can vary from several months to over a year. Due to the duration of the production process, cash conversion cycle can fluctuate considerably, which means that the availability of cash funds differs among companies, as well as their cash funds needs. Cash gap shows the difference in the number of days from the purchase of inputs necessary for the realization of the production process and number of days needed to collect trade receivables from the sales of finished products. Longer cash gap means that more of the company's funds are tied up in the components of working capital, respectively, in inventories and in trade receivables. Greater part of the money tied up in inventory and accounts receivable can lead to problems with liquidity and subsequently can lead to insolvency. The liquidity of the company shows the availability of company to settle its liabilities. In order to determine the relationship between the cash gap and the liquidity of the company, large and medium-sized companies in the manufacturing industry in the Republic of Croatia is analysed. Cash gap is calculated in a way that the from the sum of the number of days the cash is in inventories and number of days to collect receivables, the number of days to settle payables will be deducted. Quick ratio and current ratio are used as indicators of liquidity. The research is conducted for*

*the period from 2010 to 2015, and the research results show that there is a medium strong positive correlation between cash gap and liquidity ratios in the medium-sized and large sized companies from the manufacturing industry in Croatia for the period observed, but this correlation is not statistically significant.*

**Key words:** *cash gap, quick ratio, current ratio, manufacturing industry, Republic of Croatia.*

## SAŽETAK

*Prerađivačka industrija je značajna gospodarska grana u Republici Hrvatskoj te predstavlja značajan udio u bruto društvenom proizvodu. Ovisno o vrsti proizvodnje kao i o outputu proizvodnog ciklusa, sam proces proizvodnje može trajati od nekoliko mjeseci do duže od godine dana. S obzirom na razdoblje trajanja proizvodnog procesa, ciklus konverzije novca može značajno varirati što znači da je raspoloživost novčanih sredstava poduzeća različita, kao i njihove potrebe za novčanim sredstvima. Novčani jaz pokazuje kolika je razlika u broju dana od nabave inputa potrebnih za realizaciju proizvodnog procesa do naplate potraživanja od kupaca temeljem prodaje gotovih proizvoda. Što je novčani jaz duži, znači da su poduzeću novčana sredstva duže vezana u komponentama radnog kapitala, odnosno, u zalihama proizvedenih proizvoda ili u potraživanjima od kupaca. Što je veći dio novca vezan u zalihama ili potraživanjima, likvidnost poduzeća je ugrožena što može dovesti do insolventnosti. Likvidnost poduzeća pokazuje koliko je poduzeće sposobno podmirivati svoje dospjele obveze. U cilju utvrđivanja odnosa između novčanog jaza i likvidnosti poduzeća, analizirati će se velika i srednje velika poduzeća iz prerađivačke industrije u Republici Hrvatskoj. Novčani jaz je izračunat na način da se od sume dana vezanja zaliha i dana vezanja kupaca oduzmu dani vezanja dobavljača, dok se kao pokazatelji likvidnosti koriste koeficijent ubrzane likvidnosti i koeficijent tekuće likvidnosti. Istraživanje je provedeno za razdoblje od 2010. do 2015. godine. Rezultati istraživanja su pokazali da, iako postoji srednja jaka pozitivna korelacija između novčanog jaza i pokazatelja likvidnosti u srednjim i velikim poduzećima u prerađivačkoj industriji u republici Hrvatskoj u promatranom periodu, ta povezanost nije statistički značajna.*

**Ključne riječi:** *novčani jaz, koeficijent ubrzane likvidnosti, koeficijent tekuće likvidnosti, prerađivačka industrija, Republika Hrvatska*

## 1. Introduction

It is expected that the manufacturing industry cash gap is higher than cash gap in trade companies or companies which provide services. That is because the production process can take longer period which means that cash is longer tied up in inventories. Since the longer cash gap means that there is a longer period in which the company is without cash, liquidity could be a problem in these companies.

The aim of this paper is to explore the relationship between the cash gap and liquidity for the period from 2010 to 2015 in the medium-sized and large companies which are in the manufacturing industry in Republic of Croatia. According to the above mentioned, it is expected that the correlation between the cash gap and liquidity (measured by quick ratio and current ratio) is positive.

This paper consists of four parts. First part is the introduction where the main objectives of the study are presented. Second part is the literature review which begins with highlighting the

significance of information about company's liquidity. It is followed by the definition and explanation of the cash gap calculated. Second part ends with the review of previous studies. Third part presents research results and research methodology. At the end of the paper, there is the conclusion about the interdependence between the cash gap and liquidity ratios which is tested.

## 2. Literature review

### 2.1. Significance of information about the company's liquidity

Information about the company's liquidity is important to managers for the purpose of decision making process. Furthermore, information about the company's liquidity is important to managers in order to achieve an efficient system of cash management. Satisfactory level of liquidity enables the settlement of liabilities on a maturity date, and indirect assures satisfactory level of company's financial stability. If a company is not able to pay its liabilities on maturity of debt, there is a high risk of its bankruptcy.

Different users have a great interest in the company's liquidity position. From the perspective of external users, especially from suppliers of goods, the liquidity will have a significant impact on the decision about the selling goods on credit. Investors are interested in company's ability to generate sufficient cash in order to perform daily business operations. Employees are interested in company's liquidity in order to assess whether the company can meet its obligation according to them (salaries, pensions etc.). The optimal level of liquidity is important to external auditors in assessing issues of going concern. Finally, management has to provide an adequate liquidity, because the liquidity significantly affect on company's profit that can be divided to shareholders.

In this study the relationship between the cash gap and company's liquidity is investigated. Liquidity ratios measure the capability of company for settle its short-term liabilities on the date of maturity (Žager *et al.*, 2008, 243). In this study, quick ratio and current ratio are used as measures of liquidity are used.

The quick ratio is calculated as follows (Žager *et al.*, 2008, 248):

$$\text{Quick ratio} = (\text{cash} + \text{receivables}) / \text{current liabilities}$$

Value of quick ratio should be 1 or greater than 1, which means that if a company wants to maintain a normal liquidity, quick assets should be at least as short-term liabilities are (Žager *et al.*, 2008).

The current ratio is calculated as follows (Garrison, Noreen, Brewer, 2012, 690; Libby, Libby, Short, 2011, 703; Žager *et al.*, 2008, 249):

$$\text{Current ratio} = \text{current assets} / \text{current liabilities}$$

Value of current ratio should be greater than 2. That means that a company which wants to maintain the current liquidity at the normal level, and wants to avoid a situation of untimely payment of liabilities, must have at least double more of current assets than there are current liabilities at their disposal (Žager *et al.*, 2008, 249).



Presented values of liquidity ratios should be considered together with a numerous factors that have a direct impact on the company's liquidity and the value of liquidity ratios. In doing so, the most important factors are the industry in which the company operates, the size of the company, the structure of assets and sources of assets. Finally, Cagle, Campbell and Jones (2013) pointed out that it is difficult to determine the company's liquidity only on the basis of ratios, as well as it is difficult to explain the company's ability to settle its short-term liabilities only on the basis of liquidity ratios.

## 2.2. Cash gap as a measure of working capital management

Management of working capital is an important component of the overall system of company's management, since an effective system of working capital management affects the liquidity and profitability of the company. Management of working capital implies managing the current assets and current liabilities.

Working capital is determined as a difference between current assets and current liabilities (current assets minus current liabilities), and it points to the portion of current assets which is financed from long-term sources (Garrison, Noreen, Brewer, 2012, 690). Sufficient working capital provides some assurance to creditors that their short-term liabilities will be paid till maturity of debt.

It is presumed that the liquidity and financial stability of the company increased as much as the working capital the company increased. Nevertheless, keeping the large amounts of working capital is expensive for a company, because it has to be financed with long-term debt and equity. So, the goal of managers is to maintain the working capital at optimal level. The company's liquidity and financial stability are directly determined by the existence or non-existence of working capital, which is often called liquidity reserve, reserve of financial stability or reserve of operation assurance (Žager *et al.*, 2008, 249). Negative working capital indicates illiquidity and the fact that the company's financial stability is disrupted, as the company finances long term assets from current liabilities (Tušek, Perčević, Hladika, 2014, 60). Management needs to undertake different activities with the aim of optimization of current assets and current liabilities in order to achieve appropriate liquidity.

Deloof (2003) indicated that the way that working capital is managed has a significant impact of company's profitability. A significant measure of working capital management is cash gap (in the literature it is also used the term cash conversion cycle). Richard and Laughlin (1980) were the first authors who pointed out that cash gap is a better approach than the quick and current ratios to evaluate company's liquidity.

The cash gap is calculated (Cagle, Campbell, Jones, 2013; Gill, Biger, Mathur, 2010, 2; Gulin, 2009, 65; Lyroudi, Lazaridis, 2000; Tušek, Perčević, Hladika, 2014, 66):

$$\text{Cash gap} = \text{days inventory outstanding} + \text{days receivables outstanding} - \text{days payables outstanding}$$

Cash gap is measured in days and it expresses the period of time that a company uses to sell inventories, collect receivables and pay its payables. If the cash gap is positive that means that payables have to be paid before the inventories turned into money or before the trade receivables are collected. Positive cash gap has to be financed which causes interest costs. Negative cash gap is acceptable for the company, because that means that inventories are converted into cash and

receivables are collected in a shorter time than the payables are settled (Broz Tominac *et al.*, 2015, 405).

A short cash gap means that the company collects the receivables as quickly as possible and it delays the payments to suppliers as much as possible. The shorter the cash gap is, the company is more liquid. On the other hand, the longer the cash gap is, it indicates problems with company's liquidity. So, in order to manage the working capital better, the policy should strive to the reduction of cash gap.

### **2.3. Review of previous studies**

Lyroudi and Lazaridis (2000) empirically examined the relationship between the cash gap and the current and quick ratios on a sample of Greek companies in food industry. The research result showed a significant positive relationship between the cash gap and the current and quick ratios.

Yücel and Kurt (2002) studied the relationship between cash gap as a tool of working capital management with liquidity, profitability and debt structure on a sample of 167 listed companies on the Istanbul Stock Exchange for the period from 1995 to 2000. The study results showed a positive relationship between cash gap and current ratio, and quick ratio.

Lin *et al.* (2014) conducted a research on two Taiwan companies in food industry (one listed and one delisted company) for the period from 1996 to 2005. The aim of that research was to determine which measure (cash gap or liquidity ratios: current ratio and quick ratio) better reflect the company's actual short-term debt-paying ability and liquidity. The research results indicated that cash gap is better indicator of the company's actual short-term debt-paying ability and liquidity.

Warrad (2015) conducted a study by using a sample of Jordanian service companies that were listed on the Amman Stock Exchange for the period from 2009 to 2012. The aim of that study was to investigate the impact of cash gap (cash conversion cycle) on the liquidity of Jordanian services companies that was expresses by current ratio and quick ratio. The research results showed that there was no significant impact of cash gap on liquidity of Jordanian service companies. Furthermore, the research results indicated that there was no significant impact of cash gap on current ratio of Jordanian service companies, as well as there was no significant impact of cash gap on quick ratio of Jordanian service companies.

## **3. Research methodology and research results**

### **3.1. Research methodology**

The primary aim of this paper is to explore the coherence between the cash gap and liquidity ratios in the manufacturing industry in Croatia. Among total 486 medium-sized and large companies from the manufacturing industry in Croatia, the data for the period observed were available for 463 of them. Data were collected from the publicly available financial statements which are held by Financial agency (Fina) in their Annual Financial Statements Registry (RGFI). The analysis covers period of 6 years (from 2010 to 2015).

The initial hypothesis of the paper claims that there is a statistically significant relationship between cash gap and liquidity ratios in the manufacturing industry in Croatia. In order to

achieve the basic aim and to test the initial hypothesis of the paper, the relationship between cash gap and liquidity ratios (quick ratio and current ratio) and the relationship between the components of cash gap (days inventory outstanding, days receivables outstanding and days payables outstanding) and liquidity ratios are determined and tested using Pearson correlation coefficient at the level of significance of 1% and 5%. Pearson correlation coefficient is used to determine if there is interdependence between two variables and the level of significance is used to identify the statistical strength of the relationship between two variables.

Cash gap is calculated as follows:

$$\text{Cash gap} = \text{days inventory outstanding} + \text{days receivables outstanding} - \text{days payables outstanding}$$

Variables which are needed to calculate cash gap are calculated such as (Tušek, Perčević, Hladika, 2014, 66):

- Days inventory outstanding = 365/ Inventory turnover ratio
- Inventory turnover ratio = Material cost / Inventory
- Days receivables outstanding = 365/ Receivables turnover ratio
- Receivables turnover ratio = Revenues / Receivables
- Days payables outstanding = 365/ Payables turnover ratio
- Payables turnover ratio = Operating expenses / Payables

### 3.2. Research results

The research results of the relationship between cash gap and liquidity ratios in the manufacturing industry in Croatia in the period from 2010 to 2015 are presented in the following table:

*Table 1 Correlation between cash gap and liquidity ratios*

|                              |                     | Days inventory outstanding | Days receivables outstanding | Days payables outstanding | Cash gap | Quick ratio | Current ratio |
|------------------------------|---------------------|----------------------------|------------------------------|---------------------------|----------|-------------|---------------|
| Days inventory outstanding   | Pearson Correlation | 1                          | ,147                         | ,222                      | ,746     | ,137        | ,723          |
|                              | Sig. (2-tailed)     |                            | ,781                         | ,672                      | ,088     | ,795        | ,104          |
|                              | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |
| Days receivables outstanding | Pearson Correlation | ,147                       | 1                            | ,975**                    | ,747     | ,926**      | ,450          |
|                              | Sig. (2-tailed)     | ,781                       |                              | ,001                      | ,088     | ,008        | ,370          |
|                              | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |
| Days payables outstanding    | Pearson Correlation | ,222                       | ,975**                       | 1                         | ,746     | ,947**      | ,480          |
|                              | Sig. (2-tailed)     | ,672                       | ,001                         |                           | ,089     | ,004        | ,335          |
|                              | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |
| Cash gap                     | Pearson Correlation | ,746                       | ,747                         | ,746                      | 1        | ,656        | ,774          |
|                              | Sig. (2-tailed)     | ,088                       | ,088                         | ,089                      |          | ,157        | ,071          |
|                              | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |

|               |                     | Days inventory outstanding | Days receivables outstanding | Days payables outstanding | Cash gap | Quick ratio | Current ratio |
|---------------|---------------------|----------------------------|------------------------------|---------------------------|----------|-------------|---------------|
| Quick ratio   | Pearson Correlation | ,137                       | ,926**                       | ,947**                    | ,656     | 1           | ,483          |
|               | Sig. (2-tailed)     | ,795                       | ,008                         | ,004                      | ,157     |             | ,332          |
|               | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |
| Current ratio | Pearson Correlation | ,723                       | ,450                         | ,480                      | ,774     | ,483        | 1             |
|               | Sig. (2-tailed)     | ,104                       | ,370                         | ,335                      | ,071     | ,332        |               |
|               | N                   | 6                          | 6                            | 6                         | 6        | 6           | 6             |

*\*\*Correlation is significant at the 0.01 level (2-tailed).*

*Source: Authors according to data available from Annual Financial Statements Registry (RGFI)*

Research results have indicated that there is a positive medium strong relationship between cash gap and liquidity ratios, although that relationship is not statistically significant. Pearson correlation coefficient for the relationship between cash gap and current ratio is 0,774 which indicates medium strong positive correlation, but this relationship is significant at the level of significance of 7,1%. So it can be concluded that cash gap and current ratio are going in the same direction, but their interdependence is not statistically significant at the level of significance of 5%. Pearson correlation coefficient for the relationship between cash gap and quick ratio is 0,656 which also indicates positive medium strong interdependence between these two variables, but this relationship is statistically significant at the level of significance of 15,7%. According to this research results, cash gap and quick ratio are also moving in the same direction, but their interdependence is not statistically significant at the level of significance of 5%. Research results have indicated positive medium strong correlation between cash gap and liquidity ratios in the manufacturing industry in Croatia in the period from 2010 to 2015, but that correlation is not statistically significant. In addition, the correlation between cash gap and current ratio is statistically more significant than the correlation between cash gap and quick ratio.

When observing the relationships between cash gap and its components, research results have showed that there is a medium strong positive correlation between cash gap and its components, although this correlation is not significant at the level of significance of 5%, but it is at 10%. While the positive correlation is expected for the relationships between cash gap and days inventory outstanding and cash gap and days receivables outstanding, the positive correlation is not expected for the relationship between cash gap and days payables outstanding, but it should be considered that days payables outstanding is the component which is deductible from cash gap. When considering the relationships between the components of cash gap, research results have indicated weak positive relationship between the days inventory outstanding and days receivables outstanding as well as between days inventory outstanding and days payables outstanding, but these relationships are not statistically significant. According to the research results there is a strong positive correlation between the days receivables outstanding and days payables outstanding, and that correlation is statistically significant at the level of significance of 1% (Pearson correlation coefficient for the relationship between days receivables outstanding and days payables outstanding is 0,975). This means that there is a very strong interdependence between days receivables outstanding and days payables outstanding i.e. these two variables are mutually interdependent. Days receivables outstanding have a strong influence on days payables outstanding and vice versa.

Research results regarding the relationship between liquidity ratios and the components of cash gap have showed following:

- a) There is a weak positive correlation between quick ratio and number of days in inventory (Pearson correlation coefficient is 0,137), but this correlation is not statistically significant at the level of significance of 5%.
- b) There is a very strong positive correlation between quick ratio and days receivables outstanding (Pearson correlation coefficient in 0,926) and between quick ratio and days payables outstanding (Pearson correlation coefficient is 0,947) which are statistically significant at the level of significance of 1%. This means that there is a strong positive interdependence between quick ratio and days receivables outstanding and the changes in these variables are going in the same direction. Although there is a strong positive correlation between quick ratio and days payables outstanding, the increase in number of days to settle payables has a negative impact of the liquidity of a company.
- c) There is a medium strong positive correlation between current ratio and days inventory outstanding (Pearson correlation coefficient is 0,723), but this correlation is not significant at the level of significance of 5%.
- d) There is a weak positive correlation between current ratio and days receivables outstanding as well as between current ratio and days payables outstanding, but these correlations are not significant at the level of significance of 5%.

Based on the results of the research conducted, it can be concluded that there is a medium strong positive relationship between cash gap and liquidity ratios in the manufacturing industry in Croatia in the period from 2010 to 2015, but this relationship is not statistically significant at the level of significance of 5%. So, the initial hypothesis of the paper must not be accepted.

#### **4. Conclusion**

Manufacturing industry is one of the most important generator of the increase of gross domestic product in the Republic of Croatia. Due to the type of production processes and production cycle, cash conversion cycle for different types of production processes can vary significantly.

The basic purpose of this paper was to determine the coherence between the cash gap and liquidity ratios in the manufacturing industry in Croatia. The research was conducted on the large and medium-sized companies in Croatia and covered the period from 2010 to 2015, due to the availability of data. In order to achieve the basic purpose of the paper, the initial hypothesis was set up and it claimed that there is a statistically significant relationship between cash gap and liquidity ratios in the manufacturing industry in Croatia. Research results have indicated that there is a medium strong positive correlation between cash gap and liquidity ratios in manufacturing industry in Croatia in the period from 2010 to 2015, but this correlation is not statistically significant. So, on the basis of research results, the initial hypothesis of the paper cannot be accepted.

#### **REFERENCES**

*Annual Financial Statements Registry* (RGFI) held by Financial agency (2017)

Broz Tominac, S., Dragija, M., Hladika, M., Mićin, M. (2015): *Upravljačko računovodstvo – studija slučajeve*, Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb

Cagle, C.S., Campbell, S.N., Jones, K.T. (2013): *Analyzing liquidity using the cash conversion cycle*, Journal of Accountancy, No. 5, pp. 44-48.

Deloof, M. (2003): *Does working capital management affect profitability of Belgian firms?*, Journal of Business Finance & Accounting, Vol. 30, No. 3-4, pp. 573-588.

Garrison, R.H., Noreen, E.W., Brewer, P.C. (2012): *Managerial Accounting*, Fourteenth Edition, McGraw-Hill Irwin, New York

Gill, A., Biger, N., Mathur, N. (2010): *The Relationship between Working Capital Management and Profitability: Evidence from the United States*, Business and Economics Journal, Vol. 2010: BEJ-10, pp. 1-9, [http://astonjournals.com/manuscripts/Vol2010/BEJ-10\\_Vol2010.pdf](http://astonjournals.com/manuscripts/Vol2010/BEJ-10_Vol2010.pdf) (accessed 20 March 2017)

Gulin, D. (2009): *Upravljanje novčanim tokom pomoću neto obrtnog kapitala*, Računovodstvo i financije, Vol. LV, No. 11, pp. 63-65.

Libby, R., Libby, P.A., Short, D.G. (2011): *Financial Accounting*, Seventh Edition, McGraw-Hill Irwin, New York

Lin, L.H., Lin, S.H., Lin, Y.M., You, C.F. (2014): *The Analysis of Company Liquidity a Using Cash Conversion Cycle Application: Evidence from Taiwan*, Global Journal of Business Research, Vol. 8, No. 5, pp. 97-103.

Lyroudi, K., Lazaridis, J. (2000): *The Cash Conversion Cycle and Liquidity Analysis of the Food Industry in Greece*, Social Science Research Network Electronic Paper Collection: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=236175](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=236175) (accessed 20 March 2017)

Richards, V.D., Laughlin, E.J. (1980): *A Cash Conversion Cycle Approach to Liquidity Analysis*, Financial Management, Vol. 9, No. 1, pp. 32-38.

Tušek, B., Perčević, H., Hladika, M. (2014): *Međuovisnost novčanog jaza i profitabilnosti u hotelskoj industriji u Republici Hrvatskoj / Interdependence between cash gap and profitability in the hotel industry in Croatia*, Acta Turistica, Vol. 26, No. 1, pp. 55-75.

Warrad, L.H. (2015): *The Impact of Cash Conversion Cycle on Services Firms' Liquidity: An Empirical Study Based on Jordanian Data*, International Journal of Business and Management, Vol. 10, No. 10, pp. 108-115.

Yücel, T., Kurt, G. (2002): *Cash Conversion Cycle, Cash Management and Profitability: An Empirical Study on the ISE Traded Companies*, The ISE Review, Vol. 6, No. 22, pp. 1-15.

Žager, K., Mamić Sačer, I., Sever, S., Žager, L. (2008): *Analiza financijskih izvještaja, 2. prošireno izdanje*, Masmedia, Zagreb

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## **THE IMPACT OF THE INTEGRATED COSTS MANAGEMENT SYSTEM APPLICATION TO THE AMOUNT OF THE COST OF QUALITY**

### **UTJECAJ PRIMJENE INTEGRIRANOG SUSTAVA UPRAVLJANJA TROŠKOVIMA NA VISINU TROŠKOVA KVALITETE**

#### ***ABSTRACT***

*The main goal of using modern methods of cost management business is reducing the cost of products, not only at the level of production of existing products, but more often in the development stage and creating a completely new product. The stated costs are certainly and quality costs, which represent the totality of the amounts to be invested in the business process to ensure a quality product and quality service delivery. If we explore the cost of quality in the lifetime of a particular product, the most important aspect of the observation of the activities and processes that the product causes at all stages of their life cycle. There are many contradictions on how to estimate the cost of quality. Regardless of their structure, in today's business environment cannot be ignored orientation to customers, so the quality costs are estimated based on investments in satisfying the desires of customers. Model for strategic cost management that integrates a method of target costs, ABC method and analysis method value is applied at the earliest stages of production, or already in the planning phase and product development, with the aim of adapting products to the needs and desires of customers. The aim of this article is to present a model of measuring the cost of quality in the context of an integrated management system costs. The hypothesis of this paper is that the integration model of the target cost model costing based on activities and analysis model values can, but in the process of developing a new product, a significant impact on reducing the cost of quality. The impact of the application of the integrated management system costs to the cost of quality will be investigated by the method of modeling and simulation. The study will include the calculation of cost of quality by applying individual methods of cost management and calculation using the integrated model. Data on the amount of quality costs, obtained by applying individual methods of cost management, will collate data on costs of quality simulated integrated model of cost management. Depending on the results will be accepted or rejected this hypothesis.*

**Key words:** *Strategic cost management, modern methods of cost management, target costs, ABC method, cost of quality*

## SAŽETAK

*Osnovni cilj primjene suvremenih metoda upravljanja troškovima u poslovanju je reduciranje troškova proizvoda i to ne samo na razini proizvodnje postojećih proizvoda, već češće u fazi razvoja i kreiranja potpuno novog proizvoda. U navedene troškove svakako spadaju i troškovi kvalitete koji čine sveukupnost iznosa koje je potrebno uložiti u proces poslovanja da bi se osigurao kvalitetan proizvod ili kvalitetno pružanje usluga. Ukoliko istražujemo troškove kvalitete u životnom vijeku određenog proizvoda, najvažniji aspekt promatranja su aktivnosti i procesi koje taj proizvod izaziva u svim fazama svog životnog ciklusa. Postoje brojne kontradikcije o načinu procjene troškova kvalitete. Bez obzira na njihovu strukturu, u današnjim uvjetima poslovanja ne može se zanemariti orijentacija na kupce, stoga se troškovi kvalitete procjenjuju ovisno o ulaganjima u zadovoljenje želja kupaca. Model za strateško upravljanje troškovima koji integrira metodu ciljnih troškova, ABC metodu i metodu analize vrijednosti primjenjuje se u najranijim fazama proizvodnje, odnosno već u fazi planiranja i razvoja proizvoda, a s ciljem prilagođavanja proizvoda potrebama i željama kupaca. Cilj rada je prikazati model mjerenja troškova kvalitete u okviru integriranog sustava upravljanja troškovima. Hipoteza rada je da se integracijom modela ciljnih troškova, modela obračuna troškova temeljem aktivnosti i modela analize vrijednosti može, već u procesu razvoja novog proizvoda, znatno utjecati na smanjenje troškova kvalitete. Utjecaj primjene integriranih sustava upravljanja troškovima na troškove kvalitete istražiti će se metodom modeliranja i simulacije. Istraživanje će obuhvatiti izračun troškova kvalitete primjenom pojedinačnih metoda upravljanja troškovima i izračun primjenom integriranog modela. Podaci o visini troškova kvalitete, dobiveni primjenom pojedinačnih metoda upravljanja troškovima, komparirat će se s podacima o visini troškova kvalitete dobivenih simulacijom integriranog modela upravljanja troškovima. Ovisno o dobivenim rezultatima prihvatit će se ili odbaciti navedena hipoteza.*

**Ključne riječi:** *Strateško upravljanje troškovima, suvremene metode upravljanja troškovima, Ciljni troškovi, ABC metoda, obračun troškova kvalitete*

### 1. Introduction

The existence of a company in modern business conditions is faced with changeable and increasingly more sophisticated consumer demands and tough competition in the global market, and in such environment, product and service quality, as well as the quality of all production processes, is becoming one of the most important success factors. The modern approach to quality management implies the incorporation of the quality system before the start of the production process, i.e. already in product design and development phase, and after that in all stages of production, in contrast to earlier traditional approaches which involved checking the achieved quality after the completion of the manufacturing process. Advantages of using modern methods of cost management compared to the traditional model are undisputable. However, the problem is the fact that those methods are generally used separately. A single application of techniques of strategic cost management has revealed major deficiencies in calculating the total cost of the product and the need for a comprehensive decision-making system which would integrate as many of these techniques in terms of calculating product's life cycle costs is increasingly affirmed. In this context, this paper presents an integrated model of cost management, which includes the application of the most important strategic instruments of cost management, i.e. the target costs method, ABC method, value analysis, Kaizen costs and product's life cycle costs in terms of measuring quality costs. Satisfying customer needs is the most important effect of the implementation of integrated cost management systems. By

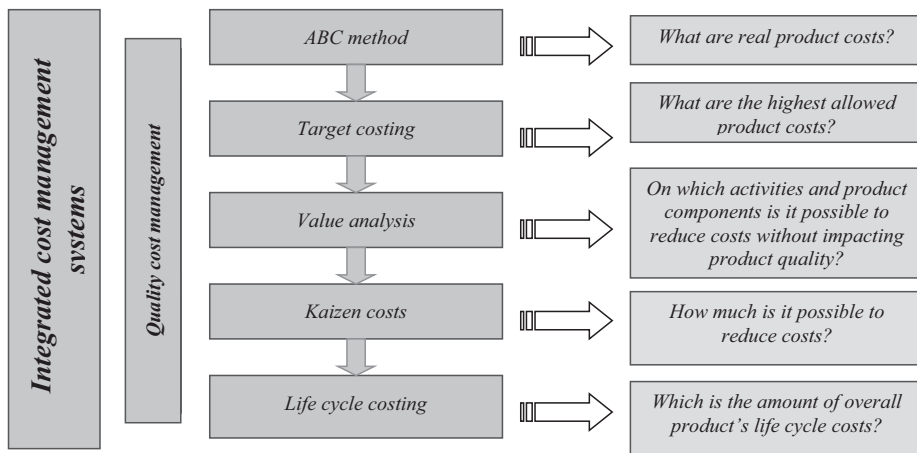


integrating various methods of strategic cost management, we influence the development of a value system according to the requirements of customers and the product is increasingly approaching the perception of customers without changing its functional characteristics. Customers are the ones who generate income, and thus the profits of companies and focus on customers in terms of the primary direction of product quality, measured by customer satisfaction, is a fundamental factor in creating sustainable competitive advantages.

## 2. Integrated Strategic Cost Management Model

The basic premise of an integrated cost management system is the existence of subsystems within it which are interconnected. These subsystems are comprised of individual cost managing methods which can operate independently or together as a whole. From the above considerations it can be concluded that an integrated cost management system represents a hierarchical structure of cost management within the business entity which is constructed of subsystems, i.e. individual cost management methods which can operate independently or be interconnected.

*Figure 1 The scope of individual cost management methods within the frame of an integrated system*



*Source: Author's proposal*

Calculating costs using an integrated model of strategic cost management begins with the calculation of costs based on activities (ABC method) by which indirect costs are allocated to products. On the basis of data on the amount of costs by ABC method we calculate the target costs in order to determine the maximum allowable expenses. Regardless whether calculated costs exceed the permitted costs or not, it is necessary to include a value analysis into the model. **Value analysis** will give the answer to the question on which product components and activities can we "cut" costs respecting the functional properties of the product and the required properties from the market. After we determine on which the components and activities is possible to achieve savings using value analysis, **Kaizen method** will provide the answer to the question "how much" it is possible to reduce costs in these components and activities. Using data prepared this way on the amount of the costs of a particular product, we can start analysing product's life cycle costs that will provide the answer to the question how much costs does a particular product

cause during its life cycle from the aspect of the manufacturer and the users of the product respecting the time value of money using the method of discounting and by discounting all future product's costs at present value. It is important to note that all stages of implementation of integrated costs management model include the application of "**quality management**" concept.

This model of strategic cost management has many advantages over using individual cost management models. In fact, many companies simultaneously apply more instruments of strategic cost management. However, when calculating the costs using a particular method they do not use cost information obtained by other strategic cost accounting techniques, but base their calculations on traditional methods. Thus, when calculating costs using most of these methods a standardized costs are applied. (Potnik Galić; 2012)

### **3. Quality Cost Management**

The concept of monitoring quality costs was developed in 1956, when the first detailed publication on quality costs appeared titled "Total Quality Control"(Feigenbaum, 1956) as a special edition of *Harvard Business Review*. In the said publication Feigenbaum explains in detail his concept of quality costs and introduces the concept of total quality costs. Quality costs model is being applied in industrial production for years. The concept of overall quality management involves the application of quality management in all aspects of the business, and aims to meet the needs of consumers. This concept is based on the principle of continuous improvement of operations involving all employees. Overall quality management stresses the need to treat production functions in the company as processes and to constantly improve them. The need to monitor quality costs is increasing because previous studies show that the costs due to (lack of) quality make up approximately 10-25% of overall revenues (Jenkins, 2011) in the companies that they do not adequately measure nor manage them. The concept of quality costs is not unambiguous because opinions of quality theorists on it are split, whereby some authors under the specified term cover only the costs incurred due to deviations from the specified quality, while others include in this category costs incurred due to the efforts to achieve or improve the quality of processes and effects. (Rogošić, 2009) Quality costs can be divided into two main groups, namely quality costs and costs due to poor quality. Given their nature, quality costs may occur in all types of costs, in the context of different production processes and can take the form of fixed or variable costs. Quality cost management implies harmonization of the relationship between cost groups, i.e. to achieve prevention of deviations from the prescribed quality using as small as possible increase in preventive costs, which significantly reduces the costs incurred by deviation from the prescribed quality.

### **4. Application of Integrated ABC Method Model and Quality Costs as a Modern Approach to Cost Management**

One of the main goals of the application of the integrated cost management system is also to provide information that will enable the continuous increase in the quality of operations. In this context it should be mentioned that the application of the ABC method which monitors and allocates the cost of the activities can also be used to monitor quality costs. ABC method does not replace the traditional system of monitoring quality costs, but traditional system is complemented with information that will provide a regular allocation of costs (Jenkins, 2012). Also, value analysis is one of the most effective methods for the identification and elimination of unnecessary costs in all phases of product's life cycle starting from design, testing, production, installation all the way to maintenance. The traditional model of cost management is focused on the product and not on the overall business process, and is therefore not suitable for the

calculation of overall quality costs. By applying the ABC method in the process of measuring, control and quality costs analysis information on the costs per activity are ensured. Given that quality costs represent the costs of certain activities, in order to ensure product quality according to market requirements, compatibility of ABC method with the calculation quality costs is indisputable, and when applying integrated cost management system that compatibility in the application turns into an inevitability. Quality costs which are direct costs by nature, i.e. they can be directly attributed to the product, are included in the integrated cost management model in the part which analyses the costs of product components, i.e. direct costs of materials and labour. It can be concluded that almost all costs that are classified as costs incurred due to non-quality are direct, i.e. they can be accurately assigned a particular product. The above facts facilitates accounting and management of product costs incurred due to poor quality. The following table shows the classification of quality costs according to the criteria of direct and indirect costs.

**Table 1** Classification of quality costs according to the criteria of direct and indirect costs

| Indirect (general) costs                                     | Direct costs                                 |
|--|--|
| Planning product quality                                     | Review of new products                       |
| Education and training in the field of quality management    | Final control                                |
| Costs of staff in charge of quality                          | Product rating at the place of storage       |
| Quality management system                                    | Costs for additional development             |
| Maintaining the accuracy of testing assets                   | Gap analysis                                 |
| Analysis and evaluation of suppliers                         | Tightened tests                              |
| Analysis of quality of processes                             | Repeated control and testing                 |
| Audits or independent assessments of quality plans execution | Write-offs                                   |
| Input control and testing                                    | Finishing                                    |
| Intermediate tests   | Scrap and reprocessing                       |
| Product quality, business processes and systems audits       | Amount of nonessential losses in the process |
| Maintaining the accuracy of testing assets                   | Decline of value value-class                 |
|  | Discounts                                    |
|  | Warranty costs                               |
|  | Procedures for complaints and objections     |
|  | Returns                                      |
|  | Compensation                                 |
|  | Legal actions and prohibitions               |
|  | Loss of competitiveness                      |
|  | Loss of market                               |

*Source: Author's proposal*

Continuous quality improvement ensures the profitability of the underlying business goal. Therefore, the planning costs of quality in the company must be based on information obtained through market research that provide an answer to the question: What are the needs, wishes and requirements of potential customers? In this context we can say that the **quality of the product is measured through the totality of characteristics of the product that make it able to meet the needs of end users.** Needs, wishes and requirements of users can be related to operational safety, design, product reliability, environmental characteristics of the product, and the possibility of use and a number of other parameters. Information about the required characteristics of the product by potential customers have to be collected by the company through market research that includes questioning customers, their wishes and preferences with regard to a particular product and the price they are willing to pay for a product that will suit the above characteristics. Identifying the desire of potential buyers, in terms of product characteristics, is the basic criteria which must be taken into account when defining the basic quality features that will cause certain costs of quality in the process of creating products

according to the requirements of the market, through defined business activities necessary to achieve the required properties.

*Table 2 Formation of quality costs and cost due to the lack of quality in certain phases of product's life cycle*

| PHASES OF PRODUCT'S LIFE CYCLE     | QUALITY COSTS   | COSTS DUE TO POOR QUALITY   |
|------------------------------------|---|---|
| <b>1. RESEARCH AND DEVELOPMENT</b> | Quality planning<br>Education and training<br>Costs of personnel in charge of quality<br>Quality management system<br>Development process<br>Verification   | Costs for additional research and development   |
| <b>2. PRODUCT DESIGN</b>           | Costs of personnel in charge of quality   | Finishing<br>Write-offs<br>Design changes   |
| <b>3. TESTING</b>                  | Review of new products<br>Maintaining the accuracy of testing assets<br>Costs of personnel in charge of quality   | Gap analysis<br>Tightened tests<br>Repeated control and testing   |
| <b>4. PRODUCTION</b>               | Analysis and evaluation of suppliers<br>Analysis of processes quality<br>Audits or independent assessment of quality plan execution<br>Input control and testing<br>Intermediate tests<br>Product quality, business processes and systems Audit<br>Maintaining the accuracy of testing assets<br>Quality reporting<br>I & T equipment testing<br>Data analysis<br>Costs of personnel in charge of quality | Write-offs<br>Finishing<br>Scrap and reprocessing<br>Amount of nonessential losses in the process<br>Decline of value-class   |
| <b>5. STORAGE</b>                  | Final control<br>Product rating at the place of storage<br>Costs of personnel in charge of quality  | Costs due to inadequate storage   |
| <b>6. SALES AND DISTRIBUTION</b>   | Costs of personnel in charge of quality   | Impairment of product quality during distribution<br>Discounts  |
| <b>7. USE</b>                      | Maintaining product quality<br>Quality reporting<br>Product testing in the field  | Cost of warranty<br>Product replacement<br>Procedures for complaints and objections<br>Returns<br>Compensation<br>Legal actions and prohibitions<br>Loss of competitiveness<br>Loss of market |

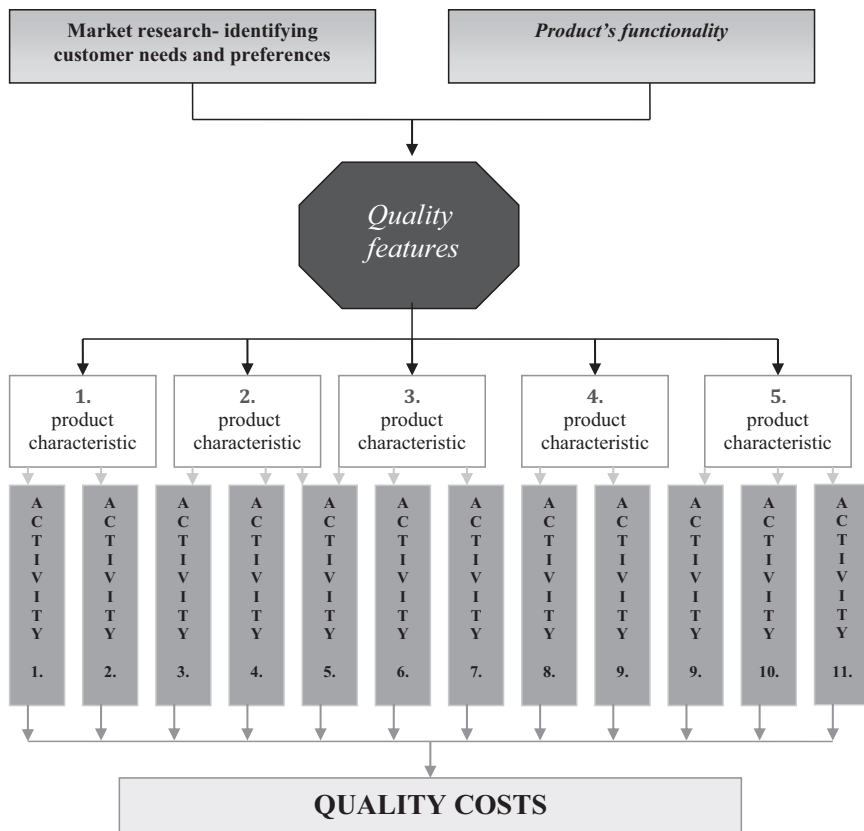
*Source: Author's proposal*

Integrated cost management systems have a major impact on quality costs, from several aspects. The first aspect is the impact on quality costs. The integrated systems for cost management provide relevant information that allow cost reductions required for ensuring quality of products as well as overall business processes. However, the greater contribution of these systems is to reduction of costs incurred due to lack of quality, which is primarily related to the cost of repairs

and replacement of the product, costs of testing and adjustments and corrections on the basis of justified complaints of customers. The basic characteristics of integrated cost management systems is a market orientation and reduction of costs on those components of the products and activities that least affect the product properties that are most important to customers when making a decision about buying the said product. By adapting + product properties according to market requirements, the company greatly reduces the risk of the most significant costs that incur due to poor quality, and those are costs of returns and compensations.

By applying the ABC we analyse analysed general costs according to activities which also include a part of quality costs, and an example of including quality costs within individual activities is shown in the following figure.

*Figure 2 The process of calculating quality costs*



*Source: Author's proposal*

From the previous figure, it is evident that with the application of the ABC method, which monitors and allocates the costs of according to activities, we can also monitor quality costs. As has been noted earlier, ABC method does not replace the traditional system of monitoring quality

costs, but traditional system is complemented with information that will provide a regular allocation of costs.

The remainder of this paper, using the simulation method of applications of integrated cost management model in quality cost management, will investigate the impact of this model on the movement of quality costs. It should be noted that the data on the amount and structure of the quality costs is collected using the method of questioning and interviewing competent individuals from companies whose product is the subject of research. It has already been noted that quality costs in earlier calculations were included in the integrated cost management system, and in the following research they will be allocated separately in order to examine the direct effect of the application of integrated system on the movement of these costs.

### 5. Researching the influence of application of integrated cost management system on quality costs

Researching the influence of the application of integrated cost management system begins with identifying product characteristics required by the market in order to define product quality.

**Table 3** Customer preferences according to product 1 properties

| Product properties | Average market evaluation | % of overall evaluation |
|--------------------|---------------------------|-------------------------|
| P <sub>1</sub>     | 2.50                      | 17.73%                  |
| P <sub>2</sub>     | 3.40                      | 24.11%                  |
| P <sub>3</sub>     | 1.40                      | 9.93%                   |
| P <sub>4</sub>     | 4.50                      | 31.91%                  |
| P <sub>5</sub>     | 2.30                      | 16.31%                  |
| <b>TOTAL</b>       |                           | 100.00%                 |

*Source: Adapted from company's business records*

*\* Ranking product properties according to market requirements. The scale is according to the importance of individual properties when deciding to purchase a product from 1 (the least important) to 5 (the most important).*

Long-term sustainability of the company largely depends on how well the company understands and meets the requirements of its customers. These requirements and ways to achieve them are constantly changing, thus creating new opportunities and challenges in business. For this reason, modern companies, in order to maintain their competitive advantage, are trying to maximize value for the customer because they realize that a focus on the customer has become the most important business strategy. Through an integrated cost management system, product properties are changed respecting according to market requirements and in a greater extent than is achieved by applying individual methods. By integrating the ABC method with the method of target costs, relevant information is obtained whether a company is meeting target cost of each component of the product and business process activities. Such an analysis in integration with value analysis will allow, even at the stage of research and development, design of products according to market requirements.

The following table shows quality costs of products by activity. Direct quality costs are automatically assigned to the product, while indirect costs are distributed in the ABC method across products. The results of the ABC method applied to the calculation of quality costs are presented in the following table.

**Table 4** Quality costs per product activities

(HRK)

| PRODUCT ACTIVITIES | QUALITY COSTS | SHARE IN OVERALL COSTS (in %) | MINIMUM QUALITY COSTS | MAXIMUM QUALITIES COSTS |
|--------------------|---------------|-------------------------------|-----------------------|-------------------------|
| 1                  | 2             | 3.                            | 4.                    | 5.                      |
| A <sub>1</sub>     | 0.02          | 9.52%                         | 0.01                  | 0.03                    |
| A <sub>2</sub>     | 0.05          | 23.81%                        | 0.03                  | 0.05                    |
| A <sub>3</sub>     | 0.08          | 38.10%                        | 0.05                  | 0.09                    |
| A <sub>4</sub>     | 0.06          | 28.57%                        | 0.05                  | 0.08                    |
| <b>TOTAL</b>       | <b>0.21</b>   | <b>100.00%</b>                | <b>0.14</b>           | <b>0.25</b>             |

Source: Adapted from company "X" business records

Data from the table show the amount of quality costs by activities and a share of certain costs in total quality costs. Furthermore, the table shows the cost for ensuring the minimum and maximum quality of performance of listed operations. These amounts will serve as a limit for the optimization of quality costs on the basis of the criteria of index values that will show us on which activities it is possible to reduce quality costs, without affecting product properties that are important to prospective buyers when making decisions about purchasing products. The remainder of this paper will use functional analysis, by applying a correlation matrix, to calculate the contribution of individual activities in achieving the required quality characteristics of the product and on the basis of thus obtained relative amounts an index value of individual activities will be calculated.

**Table 5** Correlation matrix of percentage contribution of certain costs of the action, referring to the cost of quality, the product properties 1

| Product properties | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | S <sub>4</sub> | S <sub>5</sub> | Overall       | RANG     |
|--------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------|
| ACTIVITIES         | %              | %              | %              | %              | %              | %             |          |
| A <sub>1</sub>     | 20<br>3.55     | 60<br>14.47    | 5<br>0.50      | 10<br>3.19     | 40<br>6.52     | <b>28.23%</b> | <b>3</b> |
| A <sub>2</sub>     | 40<br>7.09     | 10<br>2.41     | 10<br>0.99     | 0<br>0.00      | 0<br>0.00      | <b>10.50%</b> | <b>4</b> |
| A <sub>3</sub>     | 30<br>5.32     | 10<br>2.41     | 15<br>1.49     | 50<br>15.96    | 40<br>6.52     | <b>31.70%</b> | <b>1</b> |
| A <sub>4</sub>     | 10<br>1.77     | 20<br>4.82     | 70<br>6.95     | 40<br>12.77    | 20<br>3.26     | <b>29.57%</b> | <b>2</b> |

Source: Author's calculation

Table 5 shows the correlation matrix of percentile impact of certain activities on product properties and market assessment of importance of certain product characteristics. In the left column of the table are percentile impacts of certain product activities on required product properties by the market, which is obtained by analysing expert individuals. The right column shows the results obtained by multiplying the share of quality costs of individual activities in the overall quality costs with percentile influence of certain activities on product properties in order to calculate the contribution of individual activities to meeting market demands. The results of that matrix show which activities contribute the most to product quality from the customer's perspective and what activities have been unnecessary, i.e. for which activities would it be possible to reduce costs, without affecting product properties that are important to customers when making a purchasing decision. Rank of importance presented in the last column shows the ranking of individual activities based on their contributions to meeting market requirements. The

results show that "A-3" activity contributes the most to the achievement of product properties that are seen by potential customers as most important, and the smallest contribution was given to "A-2" activity. Depending on the range of specific activities, decisions can be made on in which activities it is possible to reduce costs. The value index, which represents the next step in the analysis of the value of certain activities, apart from indicating potential activities in which it is possible to reduce quality costs, will also enable making a decision on the size of that reduction

**Table 6** Value index calculation for activities that bear product's quality cost

| Activities     | Share in overall quality costs | Level of significance | Value index | Costs prior to reengineering (in HRK) | Costs after reengineering (in HRK) |
|----------------|--------------------------------|-----------------------|-------------|---------------------------------------|------------------------------------|
| 1.             | 2.                             | 3.                    | 4.          | 5.                                    | 6.                                 |
|                | Table 4                        | Table 5               | 3/ 2        | Table 4                               |                                    |
| A <sub>1</sub> | 9.52%                          | 28.23%                | 2.96        | 0.02                                  | 0.03                               |
| A <sub>2</sub> | 23.81%                         | 10.50%                | 0.44        | 0.05                                  | 0.03                               |
| A <sub>3</sub> | 38.10%                         | 31.70%                | 0.83        | 0.08                                  | 0.06                               |
| A <sub>4</sub> | 28.57%                         | 29.57%                | 1.04        | 0.06                                  | 0.06                               |
| <b>TOTAL</b>   | <b>100.00%</b>                 | <b>100.00%</b>        |             | <b>0.21</b>                           | <b>0.18</b>                        |

Source: Author's calculation

**Table 7** Importance of individual value index amounts

| VALUE INDEX | RECOMMENDATION  |
|-------------|---|
| IV > 1      | These activities are undervalued and although they are the most important from the customer's perspective, means that a company invests in them are scarce. It is recommended to give greater emphasis to these activities. |
| IV = 1      | Optimal   |
| IV < 1      | The recommendation is to reduce the amount of funds for these activities or it is needed to eliminate activities that do not create added value.  |

Source: Author's proposal

With value analysis that has been applied in order to determine the optimum quality costs it was determined that only of A-4 activity carries certain optimum quality costs that correspond to the impact of these activities on the properties of products that are required by the market. Quality costs observed through A- activity 1 are very low but are very important for achieving product properties that customers have listed as key factors when making purchasing decision, hence it is suggested that quality costs shown through the said activity be increased in order to reach the level of costs ensuring maximum quality. The costs of activities A-2 and A-3 need to be reduced to the minimum level, i.e. to a cost limit that ensures minimum quality. Decision to reduce or increase the costs are based on the value index. Costing quality after re-engineering of business processes related to quality management are shown in column 6 of the previous table where it can be seen that the quality costs using the integrated cost management model decreased by 14.29%, and by doing so quality cost optimization has been achieved respecting customer demands, which proves the set hypothesis.



## 6. Conclusion

The results of a research on opportunities to reduce quality costs for a product showed that the application of an integrated model helps to reduce these costs, provided that the total difference covers the additional costs of introducing an integrated cost management system. A **hypothesis**, which assumed that integrated cost management systems have more impact on reducing quality costs than the use individual methods of modern cost management is proven. Quality costs have been observed as costs of activities and were distributed to products using the ABC method, and then were subjected to value analysis and Kaizen calculation in order to determine their optimum amount with regard to the degree of contribution of individual activities to product characteristics required by the market. Method of simulating was used to calculate quality costs accrued within the integrated model and using a comparative analysis it was concluded that the application of integrated model achieves lower quality costs compared to application of individual cost management methods.

## REFERENCES

- Barkley, B. T. (2007): *Project Management in New Product Development*, McGraw-Hill Professional
- Drljača, M. (2004): *Mala enciklopedija kvalitete V. dio – Troškovi kvalitete*. Zagreb: Oskar
- Feigenbaum, AV. (1956): *Total Quality Control*, Harvard Business Review, Vol. 34 No.6, 1956, p. 93-101
- Garrison, R.H., Noreen, E.W. & Brewer, P.C. (2006): *Managerial accounting*. 11th ed. New York: McGraw-Hill Irwin.
- Hilton, R.W., Maher, M.W., Selto, F.H. (2000): *Cost Management*, Irwin McGraw Hill
- Jenkins, D. *The Economics of Quality*. Available at: [www.bettermanagement.com](http://www.bettermanagement.com), (Accessed on: May 12, 2012)
- Rogošić, A. (2009): *Računovodstvo troškova u funkciji upravljanja kvalitetom*, Ekon. misao praksa dbk.year XVIII. no.1, 2009, p.117
- Peršić M. (2000): *Upravljanje troškovima kvalitete*, Zbornik radova, Zagreb. Oskar, p.146
- Potnik Galić, K. (2015): *Strateško upravljanje troškovima – Primjena suvremenih metoda upravljanja troškovima*. Požega: Veleučilište u Požegi
- Šiško Kuliš, M., Grubišić, D. (2010): *Upravljanje kvalitetom*. Split. Sveučilište u Splitu, Ekonomski fakultet

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## **POSSIBILITY OF IMPLEMENTING BALANCED SCORECARD MODEL IN MICRO-ENTERPRISE'S BUSINESS**

### **MOGUĆNOSTI IMPLEMENTACIJE BALANCED SCORECARD MODELA U POSLOVANJE MIKRO PODUZEĆA**

#### ***ABSTRACT***

*Micro-enterprises with their numerousness and business specificities are of great importance for the Croatian economy. In key strategic documents of the Republic of Croatia micro-enterprises have their place and a role as holders of realization of certain strategic objectives at the national level. Namely, at a national level strategic documents have been adopted in which target values and indicators are set based on which the effectiveness and implementation of the strategic goals will be evaluated for the strengthening of the economy, industry development, innovativeness strengthening and the acquisition of necessary knowledge and skills for creating the conditions for a successful and sustainable business. Holders of activities for realizing specific strategic objectives are also micro enterprises, which, if the focus themselves to contribute with their success to the realization of the strategic objectives set at national level, can improve their performance. One way to ensure this is to implement the Balanced Scorecard model (BSC model) and to improve business performance via implementation of their strategic direction and thereby enable themselves to actively participate in strengthening the entrepreneurial activities at the local, regional and national market. This paper presents an overview of research on the possibilities and limitations of implementing the BSC model in the business of micro-enterprises for the purposes of improving business performance. The aim of this paper is to analyse the possibilities of implementing the BSC model in the business of micro-enterprises. A review of some previous research and criticism on this subject, it was concluded that the application of the BSC model in micro-enterprises is a rather limited, but with the adaptation of the model it is possible to apply this model for measuring and monitoring business performance of micro-enterprises.*

**Key words:** *Balanced Scorecard model, business management, micro-enterprise, limitations of the BSC model implementation in micro-enterprises.*

## SAŽETAK

*Mikro poduzeća svojom brojnošću i specifičnostima poslovanja imaju veliko značenje za hrvatsko gospodarstvo. U ključnim strateškim dokumentima Republike Hrvatske mikro poduzeća imaju svoje mjesto i ulogu kao nositelji realizacije određenih strateških ciljeva na nacionalnoj razini. Naime, na nacionalnoj razini doneseni su strateški dokumenti u kojima su postavljene ciljne vrijednosti i indikatori temeljem kojih će se vrednovati učinkovitost i realizacija postavljenih strateških ciljeva za jačanje gospodarstva, razvoj industrije, jačanje inovativnosti i stjecanje znanja i vještina neophodnih za stvaranje uvjeta za uspješno i održivo poslovanje. Nositelji aktivnosti kojima se realiziraju određeni strateški ciljevi su i mikro poduzeća, koja ukoliko se usmjere da svojom uspješnošću doprinesu realizaciji strateških ciljeva postavljenih na nacionalnoj razini, mogu poboljšati i svoju uspješnost. Jedan od načina da to osiguraju je da implementiraju Balanced Scorecard modela (BSC modela) i provedbom svojih strateških usmjerenja poboljšaju uspješnost poslovanja i time si omoguće aktivno sudjelovanje u jačanju poduzetničkih aktivnosti na lokalnom, regionalnom i nacionalnom tržištu. Ovaj rad prikazuje pregled dosadašnjih istraživanja o mogućnostima i ograničenjima primjene BSC modela u poslovanje mikro poduzeća u svrhu poboljšanja uspješnosti poslovanja. Cilj rada je analizirati mogućnosti implementacije BSC modela u poslovanje mikro poduzeća. Pregledom nekih dosadašnjih istraživanja i kritika na tu temu, donesen je zaključak da je prilično ograničena primjena BSC modela u mikro poduzećima, ali uz prilagodbu modela moguće je primijeniti ovaj model za potrebe mjerenja i praćenja uspješnosti poslovanja mikro poduzeća.*

**Ključne riječi:** *Balanced Scorecard model, upravljanje poslovanjem, mikro poduzeće, ograničenja primjene BSC modela u mikro poduzećima.*

### 1. Introduction

Business performance management of enterprises is more and more complex process that requires a holistic approach to business analysis, in order to use the obtained information and data to make effective decisions. Because of this the Balanced Scorecard (BSC) was created, one of the most used systems for measuring the effectiveness of the strategic management system that is applicable to different forms of organizations.

Managing and measuring business performance is a complex process in which it is necessary to cover the whole range of factors that affect business performance. Therefore, enterprises should choose a set of interrelated key performance indicators whose measurement and monitoring can lead to better management, control and performance improvement. That can be achieved by using an appropriate performance measurement system. In addition to measurements, it is necessary to ensure the comparison with certain standard sizes in order to better perceive the realized level of performance.

The following describes the BSC model, as one of performance measurement systems, and the possibility of its application in business of micro-enterprises.

### 2. Balanced Scorecard Method as Business Performance Management Model

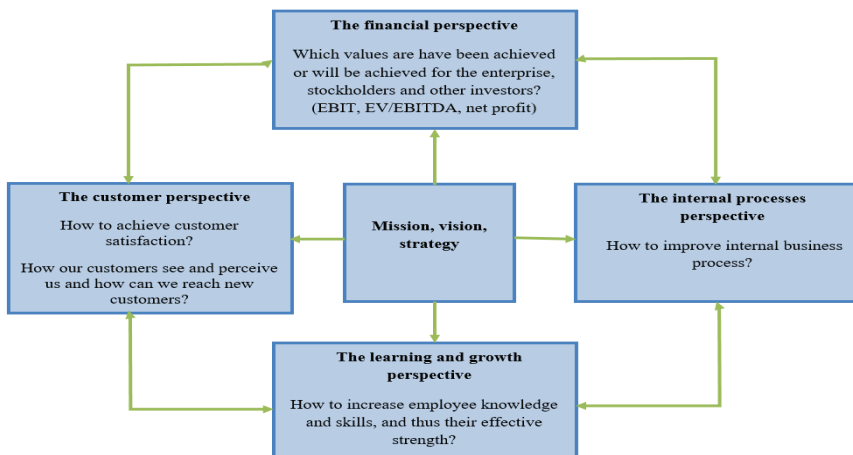
Developers of the Balanced Scorecard models are David Norton and Robert Kaplan, who in the early 1990s of the last century, based on research carried out on a large number of businesses have created one of the most widely used system for the strategic management and business performance measurement. They called it the Balanced Scorecard (BSC). The BSC model has

emerged as a result of the lack of adequate indicators of business performance by enterprises, i.e. the use of only the traditional financial indicators focused on past events which due to a number of defects, such as non-affiliation with the intangible aspects of performance measurement, highly emphasizing results rather than causes; lack of strategic communication etc., have become insufficient for the strategic management in the increasingly dynamic business environment. In order to apply an appropriate system of strategic management and business performance measurement in such conditions, it is needed to measure not only tangible assets, but also to monitor the value of intangible assets such as customer relations, relationships with suppliers, production and process innovation, customer satisfaction, employee satisfaction and other. The BSC model integrates financial and non-financial indicators and translates the strategy of an organization into set objectives, measures and initiatives in four balanced perspectives (Kaplan, Norton, 1996a: 169):

1. The financial perspective,
2. The customer perspective,
3. The internal processes perspective and
4. The learning and growth perspective.

Kaplan and Norton (2005) cite four basic perspective as the way in which the management has the ability to create their own visions and strategies in defining activities. As can be seen in the Figure 1, the perspectives are related to each other and there are causal links between them. For quality construction of the BSC model it is essential that those responsible decide and form four main perspectives. However, it is possible in case of specific business areas, to add another perspective that would complement strategic objectives. Areas on the basis of which it is possible to consider expanding the number of perspectives are "creditors, own sources of capital, suppliers, communication, organization, mergers and acquisitions, environmental protection, public, technological competences and innovations" (Lončarević, 2006: 122).

*Figure 1 The basic structure of the Balanced Scorecard and the connections between its elements*



Source: Belak, 2014:316

Figure 1 shows the basic structure of the BSC model and connections between the individual elements. Model's basis is defining missions, visions and strategies of an enterprise, based on which are defined goals, objectives, indicators and measures and activities in all four perspectives. Targets and indicators of each perspective are made on the basis of the strategy, and the strategy is made and defined from the perspective of the owners and clients. The process of defining causal relationships begins by defining the objectives of the financial perspective, then goals of customers' perspective, goals of the internal processes and ultimately, goals of the learning and growth perspective. After defining clear objectives and indicators for all four perspectives and defining the relationship between them, it is necessary to draw up a strategic map. "Strategic map is a diagram which, by connecting strategic objectives of causal connections in all four perspectives of the BSC model, describes how an entity creates a new value" (Budimir, 2011: 186.187).

Strategic map is a graphical representation of all the necessary information on a single page on which strategic goals and execution strategies are visible. For each of the four perspectives elements, processes, value for customers, owners, employees and the environment are presented, which through the causal relationship lead to the realization of the defined strategy. When defining the indicators and measures it is necessary to determine the target level to be achieved by each measure in order for an enterprise to achieve strategic objectives and a successful business. Therefore, the strategic map of the objectives is a prerequisite for defining the strategic map of measures and activities plan. The strategic map determines the measures which will be used for measuring the level of achievement of business goals, and sets limits to measures' values for quantifying the achievement of set business goals. Activities plan plans activities for achieving business goals, and plans the necessary financial resources for implementation of the aforementioned measures.

Once set up, the BSC model is not unchangeable and it needs to be adapted according to changes, of both changes in factors in the environment, and internal factors. In doing so, any change has to be aligned with the strategy, mission, vision, objectives and business processes. It is therefore essential that in designing the BSC model and its amendments participates the responsible person (owner, manager) who can use the management process to introduce the set model to all employees.

### **3. Criticism of the BSC Model and Possibility of Implementing Balanced Scorecard Model in Micro-Enterprises**

Today's business conditions require enterprises to quick, flexible and planned adaptation to changes. The holders of adaption to changes process, and also their prerequisite, is an effective management and controlling system. That is what the BSC model was originally developed for and implemented to meet the needs of large enterprises in which there are managerial and analytical resources, business is based on strategic documents and operational controlling. However, in the last 20-odd years the BSC model has found its application in organizations of various types and sizes. Numerous studies have demonstrated the popularity and the implementation of the BSC model in different organizations. (Rigby, Bilodeau, 2011) According to the results of a recent research on management tools and techniques, conducted by Bain & Company (Rigby, Bilodeau, 2011: 4.7), it is seen that the BSC model is one of the 10 most used tools and techniques in small, medium and large enterprises, and that it is most used in Latin America, and the least in North America.

The application of the BSC model in small enterprises is the subject of scientific and technical research in the last 15 years because it is believed that small enterprises have limitations for the application of this model. Thus, some authors have criticized the possibility of implementing this model for the purpose of strategic management in small enterprises. Krajnović, Lordanić - Lukavac and Jović (2012: 72) consider that SMEs are faced with limitations caused "primarily due to a lack of managerial and analytical expertise, insufficient consideration for strategic aspects of the business, i.e. strategic, and very also operational, controlling." The same authors believe that it is possible to apply the BSC model in the business of small and medium enterprises, but with advisory assistance to managers, and that enterprises that use this instrument can expect improvement and success compared to their competitors.

Norrekliit (2000) believes that it is difficult or even impossible for enterprises to find appropriate measurable success indicators for new activities, especially those whose effects an enterprise did not feel in its business performance. One such new situation for an enterprise may be the introduction of innovations to ensure a competitive advantage. The same author believes that a gap may appear between the strategic plan and adopted and implemented strategy because it ignores the causes that may create obstacles and problems of implementing the strategy.

Regardless of enterprise's size, Potnik Galić (2015) considers that it is important to apply modern methods of management in the business, pointing out the advantage of using the Balanced Scorecard techniques in the management. The same author states that "the BSC complements traditional financial indicators with criteria that measure enterprise's performance through three additional business perspectives" (Potnik Galić, 2015: 131).

The applicability of the model is most common in large enterprises, but these models are applicable in small and micro-enterprises as shown in previously published research (Zhang, Q., Guo.W., 2015; Basuony, 2014; Giannopoulos, Holt, Khansalar and Cleantous, 2013; McAdam, 2000). Common to results of these studies is that the BSC model can establish a comprehensive and effective system for evaluating working efficiency in companies that aim to maximize their value and that evaluate the effects in the field of finances, customers, internal processes and learning and growth. The model can be adjusted in order to obtain more objective and comparable measurability of business success.

Adjustments of the BSC model to business of micro-enterprises is necessary, because there are big differences in business of micro-enterprises and large enterprises for which the BSC model was originally designed. Differences in business between micro and large enterprises primarily relate to differences in operating activities (cash flow, relationship with customers, available human, and material and other resources, etc.) and on the way of managing and measuring the results of operations. Micro-enterprises, compared to large ones, have a more flexible organizational structure, close cooperation and contacts between the owner and employees, informal and personal management processes, difficulties due to limited resources and are mainly oriented to short-term business. In large enterprises the most common is organizational structure with multiple levels and more bureaucracy, owners have minimum contacts and cooperation with employees, management processes are formalized, larger availability of resources and long-term strategic oriented business. Those differences were the subject of research on the possibilities of implementing the BSC model in small and medium-sized enterprises. Basuony (2014) points out the lack of skills and knowledge, lack of financial and human resources and lack of strategic management techniques as the main obstacles for the implementation of the BSC model in small and medium-sized enterprises. Furthermore, the same author states that SMEs concentrate on financial and short-term goals, which reduces the

possibility of implementing the BSC model. In addition to these differences, McAdams (2000) critically considers that the BSC should improve visibility of the strategy at all levels, and that SMEs do not highly regard the usefulness of the BSC model and visibility strategies. Tenhunen et.al. (2003) in the results of their research indicate that the application of the BSC model in small enterprises may be affected by serious resource constraints and mentality that is present in small enterprises. Regardless of these limitations and differences in the operations of large and small enterprises, Birch (1998, according to Laitinen, Chong, 2006: 50) argues that it is possible to apply the BSC model i small enterprises, regardless the fact it was originally developed for large enterprises.

Implementation of the model in small enterprises is faster than in large enterprises (Andersen, Cobbold, Lawrie, 2001), while the process of designing is the same regardless of enterprise's size. The level of implementation of the BSC model in micro-enterprises was the subject of a small number of research. According to the research by Lönnqvist (2002, cited in Tenhunen et al., 2003: 1) the application of the BSC model in Finnish enterprises has been proven. According to the results, 31% of surveyed enterprises applied the BSC model (the sample included 129 enterprises with less than 20 employees), while 30% planned to implement the model. The same authors report the results of another study conducted in Finland (Rantanen et al., (2000), according to which 60% of small enterprises (excluding enterprises with less than 5 employees) have never even heard of the BSC model nor did they apply it.

According to the review of some previous research on the possibilities of implementation of the BSC model in micro-enterprises, and criticism on this subject, it can be concluded that the application of the BSC model in small enterprises is limited, but regardless of the existing restrictions, it can be assumed that by using a custom model the application of this model would be possible for measuring and monitoring business performance in micro-enterprises.

#### **4. Introduction of the BSC Model in Micro-Enterprise's Business**

Micro-entrepreneurs are often faced with a variety of to them insoluble situations which they call problems. They often consider a problem a situation when they have fewer customers, when they have too much inventory, when they fail to meet the needs and demands of customers due to limited resources and capacities, when they are short-term insolvent etc. These are precisely the reasons for the introduction and application of the BSC model in micro-enterprises in order for their owners / managers to have a complete supervision of their business.

In order to introduce the BSC model in micro-enterprise's business, its owner / manager should be given sufficient time, develop and introduce all employees to the strategy of development, defined strategic objectives and strategic maps, and ensure automated collection and processing of the necessary data.

For the preparation and implementation of the BSC model in micro-enterprises it is necessary to anticipate and provide sufficient time for the introduction of all employees with the upcoming activities. In addition to the period of preparation and implementation of the model, during the period of monitoring the development strategy it is necessary to continuously inform all participants in model implementation of the information collected, processed data, the achieved results and deviations. In this way, it will also enable monitoring of business success, and if the set strategic objectives of micro enterprise are met, the micro-enterprise has an open way towards growth and improvement of current business performance. If deviations are detected after the first period of comparison of realized and set targets, it is necessary to react by



analysing the areas in which the deviations occurred, and make necessary changes. If necessary, in the case of larger deviations, it is necessary to revise the existing development strategy and the BSC model, while ensuring that the set target values are still higher than the values achieved before the implementation of the model.

During the introduction of the BSC model there are possible problems that may result in an unsuccessful application of the model and incomplete implementation of the defined business strategy. The cause of possible problems is in the limits of micro-enterprises in comparison to medium and large enterprises in which this model is more applicable, considering the the model was originally designed for large enterprises. One of the limitations is the lack of managerial and analytical expertise and lack of strategic orientation of employees. The owners / managers of micro-enterprises may correct this flaw by additional training on enterprise management and the creation of high-quality information system for the implementation of the defined strategy. Another problem may be caused by inappropriately measurable indicators for individual strategic objectives and activities, because the proposed changes and strategic goals may have unpredictable effects on the micro-enterprise and a gap may incur between the defined and implemented strategy. Additionally, the lack of available financial resources, inflexibility in the way of management and short-term orientation of the owner of the enterprise can be considered as potential causes of unsuccessful applications of the BSC model in the business of micro-enterprises.

To apply the BSC model as a tool for defining and implementing the strategy of micro-enterprises, it is necessary to define and know the mission, vision and strategy of the enterprise. Using the said model, development strategy realization is implemented through four perspectives. In this case, according to Belak (2014: 313) enterprises should adhere to five principles of a strategy according to which it is necessary to: translate the strategy in implementing terms, focus the organization on strategy, translate strategy into specific everyday tasks, create a strategy as a continuous process and mobilize the leadership to changes .Regardless of the possible problems during the introduction of the BSC model, this model can build a comprehensive and effective system for evaluating working efficiency in micro-enterprises with a clearly defined development strategy.

## **5. Conclusion**

During the implementation of the BSC model enterprises find themselves in the process of learning, change and improve relationships and processes at all levels through feedback. Because of this, and all of mentioned above in this paper regarding the possibilities of implementing the BSC model in micro-enterprises, it can be concluded that the BSC model is a communication tool that allows monitoring the implementation of development strategies through involvement and awareness of all employees and external stakeholders to set goals and development strategy. In that was the alignment of vision and strategy with business activities is ensured, internal and external communication are improved and whether the results of operations are in line with set strategic objectives is determined. Precisely such approach to business can be used for better measuring financial efficiency and effectiveness, because in addition to financial factors, enterprise's performance is measured through the added perspective, namely customers, internal business processes and enterprise's growth. The implementation of this model allows monitoring and improving business performance which is necessary for micro-enterprises in the Republic of Croatia since micro-enterprises in the Republic of Croatia have generated a negative consolidated financial result for two years in a row. The model has to be adapted to each micro entrepreneur in order for it clearly and understandably accompanies the defined strategic



objectives. After the implementation of the model, through future research, it will be possible to analyse the implementation of defined strategic objectives and to compare results before and after the implementation of the model, and to quantify the impact of the implementation of the model on business performance.

## REFERENCES

Andersen, H., Cobbold, I., Lawrie, G. (2001). *Balanced Scorecard implementation in SMEs: reflection in literature and practice*. SMESME Conference, Copenhagen, Denmark. Available at: <http://www.csudh.edu/dearhabermas/smebal01.pdf>. (Accessed 24. July 2016).

Basuony, M. A. K. (2014). *The Balanced Scorecard in Large Firms and SMEs: A Critique of the Nature, Value and Application*. Accounting and Finance Research, 3 (2), pp 14-22. Available at: <http://www.sciedupress.com/journal/index.php/afr/article/viewFile/4315/2480>. (Accessed 17. March 2017).

Belak, V. (2014). *Analiza poslovne uspješnosti*. Zagreb: RRiF Plus d.o.o.

Giannopoulos, G., Holt, A., Khansalar, E., Cleanthous, S. (2013) *The Use of the Balanced Scorecard in Small Companies*. International Journal of Business and Management; 8(14) pp. 18-22 ISSN 1833-3850 E-ISSN 1833-8119. Available at: <http://www.ccsenet.org/journal/index.php/ijbm/article/view/26425> (Accessed 18. January 2017).

Kaplan, R. S. i Norton, D. P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Harvard Business Review, 78 (5), str. 167. – 176.

Kaplan, R. S., Norton, D. P. (2005). *The Balanced Scorecard - Measures That Drive Performance*. Harvard Business Review, July-August, 2005. Available at: <https://brainmass.com/file/1550245/BALANCED+SCORECARD.pdf>. (Accessed 23. March 2017).

Laitinen, E. K., Chong, G. (2006). *How do Small Companies Measure Their Performance*. Problems and Perspectives in Management, 4 (3), str. 49. – 68. Available at [http://businessperspectives.org/journals\\_free/ppm/2006/PPM\\_EN\\_2006\\_03\\_Laitinen.pdf](http://businessperspectives.org/journals_free/ppm/2006/PPM_EN_2006_03_Laitinen.pdf). (Accessed 23. May 2016).

Lončarević, M. (2006). *Sustav uravnoteženih ciljeva u funkciji uspješnosti poslovanja hrvatskih poduzeća*. Ekonomski pregled, 57 (1-2), str. 97. – 129. Available at: <http://hrcak.srce.hr/file/12207>. (Accessed 15. March 2017).

McAdam, R. (2000). *Quality models in an SME context: A critical perspective using a grounded approach*. The International Journal of Quality & Reliability Management, 17(3), pp. 305-323. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/02656710010306166> (Accessed 7. March 2016)

Norrekliit, H. (2000). *The balance on the balanced scorecard – critical analysis of some of its assumptions*. Management Accounting Research, 11, 65-88. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.466.3896&rep=rep1&type=pdf>. (Accessed 24. June 2016).

Potnik Galić, K. (2015). *Strateško upravljanje troškovima*. Požega: Veleučilište u Požegi.

Štavlić, K. (2016): *Success factors of micro-enterprises in the Republic Croatia*. Doctoral thesis. University Josipa Jurja Strossmayera. Faculty of Economics in Osijek.

Tenhunen, J., Ukko, J., Markus, T., Rantanen, H. (2003) *Applying Balanced Scorecard Principles on the SAKE-system: Case Telekolmio Oy*. Available at: [https://www.researchgate.net/profile/Hannu\\_Rantanen2/publication/265403102\\_Applying\\_Balanced\\_Scorecard\\_Principles\\_on\\_the\\_SAKE-system\\_Case\\_Telekolmio\\_Oy/links/54e704ae0cf277664ff77222.pdf](https://www.researchgate.net/profile/Hannu_Rantanen2/publication/265403102_Applying_Balanced_Scorecard_Principles_on_the_SAKE-system_Case_Telekolmio_Oy/links/54e704ae0cf277664ff77222.pdf). (Accessed 25. June 2016).

Zhang, Q., Guo, W. (2015). *Research on the Performance Evaluation of Small and Micro Businesses Microfinance of Commercial Bank based on Balanced Scorecard and Principal Components Analysis*. AASRI International Conference on Industrial Electronics and Applications (IEA 2015), 631-634. Atlantis Press. Available at: [www.atlantispress.com/php/download\\_paper.php?id=20592](http://www.atlantispress.com/php/download_paper.php?id=20592) (Accessed 24. July 2016).

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**INTERNAL AUDIT OF THE REPUBLIC OF SERBIA, CROATIA AND  
BOSNIA AND HERZEGOVINA - SITUATION, PROSPECTS AND  
TRENDS OF DEVELOPMENT**

**INTERNA REVIZIJA U REPUBLICI SRBIJI, HRVATSKOJI I BOSNI I  
HERCEGOVINI – STANJE, PERSPEKTIVE I TRENODVI RAZVITKA**

***ABSTRACT***

*Continuous exposure to a number of companies to market risks corresponds to their early identification and adjustment of the overall business objective given the market conditions. Management in the projection of strategic development directions required incorporates market risks, because only then traced company development strategy may result in the realization of the crucial goals of business operations, which are reflected in achieving maximum performance and continuous growth and development of companies. Modern economic theory has created a tool that allows management to adequately and timely identification and creation of the planned response to the current market risk, which is reflected in the new profession of internal auditing. The work will present the main characteristics of internal audit, the significance of its incorporation into the organizational structure of the company, as well as the achieved level of development and future development trends of internal audit in the Republic of Serbia, Croatia and Bosnia and Herzegovina. Authors will try, through comparative observation of internal audit in the observed three countries, to define the framework within which the future development trends of internal audit will change and its better implementation in business and greater effects on the management of the company.*

**Keywords:** *audit, risk identification, management, control operations.*

## SAŽETAK

*Kontinuirana izloženost poduzeća brojnim tržišnim rizicima korespondira njihovo rano identificiranje i prilagodbu cjelokupnog poslovanja objektivno datim tržišnim uvjetima. Menadžment u projekciji strategijskih pravaca razvitka obavezno inkorporira tržišne rizike, jer samo tako trasirana strategija razvitka poduzeća može rezultirati ostvarenjem ključnih ciljeva poslovanja poduzeća koji se ogledaju u ostvarivanju maksimalnog učinka i kontinuiranog gospodarskog rasta i razvitka poduzeća. Suvremena ekonomska teorija je kreirala jedan od alata koji omogućava menadžmentu adekvatno i pravovremeno identificiranje i kreiranje planskih reakcija na tekuće tržišne rizike koji se ogleda u novoj profesiji interne revizije. U radu će biti prikazane osnovne karakteristike interne revizije, značaj njene inkorporacije u organizacionu strukturu poduzeća, kao i dostignuti stupanj razvoja i buduće razvojne trendove interne revizije u Republici Srbiji, Hrvatskoj i Bosni i Hercegovini. Autori će kroz komparativno promatranje interne revizije u promatrane tri zemlje pokušati definisati okvir u kome bi se trebali kretati budući razvojni trendovi interne revizije i njene što bolje implementacije u poslovanju poduzeća i veće pozitivne efekte po menadžment poduzeća.*

**Ključne riječi:** revizija, identifikacija rizika, menadžment, kontrola poslovanja.

### 1. Introduction

Internal audit is an area that has recently been in the focus of observation that practitioners and theorists, as it is an important factor in the economic integration of the countries candidates for membership. Since the Republic of Croatia has the status of a full member of the European Union, experiences that she possesses in the process of building the system of financial management and control are valuable for all candidates for full membership in the European Union, including the Republic of Serbia and Bosnia and Herzegovina. It is through this work that the authors will attempt to draw a parallel to be the most acceptable way to point out the state of the internal audit profession in the current moment, as well as the expected trends and developments in the future. When this statement is supported by the fact that put a modern business environment characteristics after numerous risks faced by businesses in both the private and public sector, internal audit is increasingly gaining in importance, as is the very first dam risks that threaten survival and the planned economic growth of businesses. Internal auditing in this sense is a tool in the hands of the management of a business entity to predict and effectively manage business risks and is for any enterprise system value, which should be the mainstay of the business entity management for fighting fiercely with the risks in the business.

### 2. Internal audit - an instrument for risk management of a business entity

The focus of internal audit is focused only on those items of business which are immaterial, and the benefits from the operation of internal audit can be observed only by the regarding principle of cost - benefit business, under which it is justified to operate only those risks that are material. Although often internal audit identified with a view to reversing or archaeological methods, the importance of internal audit to spread in projections of future business ventures, and defining the basic balance sheet objectives. Of course, that when we talk about material events we must bear in mind that the significance of the material is not the same for all business events (e.g. they do not have the same importance for business events dealing with omissions in the activities of storing business records or omissions in inventory valuation, sales procedures etc., which can significantly affect the value of a business entity). Therefore, the treatment of internal audit as a clean budget item on the expenditure side is wrong, but it should be attributed to a proactive role in the business.

Although the internal audit itself is a post-control, i.e. post factum control, its role cannot be ignored in the projection of future business, because it is based on the research and identification of deviations from existing business take steps towards eliminating them or at least mitigate in order to create conditions for more efficient and economically effective business. Internal audit in an enterprise should be an integral part of each activity and each employee should revise the tasks that are within the scope of his work, and internal audit is an umbrella mechanism for the monitoring of the entire business set up by the top management of a business entity. The rapid development of internal audit in the current business circumstances resulting from an increasingly complex business, because the importance of internal audit is proportionally increasing with the degree of complexity of the business.

In order to revive the expected effects and tasks placed before internal audit, it is necessary that an internal audit system is compliant, or functionally connected with other parts of the business system, and above all, with a system of internal controls, such as check fraud. This prior internal audit puts sophisticated requirements to be play the role of controlling mechanism on the one hand and on the other hand to be an integral part of a complex system interacting with the rest of the business entity.

As part of the operation of the internal audit as basic tasks stand out above all continuous observation and analysis of the accounting system of internal controls, then internal audit sets the examination of financial and business information in its focus. The subject of internal audit is auditing economy, efficiency and effectiveness of operations and the pursuit of their continuous improvement and constant pursuit for the operation of a business entity compliance with laws, regulations and other procedural requirements that are placed in front of a business entity. The areas of operation of the internal audit comes out of its tasks, including a number of business areas such as planning the operation of a business entity, then its business policy, steps in defining strategies, fixed assets, labor relations, organizational - technical aspect of the business and all those areas that are of substantial importance for the ultimate outcome of the business, whether positive or negative.

Regardless of the tasks and areas of operation of the internal audit, it is necessary at this point to indicate that internal audit its crucial role in the management of risks in business, which has its direct repercussions on the survival and rational economic growth and development of the business entity. Because the risks have by their nature a significant impact on business, there is no doubt that they are the focus of observation of internal audit, directly under this goal and all the business decisions of management, because the future development of internal audit depends on them. High degree of independence and objectivity is required in action in expressing their opinions, and internal auditors are expected to communicate their opinion only when they verified true objective based on facts. Internal audits by itself presents a leading mechanism to conserve resources of a company and their active and productive participation in the realization of both strategic and tactical – operational goals and overall vision of business success. IT technology acquired primacy in the storage and management of information and other resources of the business entity, and the internal controls in its actions significant attention should be paid to this business segment, avoiding any neglect of its role.

In order to understand better the role and tasks of the internal audit new models of functioning of the organization appear in of eliminating the risks that may arise in the business. One of such risk management methods and the establishment of the model represents the "three lines of defense" that allows an efficient communication system business entity related to risk management and achieving productive roles of all participants in this process. This model allows the establishment of a permanent mechanism for the creation of a number of initiatives for more

efficient risk management and its main comparative advantage lies in its applicability to every form of organization, regardless of its size.

The essence of the model of three lines of defense involves the incorporation of three types of groups in risk management organization, which relate to (<https://na.theiia.org/standards-guidance/Public%20Documents/PP%20The%20Three%20Lines%20of%20Defense%20in%20Efective%20Risk%20Management%20and%20Control%20Serbian.pdf>):

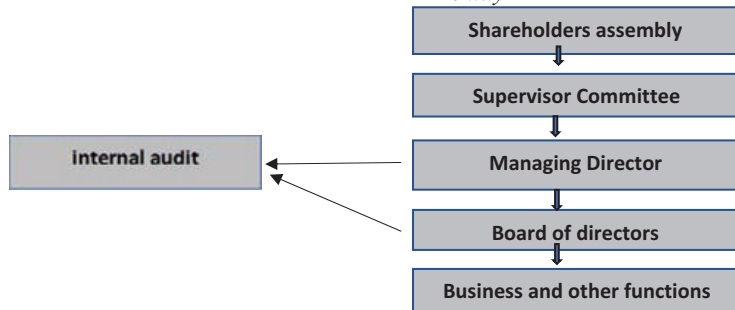
1) **"Risk owners" who are engaged in operational risk management** - are directly involved in operational risk management, but also take active measures to address the shortcomings identified function defined processes and controls company.

2) **The functions of supervising risk** - the role of leadership in risk management is inevitable, but we should not ignore the role played in this process have a tool that directly supervise risks, within which to carry out activities related to operational risk management function, then the function of compliance which aims to control over specific forms of risk arising from the mismatch between the activities of a business entity with laws and applicable legal regulations and controlling activities which focuses its activities have control of the financial risks and issues of importance to the improvement of financial reporting.

3) **Internal Audit** - allows management of a business entity acquiring the information on the effectiveness and economic efficiency of the management process, and then evaluate the coordination of risk management and assessment of the overall benefits that brings rationally established system of internal control. The role of internal audit is primarily reflected to rationally established system of asset protection, reliability of the process of financial reporting, focusing on harmonization of business with current legislation.

What will be the mode of operation of the internal audit organization depends primarily on the specific exogenous and endogenous factors that have a decisive influence on the business existence. By analysis of the practical and theoretical discussion of the models of organization of the internal audit will notice that there are different forms of organizations such as internal audit of its inclusion in the accounting function of the business entity, then the incorporation of internal audit in the finance function, then as a component, an integral part of planning and analysis functions, or its direct subordination top manager. According to the authors of this paper the optimal solution is to organize internal audit organizational unit directly subordinated to top manager, a vision of the organizational form shown in the following chart:

*Figure 1 Organizational positioning of the internal audit function of the director of a business entity*



*Source: The idea of the author based on official literature*

Analyzing the image we see in number 1, and it is also the opinion of the author of this work is the best form of organization of internal audit in an enterprise is positioning of Internal Audit under the direct subordination general director, or board of directors. Because they are responsible for the performance and the legality of operations, positioning internal audit under their direct jurisdiction exercised fully tasks set before internal audit, which is reflected in eliminating or lowering risk in productive functioning of the business entity and ensuring compliance with legal requirements.

### 3. Internal audit in the public sector - the presumption of integration into the European Economic Association

The implementation of internal financial control in public sector entities provide numerous comparative advantages , which is particularly significant because the public sector has funds owned by the entire community and is economically efficient and effective management of these funds, the priority of all participants in social life. In this sense, it is necessary to identify three basic functions that internal financial control possession in the domain of the public sector:

*Table 1 Internal financial control and its functions in the public sector*

| <b>Characteristics</b>   | <b>Financial inspection</b>                                     | <b>Internal audit</b>                                  | <b>Internal Control</b>    |
|--|---|--|----------------------------|
| <i>Frequency</i>   | Sporadically<br>Unexpectedly<br>Upon receipt of the information | Periodically<br>Systematically                         | Continuously               |
| <i>Attitude towards organizational part that is the subject of control</i> | Independent or Parent   | Internal   | Incorporated in Management |
| <i>Direction</i>   | Management<br>Transactions<br>Persons/Individuals               | System results   | Systems                    |
| <i>Objectives(Tasks)</i>   | Compatibility<br>Detection of the irregularities                | Reassurance<br>Efficiency<br>Economy and Effectiveness | Good Realisation           |
| <i>Methodology</i>   | Instruction for control exercises                               | Standards  | Audit trail                |
| <i>Consequences</i>  | Penalties   | Recommendations  | Corrections                |
| <i>Accountability</i>  | Complete accuracy   | Assessment and Advice                                  | Supervision                |
| <i>Role (Function)</i>   | Police officer  | Consultant   | Leadership                 |

Source: <http://www.msp.co.rs/biblioteka/Uloga%20revizije%20u%20javnom%20sektoru.pdf>

Looking at Table 1 we see no fundamental differences between internal audit and internal control, since it often happens in non-academic circles of the two identical economic categories. While the internal control is a constant activity of public sector entities, which is aimed at taking corrective actions, internal audit is a periodical activity, and its activity is based on the recommendations of improving the efficiency of the system.

"When we talk about internal audit in the public sector we should bear in mind that it has a significantly broader aspect of observation in relation to the audit of the economy because with the audit of public funds there is a wider public interest since it is the means that represent the interest of the whole society . ." (Gravorac, Šijan, Kovač, 2017).

In order to confirm the above statement there are just some of the tasks that are put before an internal audit in the public sector: (Internal Audit Manual in Serbia - internal training materials Internal Auditors, 2012, p. 2):

- 1) Analysis of the effectiveness and efficiency of the internal control system,
- 2) The audit in the public sector to analyze the correctness of such a structure should ensure efficiency in the use of public funds,
- 3) Consideration of the legality and regularity of the transactions,
- 4) Analytical approach to their work that is reflected in the fact that as a starting point the audit should be focused on an overview of the characteristics of the audited entity, responsibilities and problems facing the audited entity, as well as consideration of the administration and organization of the audited entity and
- 5) An active approach which implies that audit activity must be characterized by constructive attitude which should provide the changes and that the ultimate goal should result in maintaining constructive and appropriate relationships with public officials who are subject to control, as well as finding the proper timing and approach applied to reporting on audit findings.

Regardless of whether the internal audit conducted in the public sector in the economy or what is unambiguous is that internal audit assumes a key role in raising the efficiency and effectiveness of operations with a continued ability to comply with legal provisions of the maximum possible extent.

#### **4. The achieved level and prospects of development of internal audit in Serbia, Croatia and Bosnia and Herzegovina**

Understanding the concept of internal audit and its existential mechanism required to work within a brief look at the achieved level of development of internal audit in Croatia, Serbia and Bosnia and Herzegovina since all three countries gained independence and started its process of European integration after the breakup of Yugoslavia.

The Republic of Croatia as a full member of the European Union is an example of a country that has successfully implemented the process of European integration and to become a full member of the European Union and an example to Serbia and Bosnia and Herzegovina to successfully evaluate and complete the process of Euro-Atlantic integration.

#### **5. Internal audit in Croatia**

In Croatia, there are three basic types of audit, namely: national, external and internal audits. The holder of the implementation procedures of the state audit is the State Audit Office, and the legal basis of functioning of government auditing is the new Law on State Audit. The first version of this law was passed in 1993 and has so far undergone many changes, but only the functioning of the State Audit Office is regulated by the State Audit Office (Official Gazette 80/11). External



audits are conducted by professional organizations in your field of work with an audit of operations. The legal framework for the regulation of the external audit Act (Official Gazette 146/05, 139/08 and 144/12). The largest auditing businesses which conduct internal audits in Croatia are: "Deloitte Croatia", "Ernst & Young Croatia", "KPMG Croatia" and "PricewaterhouseCoopers Croatia".

The main role of internal audit in general, as well as internal audit in Croatia is reflected in the "preservation" of health organizations. Adequate organizational and functional structure of internal audit is in the interest of the owners of capital, and in the interests of the management of a business entity, because its main role is to preserve invested capital owners, eliminate or mitigate the risks and legality of operations, and its tasks are carried through the removal of advisory opinions or recommendations. Looking at the achieved level of development of internal audit in the Republic of Croatia and analyzing many practical resources we come to the conclusion that it is characterized by a lower level of development compared to countries with high market development. Analyzing the achieved level of development of internal audit in the Republic of Croatia, we can see that the short-term, and long term can identify the main challenges for the profession of internal auditing, which is reflected in the ever increased need for educated and qualified internal auditors and the high level of quality in the implementation of internal audit procedures. The importance of internal audit is particularly evident in the attraction and use of European funds and increasing transparency. In the previous period, Inter auditing profession was established through the establishment of a large number of internal audit units trained and professionally trained internal auditors and made basic procedures used in conducting internal audit activities. The Croatian Institute of Internal Auditors gave an important role of internal audit development.

In this paper, we will especially concentrate on the area of internal audit in the public sector, since it is precisely the area where Croatia made important steps. Internal audit in the public sector is defined by the International Auditing Standards for Internal Auditing (IIA IPPF), and the regulations and guidelines that define the internal audit in the Republic of Croatia, primarily the Law on Internal Financial Control System (Official Gazette 141/06) Ordinance on internal audit of budget users (Official Gazette 35/08) and other regulations. In Croatian legislation there is no obligation to establish independent internal audit units which could be placed under the direct control of the Head of public sector entity. Public sector entities in which there is an obligation to establish an internal audit unit that is organizationally and functionally independent are primarily Ministry, State bodies, which have more than 50 employees and an annual expenditure of more than 80 million k, as well as extra-budgetary users who have more than 50 employees and annual expenses and expenses exceeding 80 million k, the county, then a city of Zagreb, and other cities that have the status of county seats with more than 50 employees and cities with more than 35000 inhabitants. Other public sector entities, covered by the legislation have the obligation to conduct internal audits. What is the most important and the main advantage of internal audit in the public sector of the Republic of Croatia is that there is a framework law that regulates this area.

In the context of analyzing the achieved level of development of internal audit in Bosnia and Herzegovina we will point primarily on its development trend in the public sector, since in this sphere, achieved significant results. The umbrella law that regulates the field of internal auditing in Bosnia and Herzegovina is the Law on Internal Audit of Institutions of Bosnia and Herzegovina, which was passed in 2008. Law on Internal Audit of Institutions of Bosnia and Herzegovina is determined by the scope of the operation of the internal audit, which mainly covers all institutions of Bosnia and Herzegovina, as well as public companies in which the state is the majority owner, the central body for the implementation of the internal audit within the

public sector is the Ministry of Finance and Treasury of Bosnia and Herzegovina and an integral part of the Central unit for internal Audit institutions of Bosnia and Herzegovina.

In the end, we can conclude that the internal audit in Bosnia and Herzegovina is a young and undeveloped profession regardless of whether it is viewed in the private domain or in the domain of the public sector. Intensive development of internal audit in Bosnia and Herzegovina, starting from 2004 when they made the first legal solutions in the field of accounting and auditing, which regulate the field of internal auditing at both the entity and Brčko District. The initial trigger for the implementation of internal audit lies in the obligation of application of International Accounting Standards and International Standards on Auditing. Also, with the development of the external audit it became necessary for the development of internal audit because the audit procedures of the external audit if they are supported by internal audit contribute significantly to improving the quality and time efficiency in conducting the audit process.

Approaching the EU Chapter 32 - Financial Control gave a significant support, which imposes the need for organizational - technical and fundamental - the formal existence of internal control.

Internal audit in the Republic of Serbia is very young and in the phase of intensive development. Like any profession in the development of the internal audit in Serbia is established primarily through ongoing training and certification of internal auditors. Businesses with private capital, as well as business entities in which the state has majority ownership, have realized the importance of internal audit. Certification of Internal Auditors (officially: certified internal auditor) performs Chamber of Certified Auditors at the Ministry of Finance of the Republic of Serbia, while the certification of internal auditors in the public sector conducted by the Ministry of Finance or the CHU. The need for the implementation of internal audit in entities with majority private capital imposed by the market economy itself, because the interest of the owner to offset the capital to the extent possible, all the market risks and the preservation and enlargement of the economic substance of the business entity. On the other hand, the internal audit in the public sector begins its development within the process of European integration of the Republic of Serbia and in preparation for the opening of the above-mentioned sections 32<sup>nd</sup>.

In order to effectively prepare for the process of European integration and implementation of internal audit in the public sector of the Republic of Serbia the state adopted the Strategy for Development of internal financial controls in the public sector in the Republic of Serbia published in the Official Gazette of the RS No. 61/2009 and amendments and supplements published in the Official Gazette of RS No 23/2013. As part of the Strategy the main strategic directions of development of internal financial control were defined, with a special focus on the internal audit in the public sector. The aim of the adoption of the Strategy is reflected in the Creation of a comprehensive and effective system of internal financial control in the public sector in order to ensure greater protection of public funds.

A crucial problem in the development and implementation of internal audit in the public sector of the Republic of Serbia is the lack of a single legal framework for the existence and functioning of internal audit, because if we compare Serbia with the aforementioned countries, it is clear that only in Serbia there is no single legal framework that regulates the issue of internal audit the public sector, which is actually a significant problem, because there is no single legal act regulating all issues related to internal audit.

Looking at the process of internal auditing of the public sector in the Republic of Serbia as a major shortcoming we noticed the lack of adequate ways of reporting on the operation and effects of internal audit, namely the lack of a framework for direct reporting of the results of internal audit. A significant problem in the functioning of the internal audit of the public sector of the Republic of Serbia are dilemmas on enforcement techniques of internal audit in terms of

the need for an order for enforcement of internal audit. In fact, there are differences that the internal auditor after the adoption of the Annual Work Plan should receive special order for each audit individually, or the fact that the adopted annual plan does not require the need for re-issuance of the order. If we observe the organization of internal audit in the system of local self-government, there are differences with respect to the internal auditor should be an employee or an internal auditor should be appointed person, about which there is also no unified position, since in some local governments the internal auditor is an employee, some with the status of an appointed person.

With the developing internal auditing profession there is a growing number of recommendations that define the internal auditors, but on the other hand, notable drop in the degree of implementation, and the implementation of recommendations which best testifies to interrelate 2009, where 78.8% of implemented recommendations of the internal auditor, while this degree in 2014 is much lower and is at a level of 62.4%, which represents a significant decline. In fact, with the development level of implementation of internal audit recommendations should have a growing trend, which only shows that the city's internal audit is not clearly and precisely defined.

In order to justify its role the internal audit it must be established and function as an independent unit completely independent of the object of the internal audit, which is often not the case. All this indicates that only the existence of a single legislative framework governing all the issues relevant to the Internal Audit and only in this way will enable the development of internal audit in the anticipated direction.

## 6. Concluding remarks

Recapitulating so far analyzed the matter clearly we can see that the development of internal auditing by the crucial issue of public importance that should be treated rationally and applying interdisciplinary knowledge and experience. The development of internal audit in the domain of the private sector, particularly bank sector goes much faster, because the owners saw all the advantages that brings internal audit. Public sector entities gradually become established internal audit in its existential operation, but we see significant obstacles to the development of internal audit of public sector entities. Special difficulties are identified in the Republic of Serbia, where there are numerous obstacles to the development of internal audit of public sector entities. This is particularly reflected in the lack of a single legal framework that regulates the issues of internal audit. Because of this it necessary to point out that a single legal framework, professionally educated and trained staff and complete organizational and functional independence of the 'conditio sine qua non' of internal auditing. Only in this way the full effect of all the benefits can be seen and they bring implementation system of internal control in subjects both public and private sector and to consider all positive trends of the internal audit.

## REFERENCES

Gravorac S., Šijan G. Kovač A. (2017). **Implementation of internal audit in public sector entities as prerequisite Serbian european integration**, in "The economic policies of small countries in terms of European integration", University of Banja Luka, Faculty of economics, February 7 – 8, 2017.

Internal Audit Manual in Serbia - internal training materials Internal Auditors, Ministry of Finance, Belgrade, 2012.

Ljubisavljević, S. (2013). Organizovanje i zadaci interne revizije u domaćim i stranim bankama u republici Srbiji, Ekonomski horizonti, sveska 1, str. 45 – 59.

State Audit Office is regulated by the State Audit Office (Official Gazette 80/11).

Strategy for Development of internal financial controls in the public sector in the Republic of Serbia published in the Official Gazette of the RS No. 61/2009 and amendments and supplements published in the Official Gazette of RS No 23/2013.

The legal framework for the regulation of the external audit Act (Official Gazette 146/05, 139/08 and 144/12).

<http://bif.rs/2015/02/sta-su-danas-kljucni-zadaci-interne-revizije/> (date of access:16.02.2017.)

<https://na.theiia.org/standardsguidance/Public%20Documents/PP%20The%20Three%20Lines%20of%20Defense%20in%20Effective%20Risk%20Management%20and%20Control%20Serbian.pdf> (date of access:16.02.2017.)

<http://www.msp.co.rs/biblioteka/Uloga%20revizije%20u%20javnom%20sektoru.pdf> (date of access: 19.02.2017.)

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## **WHEN TO BUY AND WHEN TO SELL-DETERMINING THE RIGHT VALUE OF A STOCK**

### **KADA KUPITI, A KADA PRODATI – ODREĐIVANJE PRAVE VRIJEDNOSTI DIONICE**

#### ***ABSTRACT***

*The “wisdom” behind trading in the stock exchange market, primarily with stocks, is to know if a stock is overvalued or undervalued in the market at a particular moment. Only when obtaining that information, we can start a serious and responsible stock trade. We often hear how investment advisers and experts advocate collecting as many relevant information as possible, before coming to an investment decision, but ironically don’t advise how to come to a decision from the collected information. From this it can be concluded that investing is actually more art than not science, and that the true value of a stock can be revealed through inspired intuition.*

*The market price of a stock is not always its fair price, a great interest for a stock can rise its price too high only to drop it too low. This paper explains and suggests how to determine the real, i.e. normal value of a stock. To determine that value, this paper considers certain stock valuation methods and their interrelationship with the firm valuation methods. Information on overvaluation and undervaluation of a firm’s stock on the market can be provided by composite indicator [C(hm)] whose structure and role are discussed in this paper. The value of the indicator refers the potential investor to an appropriate stock market move.*

*It’s important to mention that this paper approaches the stock evaluation as an ideal segment of a firm. The quality of firm’s business and its potentials are often strong indicators of the stock value in long term. This paper also includes a relatively unknown firm valuation method, the Compounded Cash Flow method (CCF). Combined with the usual methods, it provides a more precise firm evaluation, i.e. more precise stock evaluation. The goal of this paper is to show the possibilities of a thorough and comprehensive stock value analysis with an end to choose a suitable moment to sell or to buy on the stock market.*

**Key words:** *Stock value, firm value, overvaluation/undervaluation.*

## SAŽETAK

*Temeljna „mudrost“ trgovanja na burzama vrijednosnica, u prvom redu dionica, je znati je li je neka dionica u danom trenutku precijenjena ili podcijenjena na tržištu. Tek imajući tu informaciju može se ući u ozbiljnu i odgovornu trgovinu dionicama. Vrlo često se ističe činjenica da većina investicijskih savjetnika i stručnjaka preporuča savjesno prikupljanje što većeg broja relevantnih podataka prije donošenja investicijske odluke, ali ironično, ne objašnjavaju na koji su način došli do zaključka izvedenog iz prikupljenih podataka. Na temelju toga moglo bi se zaključiti da je investiranje umjetnost, a ne znanost i da se prave cijene dionice dolazi kroz nadahnutu intuiciju.*

*Dionice ne vrijede uvijek onoliko po koliko se prodaju, ponekad masovno oduševljenje za neku dionicu cijenu podigne previsoko, a potom spusti prenisko. U radu se objašnjava i predlaže kako odrediti pravu tj. normalnu vrijednost dionice. Da bi se takva vrijednost mogla odrediti razmatraju se neke od metoda procjene vrijednosti dionica i njihov međuodnos s metodama procjene vrijednosti dioničkih društava (tvrtke) kao izdavatelja tih dionica. Informacija o podcijenjenosti ili precijenjenosti dionica neke tvrtke na tržištu može se dobiti pomoću kompozitnog pokazatelja  $C(hm)$  čija se struktura i uloga razlaže u radu. Vrijednost pokazatelja upućuje potencijalnog investitora na odgovarajući potez na burzi.*

*Važno je napomenuti da se u radu pristupa vrednovanju dionice kao idealnog dijela dioničkog društva, te da kvaliteta poslovanja dioničkog društva i njegovi potencijali, bitno utiču na vrijednost dionica u dugom roku. Pored navedenog, u radu se koristi i relativno nepoznata metoda procjene vrijednosti tvrtke tzv. metoda ukamaćenih novčanih tokova (CCF) koja, u kombinaciji s ostalim uobičajenim metodama, daje pouzdaniju procjenu vrijednost tvrtke te time i dionice. Osnovni cilj rada je ukazati na mogućnosti temeljite i sveobuhvatne analize tržišne cijene pojedine dionice u cilju odabira povoljnog trenutka za kupnju ili prodaju na burzi.*

**Ključne riječi:** *Vrijednost dionice, Vrijednost tvrtke, Precijenjena/podcijenjena vrijednost.*

### 1. Introduction

The basic idea of this paper is that it is possible to approximately determine the level of overvaluation or undervaluation of a stock on the market. This thesis implies the assumption of “the cynical market”, in this case, the stock market, which knows the price of each stock, but not its value. To determine the level of overvaluation or undervaluation, this paper starts from certain hypothesis: buying stocks means buying the firm, the results of firm’s business will adequately influence the price of the stock. Both realized and planned business results are imperative when investing in stocks.

There is a time discrepancy between the release of business results of a firm and its effect on the price. The reason for that is market psychology and something that W. Buffett calls “Institutional imperative” (Hagstrom, 2008, 126). To this mimicking phenomenon add awidely-spread manager’s greed phenomenon. While the stock owners suffered great loss, managers, brokers, journalists-promoters, who caused the stock market crash, earned a lot of money. Many of them have, directly or indirectly, persuaded people to invest and buy stocks, while they have themselves made opposite moves on the market. It is evident that the size and the quality of the Croatian stock market is of much lower intensity in comparison to the world markets, especially

to the Anglo-Saxon market, but unfortunately the Croatian market has adopted all the bad characteristics of the world markets.

The aim of this paper is to provide practical assistance or at least try to approximately determine the true value of a stock, i.e. to understand the “wisdom” behind stock trading. The essence is to have valid information about the price and value of the trading object. Unlike the most from the academic circles, the authors will not avoid the work and the activity of W. Buffett, so this paper evokes his ten investing principles (Pardoe, 2006, 10): simplicity, patience, right temperament, independent thinking, ignoring the distracting macro events, a non-disqualifying strategy, non-activity, non-hyperactivity, longterm investment, focusing on business results and value rather than on the price of the stock, catching the chance that the craziness of the stock market provides. It is appropriate to mention an interesting observation by Buffet, from the interview to Yahoo-Finance in January 2015, (W.Buffett Says Mr. Market is A „Drunken Psycho“, (<http://finance.yahoo.com/news/exclusive-warren-buffett-says-mr-125010039.html>, access: 25.2.2017.), where he said: *“This imaginary person out there -- Mr. Market -- he's kind of a drunken psycho. Some days he gets very enthused, some days he gets very depressed. And when he gets really enthused, you sell to him and if he gets depressed you buy from him. There's no moral taint attached to that.”*

By accepting this stock market description this paper explicates the composite indicator [C(hm)] which provides relevant information on undervalue and overvalue of stock analysis. In other words, it is about the price and value discrepancy. The paper presupposes a strong connection between the value of a firm and the value of that firm's stock. Four types of value are considered: Book value (BV), Market value (MV), Discounted cash flow (DCF) and Compounded cash flow (CCF). By connecting DCF, CCF, and BV, in relation to the current MV, it is possible to relativize the dealing price of a stock. T. Piketty's thought supports the prior statement. He believes that a lot is arbitrary and uncertain with the price that financial markets determine for the firm's intangibles at a certain moment. (Piketty, 2013, 60).

The goal of this paper is to define a reliable method for determining a possible discrepancy between the realistic price of a stock and its price on the stock market at a particular moment. The purpose of the paper is to reduce the risk when investing in stocks and to determine the level of overvaluation or undervaluation of a stock. The basic hypothesis is to determine the true value of a stock by determining and connecting multiple types of the value of a firm, implicit and stocks.

## **2. What is the value of a firm?**

It is not possible to give a clear and an unambiguous answer to this simple question. The reason for that is there are at least two types of problems, or two types of valuation approach: who does the valuation and what methods are used. The prior type refers to the valuation aspects and preferences, and the latter is connected to the prior and refers to different, often opposite, methods of valuation.

Issues related to the firm's valuation are important if the assumption is that one stock represents an ideal, very small and important part of the entire firm. Subsequently, the value of the firm is reflected on the value of a stock. So, if the value of the firm is determined, so is the value of a single stock of that firm. If we also know the value of that stock on the stock market it is possible to determine the discrepancy between two information, which is also the set goal of this paper.

## 2.1. Bias in valuation

There are two extreme approaches to the process of valuation. At the one end of the spectrum are the ones who believe that the valuation is “a complicated science” with little room for analytical views and mistakes (deliberate or accidental). On the other end of the spectrum are the ones who know that valuation is more of an art. A skilful analyst can manipulate the numbers to design a valuation according to their own wishes (Damodaran, 2010, 2). Complicated approaches to the valuations process area certain sign that the realistic value of a firm is unclear and distorted. The reason for that is the bias in valuation. The sources of that bias, according to Damodaran, are the choice of the firm, the choice of the information about the firm, the investment mood of the analysts (bulls/bears) and finally, the so-called institutional factors that add to the bias of the valuation (Damodaran, 2010, 4). A. Damodaran offers five principal ways to eliminate the bias from the valuation:

- Reduce institutional pressures
- De-link valuation from reward or punishment
- No pre-commitments
- Awareness of bias
- Authentic reporting

This chapter was opened with reasons why the bias cannot be eliminated from the process of valuation, and the source of these reasons is in the aspect of the valuation process and in the choice of the valuation method. For that reason, it is important to remember all basic and commonly used methods of valuation.

## 2.2. Review of the most commonly used valuation methods

There are three most commonly used firm valuation methods and each is based on a specific problem approach.

**2.2.1. The book value method** is considered to be the easiest to apply, and it's based on the balance sheet of a being estimated with the additional asset modification and liquidation costs (asset selling costs, collecting claims, obligations towards employees, suppliers, amortization correction, etc.). Shortly, the assessor checks and adjusts balance sheets according to the instructions of the International Accounting Standards. Firms with greater assets (factories, hotels, etc.) are better protected with the use of this method, i.e. they are more valuable than the firms whose assets are intangible. After the assessment and revision of all accounting elements, the assessor subtracts all liabilities from the total assets of the firm and comes to the book value.

Total Assets - Total liabilities = Net value of the firm (1)

The value of the firm calculated by this method is often the lowest value of the firm. The advantages of this method are simplicity, speed, and transparency. It is based on balance sheet data and is suitable for the recently started firms in their early stage of development. The disadvantage is its static quality because the assessment is done on a certain date and it does not consider prior business or the business potential of that firm. In other words, firm's assets are assessed, but not the business and potential effects of that business.

**2.2.2. Market or valuating by indicators method** is popular due to its simplicity. To get the real value, multiply the price and earnings ratio (P/E) with the earnings of the entire firm.



This method is based on the assumption that it is possible to find a firm with stocks rating on the stock market which is similar to the firm which is being assessed, and determine the adequate multiple for the specific firm, having in mind the differences between the compared firm and the assessed firm. The advantages of this method are simplicity, speed, simplicity of the presentation of the results and the fact that the results reflect the current state of the market. Unfortunately, the disadvantages surpass the advantages. The critical issue is the oversimplification and neglect of key business indicators of every firm (sources and generators of income, expense and profit) so the value obtained by this method (regardless of the type of the multiple) is highly approximated and often gives the wrong value of the assessment, and makes room for data manipulation.

**2.2.3. Discounted Cash Flow valuation method (DCF)** is the basic valuation method. It takes into account the discontinued future values of the expected cash flow, and the basic relation is:

$$DCF = \sum_{t=1}^n CF_t \left[ \frac{1}{(1+k)} \right]^t \quad (2)$$

DCF = Discontinued Cash Flow  
 CF<sub>t</sub> = Cash Flow in the year t  
 k = Discount rate  
 n = The number of periods

Unlike the market or valuating by indicator method, DCF method is based on firm's fundamental business. During the valuation process it is necessary to consider the basic characteristics of the firm and to understand the type of business involved. Finally, this method mainly values business and not only the assets.

**2.2.4. Compounded Cash Flow valuation method (CCF)** is the value of the firm obtained from the sum of the past and corrected CFs of the income, gross profit, and similar categories (Which of possible categories (net, gross profit, FCF, EBIT, NOPAT, etc.) will the assessor consider depends on a particular case, but it must be thoroughly explained) in period "n" and balanced at the end of that particular period at the rate of its own Internal Rate of Return (IRR). The suggested IRR is the average balance rate, but it should be expanded into the True Rate of Return (TRR). The mathematical expression of this modes is:

$$CCF = \sum_{t=1}^n CF_t (1+k)^{n-t} \quad (3)$$

CCF = Compounded Cash Flow  
 CF<sub>t</sub> = Cash Flow in the year t  
 k = Internal Rate of Return  
 n = Number of periods

The advantage of this method is that it considers the business of a firm balanced in past periods, unlike the opposite DCF method which represents the sum of discounted future business promises. It is clear that this method is "regressively dynamic" and represents in its approach an

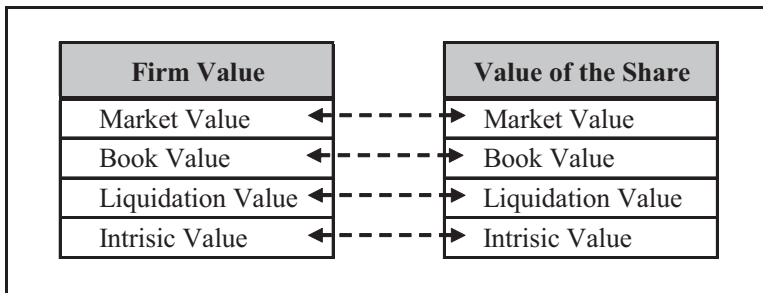
opposition to the DCF method which is why it is its corrective. (Speranda, Piplica, 2016). DCF (Discounted Cash Flow) is a method of valuation that considers calculations of the discontinued future values of the expected cash flows. CCF (Compound Cash Flow) is a method that considers the balanced values of cash flows.

### 3. Defensive investment

A defensive investor is, by definition, an investor who is interested in a safe and careless yield (Graham, 2006, 206). This simple definition that emphasizes safety and risk elimination best describes the conservative approach to investment on the stock market, also advocated by the authors of this paper. The logical conclusion from this definition is that the investment is preceded by a thorough fundamental analysis that considers the past, the present and the future of the stocks, and that implies the study of the firm's business and the analysis of the future and the past business.

The link between the economic-financial performances of the firm and the performances of the stock is defined in the table.

*Scheme 1 Relationship Between Firm and Share Value*



Source: Authors

It is evident that the suggested relationship intends a business analyst for the analysis and valuation, and not a market or macroeconomics analyst.

Scheme 1 implies that certain stock values can be calculated through the valuation of certain values of the firm. So, the question is: if the key types of value are valued, how to know which one is “the right one”? How to come to a reliable value which will, after the comparison to the spot price of a stock on a stock market, give the information of overvalue or undervalue of a stock?

#### 3.1. Composite Indicator [C(hm)]

[(C(hm))] indicator has a deciding role in the answers to the questions in the prior paragraph, and it can be mathematically calculated like this:

$$C(hm) = \frac{N}{\left[ MV \left( \frac{1}{BV} + \frac{1}{DCF} + \frac{1}{CCF} \right) \right]} \quad (4)$$

Where:

N= number of values in set

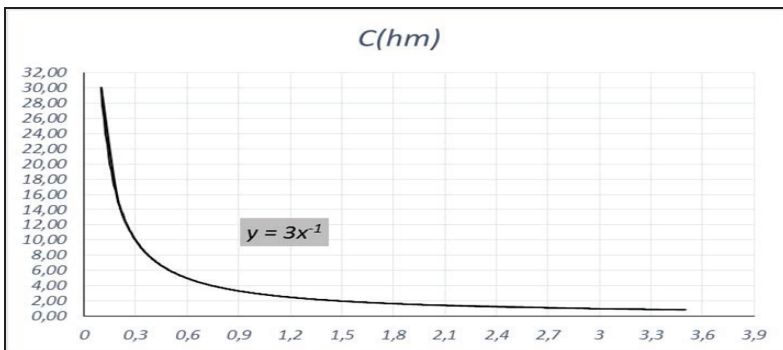
MV= market value  
 BV= book value  
 DCF= value calculated by DCF method  
 CCF= value calculated by CCF method

It is evident that the indicator is based on the harmonic mean of the relation of the value calculation: BV, MV, DCF, and CCF. In other words, the indicator indicates the average (harmonic) mean of the relationship of market value and the values provided by the other methods of valuation. In any case the indicator of overvalue or undervalue of the firm and of the stock is provided. Interpretation of the indicator [C(hm)]:

Indicator is always >0  
 If it is <1 the stock is overvalued  
 If it is >1 the stock is undervalued  
 If it is =1 the stock has “the right value”

The values of the indicator are always in the range from 0 to  $\infty$  because of the statistic and mathematic nature of the indicator (negative numbers cannot be inserted and it cannot be divided by 0).

*Scheme 2[C(hm)] Interpretation*



*Source: Authors*

This graph shows the mathematical explication C(hm) of the indicator in the form of the function  $y = 3x^{-1}$  where the dependent variable C(hm) is the value, and independent reciprocal value of the arithmetic mean is the value of the reciprocal values of the element.

#### 4. Application

Financial reports of the unknown firm with somewhat modified amount are used to demonstrate practically the application of the new indicator. The table shows the basic information necessary for the calculation of the indicator.

**Table 1 Valuated Amounts**

| n  | value (as of end of the year) | amount              |
|----|-------------------------------|---------------------|
| 1. | Nominal Value per share       | 220,00 kn           |
| 2. | No. of Shares (total)         | 6.520.022           |
| 3. | Firm Book Value               | 1.772.702.147,94 kn |
| 4. | Firm Market Capitalisation    | 2.060.326.952,00 kn |
| 5. | Firm CCF Value                | 2.745.776.864,86 kn |
| 6. | Firm DCF Value                | 1.638.155.527,50 kn |

Source: Author

Inserting all familiar and necessary data into the relation (4) will calculate the value of the [C(hm)] indicator.

**Table 2 C(hm) Calculator**

| value | amount (kn) | ratio (MV=1) |
|-------|-------------|--------------|
| MV    | 316,00      | 1,0000       |
| BV    | 269,47      | 1,1727       |
| CCF   | 251,25      | 1,2577       |
| DCF   | 421,13      | 0,7504       |
| C(hm) | 0,943       | /            |

Source: Author

The value of the indicator up to 0,943 indicates the light average overvalue of the stock about 6% in relation to the market value at a particular moment of. Although the market value exceeds all stated values, except DCF, which obviously optimistically estimates the value 33% over the market value and 56% over book value. Based on the business as usual the increase of the value in relation to the future business plans CCF to 68% the final overvalues of only 6% is the consequence of the corrective effect of the composite indicator.  $C(hm)=0,943$  simply indicates that the potential investor who buys at the market price get 0,94 units of average composite value for one unit of market price, which means that the stock is overvalued. If the indicator is larger than one, it would indicate that for the unit of the market value gets exactly that much more of the average estimated value, and that indicates the undervalue.

The prior analysis fits very well to the investment philosophy of W. Buffet and other investors who prefer the so-called investment into growth (Jain, 2010, 43) and the value of the firm, and that is the one who invests into firms with relatively low P/E ratio or market-to-book value (MV/BV) (Jain, 2010, 69). This indicator also significantly contributes the decrees of the investment risk, which is one of the most important factors for Buffet's reliable investment (Jain, 2010, 75). It is important to say that the assumption of the price of a certain asset depends on the general enthusiasm for that asset (company, stock) which can lead to the so-called self-realization phenomenon: as long as someone hopes to sell something for more than it was bought for, it is acceptable to pay over the real value of that asset (considering that the basic value is unsure) and in that way yield to the general enthusiasm. For that reasons the speculative balloons, which consider the stock market capital, are as old as the capital (Piketty 2013, 193-

194).The downside is that the negative values or zero value cannot be inserted into the indicator. That is not such a bad thing because if there is a negative value or zero value, you shouldn't invest in that stock. The advantages of the suggested method are simplicity and adaptability.

## 5. Conclusion

This paper defines and explains the new method and the related indicator which can help the evaluation of the relation of the value of a particular stock and its current market value. That represents a concrete instruction whether to buy or sell a stock, and that significantly decreases the investment risk (although it is impossible to eliminate it). For that reason, the conclusion is that [C(hm)] indicator significantly contributes to the reliable valuation of the “upside potential” principle and the “downside risk” principle, as an intrinsic feature of every analyzed stock. Furthermore, the suggested indicator can be redefined and supplement with the values that an analyst believes have to be added.

This confirms the hypothesis from the introduction that it is possible to determine the true value of the stock by establishing more than one value of the firm, and implicitly, the value of the stock. Combining these values will give the true value of the stock. Finally, the set goal of this paper, to define the reliable method for determining the relation between the price and the value, has been reached, fulfilling the purpose of this paper.

## REFERENCES

Damodaran,A. (2010): **Damodaran o valuaciji**, Mate, Zagreb

Graham, B. (2006): **Inteligentniinvestitor**, Masmedia, Zagreb

Hagstrom, R.G. (2008): **Buffettovanačela**, Katarina Zrinski, Varaždin

Jain, P.C., (2010): **Buffett Beyond Value**, John Wiley & Sons, Hoboken, USA

Pardoe, J. (2006): **Kako to radi Buffett**, Masmedia, Zagreb

Piketty, T. (2013): **Kapitalza 21. stoljeće**, Profil, Zagreb

Šperanda, I. (2012): **Firm Valuation – New Methodological Approach**, Ekonomskaistraživanja/Economic Research – Pula, No.3,2012 Vol.25 (3). pp.803.- 824

Šperanda I. - Piplica D., (2016),**Application of The Compounded Cash Flow Method (CCF)** Proceedings of the 5th International Scientific Symposium – The Economy of (Eastern Croatia-Vision & Growth – Osijek 2016. pp. 327. – 338.

**Berkshire Hathaway Inc. 2001 Annual Report**,

p.3. (<http://bershirehathaway.com/2001ar/2001ar7pdf>., (accessed: 22.2.2017)

W.Buffett Says Mr. Market is A „Drunken Psycho“,

(<http://finance.yahoo.com/news/exclusive-warren-buffett-says-mr-125010039.html>(accessed: 25.2.2017.)

Notes:

<sup>1</sup>This syntagma is a paraphrase of a famous definition by Oscar Wilde's cynic as a man who knows the price of everything, and the worth of nothing.

<sup>2</sup> About the detail: Berkshire Hathaway Inc. 2001 Annual Report, p.3. (<http://bershirehathaway.com/2001ar/2001ar7pdf.>, (accessed: 22.2.2017))

<sup>3</sup> This indicator is mentioned in Šperanda I. - Piplica D.(2016) *Application of The Compounded Cash Flow Method (CCF)* Proceedings of the 5th International Scientific Symposium – The Economy of Eastern Croatia- Vision & Growth – Osijek 2016. pp. 327. – 338.

<sup>4</sup>About the details of this method: Šperanda, I. (2012): *Firm Valuation – New Methodological Approach*, *Ekonomskaitraživanja/Economic Research – Pula*, No.3,2012 Vol.25 (3). pp.803.- 824

<sup>5</sup>About the “two-sided” valuation process: Graham.B., „Inteligentni investitor“, Masmedia, Zagreb, 2006, pp. 257-259.

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**EASTERN CROATIAN TAXPAYERS' PERCEPTIONS OF THE TAX SYSTEM\***

**PERCEPCIJE ISTOČNOHRVATSKIH POREZNIH OBVEZNIKA O POREZNOM SUSTAVU**

**ABSTRACT**

*The main research aim is to establish the degree of Eastern Croatian taxpayers' agreement with different statements concerning particular taxes in Croatia relevant for individual taxation – inheritances and gifts tax, value added tax (extending the scope of the lower VAT rate to entire food), possible future bank tax and junk food tax as well as mostly personal income tax including its tax base (taxable incomes and allowances) and its rates (only one rate as an alternative to more rates). Its purpose is to identify the current taxation problems relevant not only for (Eastern) Croatia, but for Central and Eastern Europe in general.*

*The paper also aims to establish the difference in Eastern Croatian taxpayers' perceptions in comparison with the rest of Croatia, including the causes of such differences and their implications.*

*The sample of individual taxpayers from Eastern Croatia was stratified using demographic data available for Eastern Croatia. The questionnaire was filled in using our interviewers' phone calls. The data are analysed using descriptive statistics and the Mann-Whitney- Wilcoxon test.*

*Taxpayers from Eastern Croatia strongly support the introduction of bank taxation and extending of the scope of the lower VAT rate to cover all food (as allowed by the EU harmonisation rules). The strongest disagreement is related to the inheritances and gifts tax as well as introduction of interest taxation.*

*For all of the statements, there is a statistically significant difference between taxpayers from Eastern Croatia and taxpayers from other parts of Croatia. These differences are explored in the paper in detail as well as their causes and implications.*

**Key words:** *Eastern Croatia, taxpayers, tax system, questionnaire, tax preferences*

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\* This work has been supported in part by the Croatian Science Foundation under project number IP-2013-11-8174, in part by the University of Rijeka under project number 13.02.1.2.02., and in part by the University of Zagreb under project number DP 097-2015.

## SAŽETAK

Glavni je cilj istraživanja utvrditi stupanj slaganja istočnohrvatskih poreznih obveznika s različitim tvrdnjama koje se tiču pojedinih poreza u Hrvatskoj relevantnih za oporezivanje fizičkih osoba – poreza na nasljedstva i darove, poreza na dodanu vrijednost (proširenja obuhvata snižene stope PDV-a na cijelu hranu), mogućeg budućeg poreza na banke i nezdravu hranu, te najviše poreza na dohodak uključujući njegovu osnovicu (oporezivi dohodak i olakšice) i stope (jednostopni porez na dohodak kao alternativa klasičnom oporezivanju s više stopa). Svrha je istraživanja ukazati na postojeće probleme u oporezivanju koji su relevantni ne samo za (istočnu) Hrvatsku, već i Srednju i Istočnu Europu općenito.

Radom se žele utvrditi i razlike u percepcijama poreznih obveznika istočne Hrvatske u usporedbi s ostatkom Hrvatske, uključujući i uzroke tih razlika i njihove implikacije.

Uzorak poreznih obveznika istočne Hrvatske stratificiran je prema demografskim podacima raspoloživim za istočnu Hrvatsku. Upitnik je ispunjen koristeći telefonske pozive naših anketara. Podaci su analizirani pomoću deskriptivne statistike i Mann-Whitney-Wilcoxon testa.

Porezni obveznici istočne Hrvatske snažno podržavaju uvođenje oporezivanja banaka i širenje obuhvata snižene stope PDV-a u smjeru obuhvata sve hrane (kao što je dozvoljeno harmonizacijskim propisima EU-a). Najveće neslaganje odnosi se na porez na nasljedstva i darove kao i uvođenje oporezivanja kamata.

Kod svih pitanja utvrđena je statistički signifikantna razlika između istočnohrvatskih poreznih obveznika i poreznih obveznika u ostatku Hrvatske. Rad podrobnije istražuje te razlike uključujući njihove uzroke i implikacije.

**Ključne riječi:** Istočna Hrvatska, porezni obveznici, porezni sustav, upitnik, porezne preferencije

### 1. Introduction

Eastern Croatia (Slavonia and Baranja) is traditionally the most rural and agricultural area of Croatia that has recently been coping with the problems of poverty and general underdevelopment (e.g. Šundalić, 2006 and 2009; Bogović, Čegar, 2015). It would be interesting to see how these characteristics influence the perceptions of the tax system of the inhabitants of Eastern Croatia and what the differences are in comparison with the rest of Croatia.

The main aim of this paper is to establish the degree of Eastern Croatian taxpayers' agreement with different statements concerning particular taxes relevant for individual taxation. The statements include inheritances and gifts tax, value added tax (extending the scope of the lower VAT rate to entire food), possible future bank tax and junk food tax as well as mostly personal income tax including its tax base (taxable incomes and allowances) and its rates (only one rate as an alternative to more rates). The purpose of the paper is to identify the current taxation problems relevant not only for (Eastern) Croatia, but for Central and Eastern Europe in general. The paper will also test whether some perceptions proven in previous research, such as unpopularity of inheritances and interest taxation, neutral to negative attitude to dividend taxation, support for extending the lower VAT rate to all food, support for personal income tax allowances and EU initiatives for bank taxation (Blažić and Štambuk, 2017; Hammar *et al.*, 2008, 539; Klun *et al.*, 2016, 594; Lim *et al.*, 2013, 796; National Public Radio/Kaiser Family Foundation/Kennedy School of Government, 2003, 8, 11, 12 and 15) also exist in Eastern Croatia. However, ambiguity is presented in previous research concerning unhealthy food taxation (Klun *et al.*, 2016, 594; Lim *et al.*, 2013, 796) as well as introduction of only one rate of



personal income tax, where CEE countries, with Croatia at the top of the chart, seem to be more supportive than developed countries (Domonkos, 2016, p. 423 and 435).

The paper also aims to establish the difference in Eastern Croatian taxpayers' perceptions in comparison with the rest of Croatia, including the causes of such differences and their implications.

The sample of individual taxpayers from Eastern Croatia was stratified using demographic data available for Eastern Croatia. The questionnaire was filled in using our interviewers' phone calls. The data are analysed using descriptive statistics and the Mann-Whitney- Wilcoxon test.

After the Introduction, the second chapter presents Eastern Croatian taxpayers' preferences, while the third chapter compares them to those of the rest of Croatia, exploring the differences as well as their causes and implications.

## **2. Eastern Croatian taxpayers' (physical persons') preferences about the Croatian tax system and its possible changes**

Eastern Croatian taxpayers were contacted by our students by telephone mostly in the second half of 2017. The phone interviews were used not only as an effective (but costly) mean to collect responses, but also to explain the questions and answer some additional questions of the taxpayers.

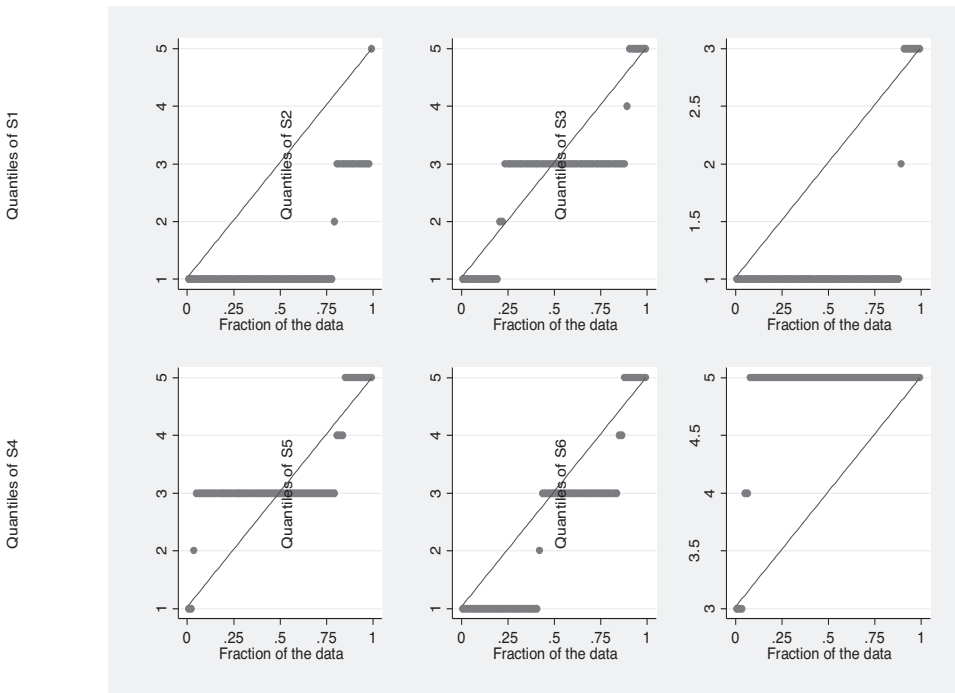
The sample for Eastern Croatia ultimately amounted to 70 responses. The sample is representative according to age, sex and place of residence (urban versus rural). Sample structure is presented in the Appendix (Table A1).

The people were asked about their preferences towards statements about maintaining some of the existing taxation or introducing new taxation. In the first statement (S1) they were asked their opinion on maintaining the old and classic, but relatively unpopular and costly taxation that has already been withdrawn in some countries – the one referring to inheritances and gifts<sup>1</sup>. Since Croatia has the interchangeable tradition of taxing dividends (inside the personal income tax), agreement about the statement in favour of maintaining this (currently existing) taxation (S2) was questioned. The additional statements referred to maintaining newly introduced interest taxation (S3) and capital gains taxation that refers to gains in financial assets (S4) – again, both inside the personal income tax. On the other hand, there has been a lot of talk about starting to tax unhealthy food (S5) even in Croatia (perhaps mostly due to the experience of the neighbouring Hungary and other developed countries) as well as banks (S6) (Hungarian experience, again, but also the experience of a half of the EU countries). The results are presented in Figure 1 and Figure 2. They include answers to Likert-type items from 1 to 5 (vertical axis), whose percentage results could be read on the horizontal axis (longer line presents higher percentage) as well as their median and percentiles, that are marked on the horizontal axis and their value could be seen at the corresponding value on the vertical axis.

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<sup>1</sup> The Croatian taxation of inheritances and gifts is in practice split between two taxes – transfer tax (for real estate) and inheritances and gifts tax (for other inheritances and gifts). These taxes are completely unified concerning taxation of inheritances and gifts.

**Figure 1** Quantile plot for statements in favour of maintaining/implementation of some tax bases / taxes: Inheritances and gifts (S1), Dividends (S2), Interest (S3), Financial capital gains (S4), Unhealthy food (S5) and Bank tax (S6)

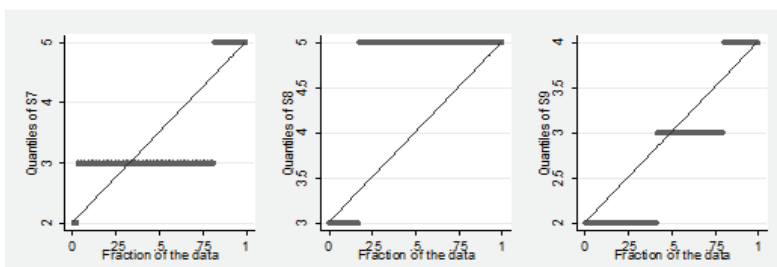


Notes: Fraction of the data shows percentage of Likert-type item answers, in % (1 – Completely/strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Completely/strongly agree) for statements (S1-S6) as well as their percentiles, including median (corresponding value on the vertical axis).

Source: Authors

It is obvious that taxpayers react in their own personal interest. Everybody is a (potential) successor or testator as well as earner of some (mostly bank) interest. On the other hand, most people do not have shares and do not expect considerable capital gains from selling financial assets. However, they are obviously not aware of the possibility of shifting the bank tax towards bank customers (savers) believing that this tax will be borne by banks, as expected. They are probably afraid that the tax on unhealthy food could target even some specialties typical for Eastern Croatia or they simply want to enjoy such food and do not want to be penalised for it.

**Figure 2** Quantile plot for statements in favour of changing specific tax burden elements (rates, allowances): Only one personal income tax rate (S7), Lower VAT rate for all food (S8) and Personal income tax allowances (S9)



Notes: Fraction of the data shows percentage of Likert-type item answers, in % (for statements S7 and S8: 1 – Completely/strongly disagree, 2 – Mostly disagree, 3 – Neither agree nor disagree, 4 – Mostly agree, 5 – Completely/strongly agree; for statement S9 recalculated to 2- Disagree, 3 – Neither agree nor disagree, 4 – Agree) as well as their percentiles, including median (corresponding value on the vertical axis).

Source: Authors

The answers concerning personal income tax allowances could only be partially compared to the others because only three possibilities were offered (2- Disagree, 3 – Neither agree nor disagree, 4 – Agree), which are translated here to 2, 3, and 4 to enable some sort of comparison. Still, personal income taxpayers seem to be aware of the possible cost-ineffectiveness of these allowances. However, the results (especially the negative answers), are probably mostly influenced by the relatively high poverty level of Eastern Croatia (see also Table A1 in the Appendix) and high amount of taxpayers earning their income from agriculture and forestry in Eastern Croatia, both resulting in the absence of using these allowances<sup>2</sup>.

As expected, extension of the application of lower VAT rate for all food is completely supported. This, again, could be explained by a relatively low percentage of high incomes<sup>3</sup> in Eastern Croatia, but also a high share of agricultural producers among the taxpayers.

Taxpayers in general cannot make up their mind when it comes to replacing more income tax rates with only one, which results in the prevalence of neutral answers. Although this is a relatively complicated issue even among tax experts, resulting in no consensus (e.g. Domonkos, 2016, p. 423 and 435; Šimović *et al.*, 2014), most taxpayers are simply still not familiar with the topic.

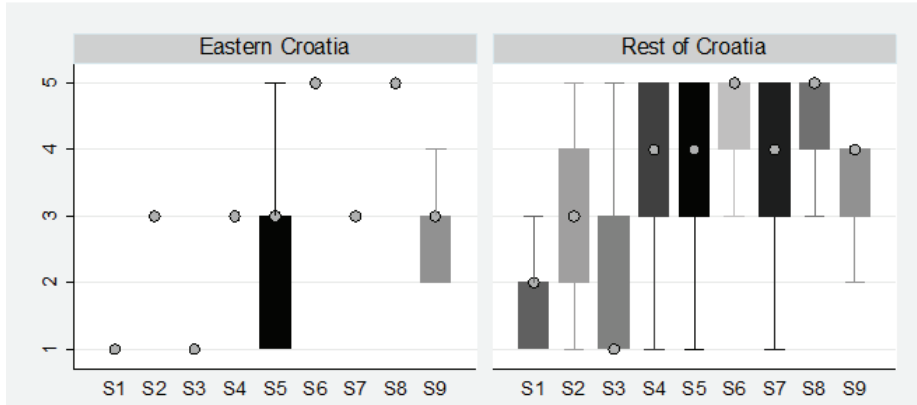
<sup>2</sup> Only higher agricultural and forestry incomes are taxed under personal income tax in its regular form (others are paying lump sum income tax only). Lower-income taxpayers (especially those with more children) have not had the tax base large enough to be able to use any of the (previously existing) tax allowances. Furthermore, both of the groups probably consider such allowances as some sort of discrimination compared to ordinary taxpayers. Our previous analysis of Croatia in general proved that the inhabitants with the lowest income (in comparison with other income levels) have a negative attitude towards the reintroduction of personal income tax allowances (Blažić and Štambuk, 2017).

<sup>3</sup> Taxpayers with a relatively higher income (in comparison with other income levels) are more inclined to be against applying a lower VAT rate to all food (Blažić and Štambuk, 2017).

### 3. Eastern Croatian taxpayers compared to other Croatian taxpayers

In order to compare taxpayers in Eastern Croatia with those in the rest of Croatia, another sample was formed (“Rest of Croatia”). The sample has 282 respondents and is representative according to sex, regions and place of residence (urban versus rural). Age in the sample is around 3 years higher than for the entire population. The comparison of the structure of both samples is presented in the Appendix (Table A1). Figure 3 compares medians and interquartile ranges of Eastern Croatia and the rest of Croatia for the analysed statements 1-9.

*Figure 3* Box plot for Eastern Croatia and the rest of Croatia



Notes: S1 – S9 same as in Figure 1 and Figure 2

Source: Authors

Even at a first glance, it is obvious that the results from Eastern Croatia are much more concentrated than those for the rest of Croatia, and that, for most statements, there is no interquartile range at all (25% and 75% are the same as median). There are also visible differences in medians alone (as well as the interquartile range). The significance of these differences is explored in Table 1 and Table 2 using Mann-Whitney-Wilcoxon test.

**Table 1** Differences between Eastern Croatia taxpayers and taxpayers in the rest of Croatia: Existence/implementation of some tax bases / taxes: Mann-Whitney U and Wilcoxon W

| Tax bases / taxes           | Mann-Whitney U | Wilcoxon W | Z      | Asymp. Sig. (2-tailed) |
|-----------------------------|----------------|------------|--------|------------------------|
| S1: Inheritances and gifts  | 6926.000       | 9411.000   | -4.209 | .000                   |
| S2: Dividends               | 7802.500       | 10287.500  | -2.660 | .008                   |
| S3: Interest                | 6238.500       | 8723.500   | -5.379 | .000                   |
| S4: Financial capital gains | 8553.500       | 11038.500  | -1.793 | .073                   |
| S5: Unhealthy food          | 4672.000       | 7157.000   | -7.089 | .000                   |
| S6: Bank tax                | 6335.000       | 45956.000  | -5.414 | .000                   |

Source: Authors

It is indeed interesting that there is a high statistically significant difference (of even  $p < 0.01$ ) for all compared statements between Eastern Croatia and the rest of Croatia, besides those about

financial capital gains ( $p < 0.1$ ). It could be concluded that Eastern Croatian taxpayers really differ in their perception from other Croatian taxpayers.

The well-known antagonism towards inheritances taxation in general is especially profound in Eastern Croatia compared to the rest of Croatia (Figure 3). The reason could be found in the strong traditionalism of this area, but also the fact that real estate possession in that area is not only higher than in the rest of Croatia, but extremely high (Table A1). This implies that the recent reduction of this taxation (rate reduction from 5% to 4%) was highly needed. It also implies rethinking of the necessity of existence of this taxation (or at least its further reduction) taking into account that possible pressure in that direction could be higher from Eastern Croatia (its parliamentary representatives, political parties and their representatives as well as scientists and other policy makers and stakeholders). Possible ideas related to the form of that taxation that are more in line with those in developed countries (progressive taxation and especially abolishment of exemption for spouses and children) seem to be hardly acceptable.

Although capital income taxation preferences seem to be more unified (looking at the medians alone), Eastern Croatian taxpayers are less inclined to capital income taxation. Although both groups are neutral towards dividend taxation, taxpayers from Eastern Croatia are much more concentrated on the neutral answer - as much as two thirds (Figure 1 and Figure 3). Furthermore, the distribution of answers excluding the neutral one is prevalently negative (mostly 1) in Eastern Croatia in contrast to the rest of Croatia (mostly 4, which is also a mode, but 5 is also only a bit smaller – authors' data). This is probably influenced by the fact that dividend possession in Eastern Croatian sample is higher than in the sample for the rest of Croatia. The expected negative attitude towards interest taxation, which affects almost all taxpayers, is especially strong in Eastern Croatia, where there are no positive answers at all (as visible in Figure 1 and Figure 3).<sup>4</sup> The difference in financial capital gains is evident from medians alone and could also be related to the higher percentage of dividend possession in Eastern Croatia. The results for both groups (especially Eastern Croatia) imply the need of rethinking (lower) interest taxation.

Eastern Croatian taxpayers are famous for their spicy and greasy food (and greasiness was explicitly stated as one of the main characteristics determining unhealthy food), so it is no wonder that they are less inclined to the "unhealthy food" tax (Figure 3). They are afraid it could also hit some of their products which they do not only consume, but also produce. This implies that the efforts to implement unhealthy food taxation should take into account specific branding of regional specialties.

Bank tax is traditionally unpopular; however the taxpayers from Eastern Croatia are more concentrated towards complete agreement (Figure 3), so none of them provided a negative answer (Figure 1 and Figure 3). This can perhaps be explained by lower percentage of people who are savers in the banks (and fear that this tax could be shifted to them), but also by their specific equity preferences and negative attitude towards banks. Thus, future introduction of some sort of a bank tax, either in line with specific EU initiatives or current practice in some EU (and other developed countries) will be especially supported by Eastern Croatian taxpayers.

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<sup>4</sup> This does not seem to be in accordance with fewer taxpayers in Eastern Croatia who are savers in banks compared to the rest of Croatia (Table A1), but our previous analysis showed no influence of the saving status on this answer (Blažić, Štambuk, 2017).

**Table 2** Differences between Eastern Croatian taxpayers and taxpayers in the rest of Croatia: Tax burden elements (rates and allowances): Mann-Whitney U

| Tax rates / allowances                | Mann-Whitney U | Wilcoxon W | Z      | Asymp. Sig. (2-tailed) |
|---------------------------------------|----------------|------------|--------|------------------------|
| S7: Only one personal income tax rate | 8277.000       | 10762.000  | -2.190 | .029                   |
| S8: Lower VAT rate for all food       | 7765.000       | 47668.000  | -3.230 | .001                   |
| S9: Personal income tax allowances    | 4924.500       | 7409.500   | -7.522 | .000                   |

Source: Authors

Again, there is a high statistically significant difference (of even  $p < 0.01$ ) for the compared statements between Eastern Croatia and the rest of Croatia, except for the statement about one personal income tax rate ( $p < 0.05$ ). Thus, it can again be concluded that Eastern Croatian taxpayers differ in their perception from other Croatian taxpayers.

Eastern Croatian taxpayers are less impressed by the contemporary trends towards replacing more personal income tax rates (direct progression) by only one rate than taxpayers in the rest of Croatia (Figure 3). They are probably less informed about current trends, but this could also be related to their lower income levels, since one tax rate choice generally favours higher incomes. However, this is the only difference of a bit lesser significance. It implies that the long-standing rejection of applying only one rate in Croatia by policy makers could rely more heavily on Eastern Croatian taxpayers / parliamentary representatives in the future.

They are even more inclined towards the lower VAT rate for all food – there is no negative attitude towards its application and more than 80% of taxpayers support it (Figure 2). This support is higher than in the rest of Croatia (Figure 3). This is completely understandable, not only from their point of view as consumers (lower-income population is more inclined to lower VAT rates for food), but also producers (the higher percentage of rural inhabitants as well as agricultural producers). Some of these data are visible from Table A1.

Finally, the prevailing neutral attitude of taxpayers in Eastern Croatia (in contrast to the slightly positive attitude in the rest of Croatia) towards reintroduction of personal income tax allowances (Figure 3) is already explained by their lower incomes and higher percentage of rural population, especially agricultural producers. It implies further support of maintaining the *status quo*.

#### 4. Conclusion

Taxpayers from Eastern Croatia strongly support the introduction of bank taxation and extension of the scope of the lower VAT rate to cover all food (as allowed by the EU harmonisation rules). The strongest disagreement is related to the inheritances and gifts tax as well as introduction of interest taxation.

For all of the statements, there is a statistically significant difference between taxpayers from Eastern Croatia and taxpayers from other parts of Croatia. Eastern Croatian taxpayers' responses compared to those of the rest of Croatia are more concentrated, and in general more radical. Especially pronounced are the negative attitude towards inheritances and interest taxation and the positive attitude towards extending the lower VAT rate to all food and bank taxation.

The resulting implications point towards further reduction in inheritances and gifts taxation, introduction of some exemptions for low-income population regarding interest taxation (or its reduction in general), extension of the scope of the lower VAT rate for food, and application of some bank tax in line with the experience (and initiatives) of the EU.

## REFERENCES

Blažić, H. and Štambuk, A. (2017): *Citizens' View on Taxation in a Post-Transition Country: The Case of Croatia*, Working paper, <https://www.researchgate.net/publication/315533366>, (accessed 24 March 2017)

Bogović, N. and Čegar, S. (2015): *Economic Characteristics and Developmental Prospects of East Croatia*, in: Fourth International Scientific Symposium: Economy of Eastern Croatia - Vision and Growth, University of Josip Juraj Strossmayer in Osijek, Faculty of Economics, May 21-23, 2015, pp. 62-70.

Domonkos, S. (2015): *Who Wants a Progressive Income Tax? Determinants of Tax Policy Preferences in Post-Socialist Eastern Europe*, East European Politics and Societies and Cultures, Vol. 30, No. 2, 423–448

Hammar, H., Jagers, S. C. and Nordblom, K. (2008): *Attitudes towards Tax Levels: A Multi-Tax Comparison*, Fiscal Studies, Vol. 29, No. 4, pp. 523-543

Klun, M., Štambuk, A. and Stare, J. (2016): *How Different is Opinion about the Tax System among Citizens and Experts: The Case of Slovenia*, International Journal of Applied Business and Economic Research, Vol. 14, No. 2, pp. 591-601

Lim, D., Slemrod, J. and Wilking, E. (2013): *Expert and Public Attitudes towards Tax Policy: 2013, 1994, and 1934*, National Tax Journal, Vol. 66, No. 4, pp. 775-806

National Public Radio, Kaiser Family Foundation and Kennedy School of Government (2003): *National Survey of Americans' views on taxes*, 2003, pp. 25, [http://www.npr.org/news/specials/polls/taxes2003/20030415\\_taxes\\_survey.pdf/](http://www.npr.org/news/specials/polls/taxes2003/20030415_taxes_survey.pdf/), (accessed 15 March 2017)

Šimović, H.; Blažić H. and Štambuk, A. (2014): *Perspectives of tax reforms in Croatia: expert opinion survey*, Financial Theory & Practice, Vol. 38, No. 4, pp. 405-439

Šundalić, A. (2006): *Osiromašivanje i nerazvijenost – Slavonija i Baranja u očima njezinih stanovnika*, Socijalna ekologija: časopis za ekološku misao i sociološka istraživanja okoline, Vol. 15, No. 1-2, pp. 125-143

Šundalić, A. (2009): *Ruralni prostor i društvena struktura - novi identitet Slavonije i Baranje*, Ekonomski vjesnik, Vol. XII, No. 1, pp. 11-22

## APPENDIX

*Table A1: Samples' structure: Eastern Croatia versus Rest of Croatia*

| Demogr. characteristic     |                                    | Eastern Croatia | Rest of Croatia |
|----------------------------|------------------------------------|-----------------|-----------------|
| Sex                        | Male                               | 48.6            | 44.3            |
|                            | Female                             | 51.4            | 55.7            |
| Age                        | Mean (SD)                          | 44.94 (14.78)   | 53.93 (17.12)   |
| Place of residence         | Urban                              | 47.1            | 53.2            |
|                            | Rural                              | 52.9            | 46.8            |
| Education                  | Below university degree            | 92.9            | 86.2            |
|                            | From university degree to PhD      | 7.1             | 13.8            |
| Income per family member   | Less than 2,000 Croatian kunas     | 65.8            | 38.6            |
|                            | From 2,000 to 4,000 Croatian kunas | 31.6            | 48.0            |
|                            | More than 4,000 Croatian kunas     | 2.6             | 13.4            |
| Real estate possession     | No                                 | 0.0             | 19.5            |
|                            | Yes                                | 100.0           | 80.5            |
| Possession of bank savings | No                                 | 81.4            | 63.0            |
|                            | Yes                                | 18.6            | 37.0            |
| Possession of dividends    | No                                 | 71.0            | 89.7            |
|                            | Yes                                | 29.0            | 10.3            |

*Source: Authors*



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## **APPLICATION OF OPERATIONAL PERFORMANCE STRATEGIC MANAGEMENT IN MICRO-ENTERPRISES IN THE REPUBLIC OF CROATIA**

### **PRIMJENA STRATEŽKOG UPRAVLJANJA USPJEŠNOŠĆU POSLOVANJA U MIKRO PODUZEĆIMA U REPUBLICI HRVATSKOJ**

#### **ABSTRACT**

*Micro-enterprises in the Republic of Croatia are, in most cases, family enterprises and by watching them in that context, their importance is great, both for the stability of family life, and for the stability of economic development. Successful micro-enterprise generates income for owners and employees, allows self-employment and employment of family members of the enterprise's owner, and thus affects the creation of favourable macroeconomic conditions that allow more simulative entrepreneurial environment. Because of this, it is essential in the modern business conditions that each micro-enterprise, with the traditional performance management methods, uses modern strategic management methods with an aim of a successful business in order to generate incomes and profits. The purpose of this paper is to investigate the level of application of relevant indicators, methods and models for the purposes of strategic performance management in micro-enterprises in the Republic of Croatia. For the implementation of empirical research, micro-enterprises in the region of Slavonia and Baranja were selected as a study population. A quantitative research was conducted on a sample of 112 micro-enterprises. For processing and analysing the collected data, appropriate mathematical and statistical methods were used. The results confirmed the initial assumption that micro-enterprises feature low level of use of appropriate indicators, methods and models for the purposes of business performance strategic management. The results represent outstanding scientific contribution because in the Republic of Croatia there is no research on business performance strategic management in micro-enterprises. Results of this study represent a basis for further investigation of the possible reasons for the low level of implementation of business performance strategic management in micro- enterprises.*

**Key words:** *strategic management, performance management, micro-enterprise, performance indicators, BSC*

## SAŽETAK

*Mikro poduzeća u Republici Hrvatskoj su, uglavnom, obiteljska poduzeća i promatrajući ih u tom kontekstu, njihova važnost je velika, kako za stabilnost obiteljskog života, tako i za stabilnost gospodarskog razvoja. Uspješno mikro poduzeće generira dohotke vlasnicima i zaposlenicima, omogućuje samozapošljavanje i zapošljavanje članova obitelji vlasnika poduzeća, te na taj način utječe na stvaranje povoljnijih makroekonomskih uvjeta koji omogućuju simulativnije poduzetničko okruženje. Zbog navedenog, neophodno je u suvremenim uvjetima poslovanja svakom mikro poduzeću, uz tradicionalne metode upravljanja uspješnošću, koristiti i suvremene metode strateškog upravljanja s ciljem uspješnog poslovanja kako bi se generirali dohotci i dobit. Cilj ovog rada je istražiti razinu primjene odgovarajućih pokazatelja, metoda i modela za potrebe strateškog upravljanja uspješnošću poslovanja u mikro poduzećima u Republici Hrvatskoj. Za provedbu empirijskog istraživanja, kao istraživana populacija izabrana su mikro poduzeća s područja regije Slavonija i Baranja. Provedeno je kvantitativno istraživanje na uzorku 112 mikro poduzeća. Za obradu i analizu prikupljenih podataka korištene su odgovarajuće matematičke i statističke metode. Dobivenim rezultatima je potvrđena je polazna pretpostavka da je u mikro poduzećima niska razina korištenja odgovarajućih pokazatelja, metoda i modela za potrebe strateškog upravljanja uspješnošću poslovanja. Dobiveni rezultati predstavljaju izniman znanstveni doprinos jer u Republici Hrvatskoj ne postoje istraživanja o strateškom upravljanju uspješnošću poslovanja u mikro poduzećima. Rezultati ovog istraživanja predstavljaju podlogu za daljnje istraživanje mogućih razloga niske razine primjene strateškog upravljanja uspješnošću poslovanja u mikro poduzećima.*

**Ključne riječi:** *strateško upravljanje, upravljanje uspješnošću, mikro poduzeće, pokazatelji uspješnosti, BSC*

### 1. Introduction

In today's increasingly complex business environment and increasingly complex business conditions characterized by higher supply than demand, ever shorter product life cycle, frequent changes in the behaviour of ever more demanding customers with reduced purchasing power, enterprises should quickly change their own behaviour in order to continue to remain competitive and successful in the market. When doing so, the emphasis should be on the exploitation of existing resources and the potential of turning them into key factors of success. According to Karić (2005: 2) the purpose is to discover better ways of achieving the objectives of enterprises and improve the production and sales of their goods and services. In order to make decisions about setting goals and ways to achieve the objectives it is necessary to manage an enterprise.

One of the main goals of an enterprise is to achieve a positive operating result which comes from the positive difference between total revenues and expenditures over a certain period of time. (Potnik Galić, 2012). Therefore, the management of an enterprise must focus on reducing expenditure and increasing revenues. Management process is the responsibility of the leading individuals in the enterprise. In larger enterprises management responsibility is spread to more people, while in smaller enterprises, particularly micro-enterprises, those responsible for managing also simultaneously perform multiple roles – they have to be managers and owners, and entrepreneurs, and most common also the holders of expertise in business process management (depending on the activity the enterprise is engaged in). In such conditions, and the pressures under which these people work, it is very likely that there will be problems in the

management of micro-enterprises. According to a publication Privredni vjesnik (2016: 47) micro-enterprises in the Republic of Croatia have in 2015 recorded a negative consolidated financial result in the amount of HRK -2,344,403,000.00. That indicates that there is the problem with business success management in micro-enterprises in the Republic of Croatia. Therefore, this paper presented the results of a study on the use of appropriate indicators, methods and models for the purposes of business performance strategic management in micro-enterprises in the Republic of Croatia.

## **2. Business Performance Strategic Management Micro-Enterprises**

Area of efficiency measurement system of an enterprise at the beginning of the 1990s underwent changes due to the advocacy of some authors that with traditional financial measures, non-financial measures should also be used when measuring the efficiency and performance (Drury, 1990; Kaplan and Norton, 1996). Drury (1990: 41) believes in the exceptional importance of measuring business performance using financial and non-financial indicators, and believes that in today's competitive environment, when measuring their performance, enterprises need to also consider non-financial variables, including production efficiency, the efficiency of various activities, product quality and service flexibility. A decade later, due to the fact that business performance strategic management in enterprises started to be used in practice, Laitinen (2002) stated that in order to balance the needs and expectations of different stakeholders it is necessary, apart from financial effect, to also measure competitiveness and the impact on the environment.

Apart from advocating the application of non-financial and financial performance indicators to measure business success of enterprises, from 1990's to 2000, several models of performance measurement were developed and created, and some of them are:

- Balanced Scorecard model - Kaplan and Norton (1992)
- The Performance Measurement Questionnaire - Dixon et al. (1990),
- The Integrated Performance Measurement System - Bititci et.al. (1997).

In addition to the need for performance measurement and creating models for performance measurement, it is necessary to implement and use models of performance measurement in enterprises in order to improve the business. In micro-enterprises it is necessary to balance the needs, expectations and interests of the owners / entrepreneurs with set business goals, and to accordingly choose the appropriate way of managing and measuring business success.

It was not until the late 1990s that in the professional and scientific literature in management articles and papers on the subject of application of performance measurement system started appearing intensive, in particular the measurement of performance within SMEs. Carlyle (2013) states that Breme et al. (2008) identified fewer than 50 articles which investigated and discussed the measurement of success in the small and medium enterprises in the period from 1998 to 2008. In contrast, Neely (1999) stated that in the period from 1994 to 1996 3,615 articles were published on measuring success in large enterprises. After 2008, the number of articles on performance measurement in small and medium-sized enterprises did not significantly increase, especially in micro-enterprises. Some of the authors have studied the issue of performance measurement in micro and small enterprises. Thus, Laitinen and Chong (2006: 50), while studying previous research on the topic came to the conclusion that "there are no known previous studies on how companies with fewer than 20 employees implement their system performance measurement." The same authors conducted a study in the UK and Finland on the method of performance measurement in small enterprises with less than 20 employees. The sample consisted of 27 Finnish enterprises and 10 enterprises from the UK. According to the results of

this research it can be seen that in both countries enterprises when formulating system performance measurement rely on employees and production activities, and that enterprises in both countries use the financial and non-financial variables when measuring performance, while companies in the UK provide a greater emphasis on financial variables.

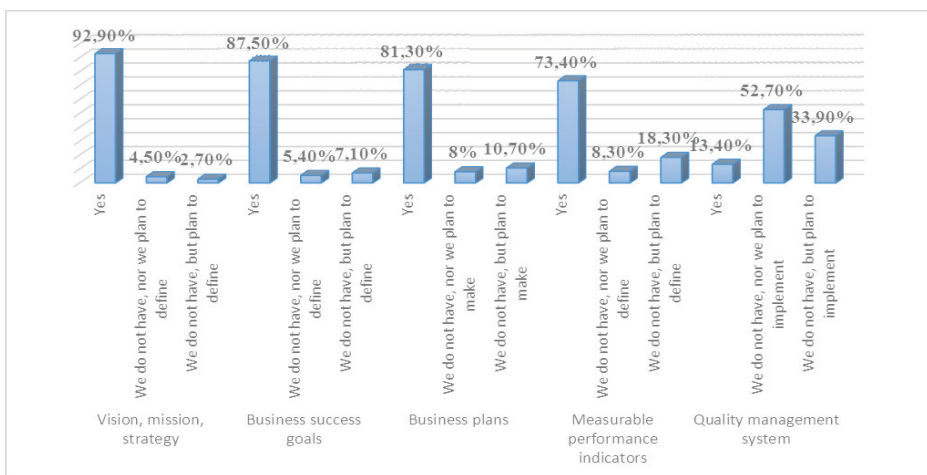
Regardless of the type and size of an enterprise, of the life cycle of an enterprise and other factors, each enterprise implements some of the existing system of performance measurement, it adapts its business, or creates and implements new own model and system performance measurement. For micro-enterprises the possibility of designing and implementing a new model of performance measurement is less applicable due to the lack of human resources required for this process. For this reason, in an empirical study micro-entrepreneurs were asked about the application of existing indicators, methods and models of business performance strategic management.

### 3. Empirical research about the Application of Business Performance Strategic Management in Micro-Enterprises

In order to investigate the level of application of certain indicators, methods and models of measuring business performance in micro-enterprises, an empirical research was conducted using highly-structured questionnaire on a sample of 112 micro-enterprises from the region of Slavonia and Baranja. The survey was conducted in June and July 2016. For the generation and interpretation of research results, appropriate statistical and mathematical methods were used. The initial hypothesis was that the micro-enterprises in the Republic of Croatia have low levels of use of appropriate indicators, methods and models for the purposes of business performance strategic management.

With the first question we wanted to collect the data on whether the micro-enterprises have clearly defined strategic documents, set business success goals, made business plans, defined measurable performance indicators, and have they introduced quality management systems. Response results are presented in Graph 1.

*Graph 1 Existence of strategic documents in micro-enterprises*



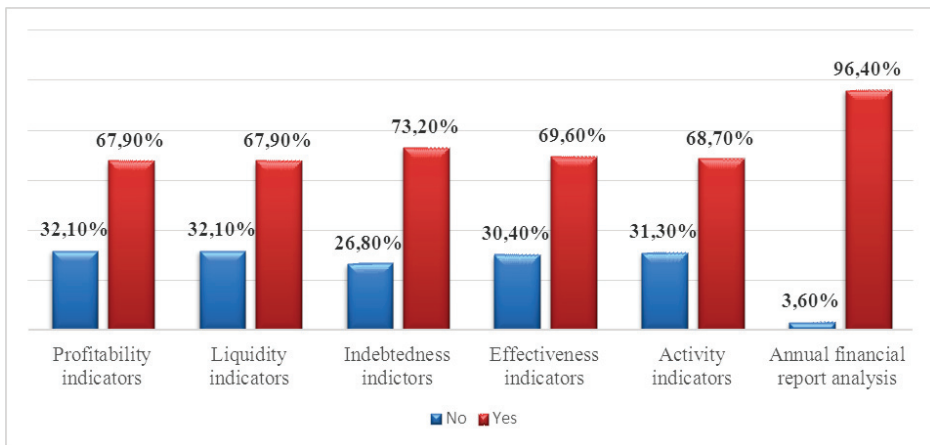
Source: Authors' analysis

Of the 112 owners and managers of surveyed micro-enterprises, 104 (92.9%) of them responded that they have a defined vision, mission and strategy of the enterprise, while 7.2% of them responded they do not. Five of them responded that they do not have them nor plan to define them, while 5 respondents said they do not have them, but the plan to define them. Perhaps when answering a questionnaire a misunderstanding has been created regarding the term "defined" as during interviews with micro-entrepreneurs they have stated that they hold their vision, ideas, plans and objectives in their minds and / or share them with employees, while only few of them have them in writing.

Then the owners and managers of micro-enterprises were asked if they had clearly defined and set business success goals. As much as 98 of them responded that they have defined and set business success goals (87.5%), while 12.5% did not. As much as 91 (81, 3%) micro-enterprises have made business plans, while 18.7% of them did not have such plans. A much smaller number of micro-enterprises have performance objectives defined by measurable performance indicators (73, 4%), while 29 micro-enterprises (26.6%) has not defined them, while 8.3% of them do not even plan to define them. Given the fact that surveyed micro-enterprises have rated quality as a key factor for the success, it is interesting to see the results of research on whether quality management systems have been introduced. Only 15 micro-enterprises (13, 4%) have introduced a quality management system, and 97 (86.6%) of them have not. As much as 52.7% of them have no intention to introduce a quality management system in the future, while 38 micro-enterprises plan to do in the future.

In the second question of this part of the questionnaire respondents were asked whether they use certain indicators, tools and methods in business for the purpose of performance measurement and strategic management. Response results are presented in the following graphs.

**Graph 2** Using financial performance indicators in micro-enterprises

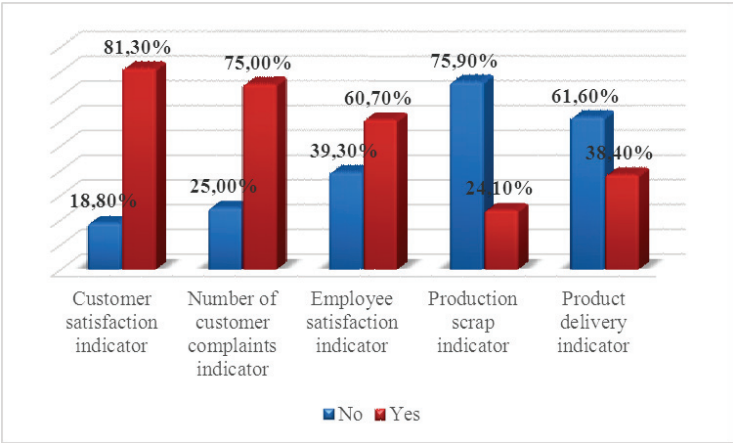


Source: Authors' analysis

From the results it is evident that the least used are indicators of profitability and liquidity (36 respondents), while the most commonly used are indicators of indebtedness. The average number of respondents who use financial indicators is 77, representing 69.46% of owners and managers of surveyed micro-enterprises. Most of the respondents used the analysis of annual financial reports to measure business performance.

Graph 3 below represents the responses to the question whether the owners / managers analyse and monitor non-financial performance indicators to measure business performance.

**Graph 3** Use of non-financial performance indicators in micro-enterprises

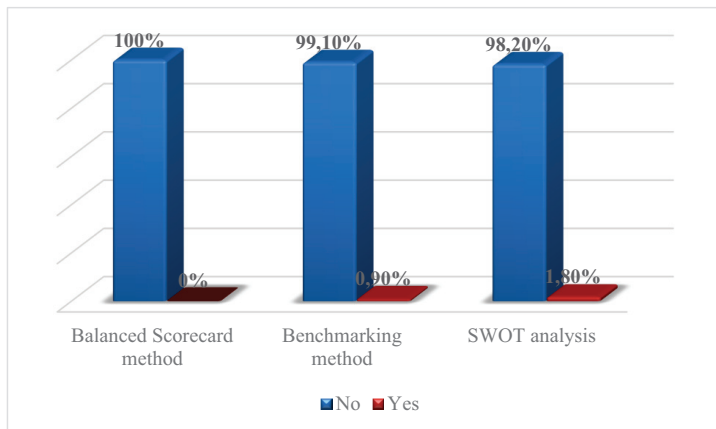


Source: Authors' analysis

The results show greater focus of micro-enterprises towards monitoring customer satisfaction, while they are less focused on monitoring indicators related to internal business processes and human resources. In the first question of this part of the survey, 73.4% of respondents said they have defined measurable performance indicators. Comparing that with this results it can be concluded that there is a lower average number of respondents who use them for the purposes of measuring success. The non-financial performance indicators were on average used in 62 micro-enterprises (approximately 55.3%), while financial performance indicators were on average used in 69 micro-enterprises (approximately 61.6%). It is apparent that the use of performance indicators is lower than the existence of defined performance indicators by approximately 23%.

Given the fact that the SWOT analysis and benchmarking methods are among the methods used to analyse the business in the process of strategic planning and decision-making, and that the BSC model is a method of business performance strategic management, owners and managers of micro-enterprises were asked whether they use those methods in business for the purposes of strategic management.

**Graph 4** Use of the BSC method, benchmarking method and SWOT analysis in micro-enterprises



Source: Authors' analysis

Of the 112 respondents, only 3 responded that they some of offered methods and analyses, of which one person confirmed the use of the benchmarking method (0.90%), while 2 persons (1.80%) confirmed the use of SWOT analysis for the purposes of their business. These data suggest to the fact that if micro-enterprises do not use the BSC method, benchmarking and SWOT analysis method, then their level of use of business performance indicators for the purposes of strategic management is low.

#### 4. Conclusion

Modern business conditions point to the need for changing the existing concept of business performance management in micro-enterprises. The aim of the business performance strategic management in micro-enterprises is to achieve positive financial results, while strengthening the strategic position of the enterprise and achieving competitive advantage.

According to the survey results, it is evident that there is a high level of defined vision, mission and strategies and business success goals. There are significantly lower levels of existence of measurable performance indicators and introduced quality management systems. Micro-entrepreneurs are dominantly using financial performance indicators than non-financial indicators.

Strategic management requires knowledge of modern management methods. The results of the empirical study suggest low or almost non-existent use of methods and tools among surveyed micro-enterprises for the purposes of strategic management, but the results on the use of various financial and non-financial indicators for measuring business performance are not negligible. Among the surveyed micro-enterprises, not a single one applies the Balanced Scorecard method. This result indicates that in micro-enterprises there is a low level of implementation of business performance strategic management, since the BSC model is based on the use of financial and non-financial performance indicators for the purposes of implementing strategic objectives outlined in the strategic maps.



## REFERENCES

- Bititci, U. S., Carrie, A. S. and McDevitt, L. (1997): Integrated performance measurement systems: a development guide. *International Journal of Operations & Production Management*. DOI: <http://dx.doi.org/10.1108/01443579710167230> Available at: <http://www.emeraldinsight.com/doi/pdfplus/10.1108/01443579710167230> (accessed 29. July 2016).
- Carlyle, P. E. (2013): *Business Performance Measurement Use In a Small- to – medium Enterprise: A Case Study*. Doctoral dissertation. New Zealand. Available at: [http://mro.massey.ac.nz/bitstream/handle/10179/5141/02\\_whole.pdf?sequence=2](http://mro.massey.ac.nz/bitstream/handle/10179/5141/02_whole.pdf?sequence=2) (accessed 18. May 2016).
- Dixon, J. R., Nanni, A. J. and Vollmann, T. E. (1990): *The New Performance Challenge: Measuring Operations for World-Class Competition Business*. Homewood, III: Dow Jones Irwin.
- Drury, C. (1990): *Cost control and performance measurement in an AMT environment*. *Management Accounting*, 68(10), pp. 40-46.
- Kaplan, R. S. i Norton, D. P. (1996). *The Balanced Scorecard: Translating Strategy into Action*. *Harvard Business Review*, 78 (5), str. 167. – 176.
- Karić, M. (2005): *Economics of enterprises*. Osijek: University of Osijek, Faculty of Economics in Osijek.
- Laitinen, E. K. (2002): *A Dynamic Performance Measurement System: Evidence From Small Finnish Technology Companies*. *Scandinavian Journal of Management*. 18. 1. 65-69. Available at: [https://www.researchgate.net/publication/223481444\\_A\\_Dynamic\\_Performance\\_Measurement\\_System\\_Evidence\\_From\\_Small\\_Finnish\\_Technology\\_Companies](https://www.researchgate.net/publication/223481444_A_Dynamic_Performance_Measurement_System_Evidence_From_Small_Finnish_Technology_Companies). (accessed 18. July 2016).
- Laitinen, E. K., Chong, G. (2006). *How do Small Companies Measure Their Performance*. *Problems and Perspectives in Management*, 4 (3), str. 49. – 68. Available at [http://businessperspectives.org/journals\\_free/ppm/2006/PPM\\_EN\\_2006\\_03\\_Laitinen.pdf](http://businessperspectives.org/journals_free/ppm/2006/PPM_EN_2006_03_Laitinen.pdf). (accessed 23. May 2016).
- Neely, A., Richards, H., Mills, J., Platts, K., Bourne, M. (1997): *Designing performance measures: a structured approach*. *International Journal of Operations and Production Management*. 17 (11), str. 1131. – 1152. Raspoloživo na: <http://www.som.cranfield.ac.uk/som/dinamic-content/research/cbp/vol17.pdf>. [pristupljeno 23. lipnja 2016].
- Potnik Galić, K. (2012): *Razvoj i primjena integriranih sustava za upravljanje troškovima u djelatnosti industrije*. Doctoral thesis. Split: Faculty of Economics in Split.
- Privredni vjesnik (2016): *400 biggest Croatian companies in 2015*. (3940). Available at: <http://www.400naj.com/>. (accessed 12. March 2017).



Stavlić, K. (2016): *Success factors of micro-enterprises in the Republic Croatia*. Doctoral thesis. University Josipa Jurja Strossmayera. Faculty of Economics in Osijek.

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## **SIGNIFICANCE AND EVALUATION OF PERFORMANCE OF INTELLECTUAL CAPITAL**

## **ZNAČAJ I EVALUACIJA USPJEŠNOSTI INTELEKTULANOG KAPITALA**

### ***ABSTRACT***

*The purpose of this paper is to show the possibility of intellectual capital to create additional value for the company, which is one of the preconditions for strengthening competitiveness. Modern companies today need to pay special attention to human resources management, because it is precisely on this basis generates knowledge based on which the company builds its neimitativnu differentiated value in relation to other competitors both in terms of the national market, and at the global level. In fact, globalization and the rapid development of information and communication technologies have generated business conditions in which competitiveness is no longer based on traditional resources, such as land, labor and capital, but on intangible resources such as knowledge, ideas and creativity. In this context, the intellectual capital understood as an integrative organizational resource that combines human (individual), structural (organizational) and relational (consumer) capital, which is increasingly treated as a support for the construction and preservation of competitive advantage in the 21st century. Systemic and systematic management of the components of intellectual capital, which should be consistent interaction, allow the creation of synergy effects that acts to secure the necessary competitiveness of enterprises. Because of this work aims, through the analysis of literature that deals with the term intelektualnog capita, to investigate the evolutionary development and the importance of the concept of intellectual capital, emphasizes the specificity and complexity, and methods of analysis and measurement of intellectual capital, all in function of successful management of the same in order to strengthen the competitive enterprise performance.*

**Key words:** *intellectual capital, intellectual capital structure, analysis of intellectual capital, human capital, structural capital, relational capital*

## SAZETAK

*Svrha rada je da ukaže na mogućnosti intelektualnog kapitala u stvaranju dodatne vrijednosti za preduzeće koja predstavlja jedan od preduslova jačanja konkurentnosti. Suvremena preduzeća današnjice trebaju posebnu pažnju posvetiti upravljanju ljudskim potencijalima, budući da se upravo na ovoj osnovi generiše znanje na temelju kojeg preduzeće gradi svoju neimitativnu diferenciranu vrijednost u odnosu na ostale konkurente kako u okvirima nacionalnog tržišta, tako i na globalnom nivou. Naime, globalizacija i rapidan razvoj informaciono-komunikacijskih tehnologija generisali su uslove poslovanja u kojima se konkurentnost više ne temelji na tradicionalnim resursima, kakvi su zemlja, rad i kapital, već na neopipljivim resursima kao što su znanje, ideje i kreativnosti. U tom kontekstu je intelektualni kapital shvaćen kao integrativni organizacijski resurs koji objedinjuje ljudski (individualni), strukturalni (organizacijski) i relacijski (potrošački) kapital, koji se sve više tretiran kao oslonac za izgradnju i očuvanje konkurentne prednosti preduzeća u 21. stoljeću. Sistemske i sistematičnim upravljenjem komponenti intelektualnog kapitala, koje bi trebale biti u konzistentnoj interakciji, omogućavaju stvaranje sinergijskih učinaka koji ima ulogu obezbjeđenja neophodne konkurentnosti preduzeća. Zbog toga rad ima za cilj, kroz analizu literature koja tretira pojam intelektualnog kapitala, da istraži evolutivni razvoj i značaj koncepta intelektualnog kapitala, apostrofira njegovu specifičnost i kompleksnost, te načine analize i mjerenja intelektualnog kapitala, a sve u funkciji uspješnog upravljanja istim radi jačanja konkurentnih performansi preduzeća.*

**Ključne riječi:** *intelektualni kapital, struktura intelektualnog kapitala, analiza intelektualnog kapitala, ljudski kapital, strukturalni kapital, relacijski kapital*

### 1. Introduction

Knowledge is becoming one of the key pillars for the establishment and preservation of the competitive advantage in modern enterprises. In the early nineties Drucker pointed out that traditional resources, such as capital, land, labor have less effect on enterprises' competitiveness, whereas the knowledge and knowledge management will become the most valuable resources (Drucker, 1994, 17). Using traditional knowledge resources can be employed in a new and unique way, which will grant superior value to consumers and allow for development of sustainable nonimitative competitive advantage. Also, Potter in his theory of competitive advantages emphasized the importance of intangible assets (non-material resources). In fact, he pointed out that the interactions between tangible and intangible resources are important (exploitation of information-intensive resources, innovation, creativity and the ability of companies) in order to achieve long-term sustainable competitive advantage of companies in the market (Alpeza, 2010, 2). One of the key reasons for knowledge becoming a strategic resource for success of modern enterprises, is rapid expansion of information technologies, and the opportunities they generate for knowledge management i.e. intellectual capital. Company's ability to transform knowledge into intellectual capital, and adequately valorize through creation of new values, provides enterprise competitiveness in the market, and thus the efficiency and effectiveness of operations. Intellectual capital as a generator of competitiveness is the sum knowledge of all employees ("the power of the collective mind") i.e. skills used for enterprise market competitiveness, or the knowledge that can be converted into additional value (Halili, 2012, 305).

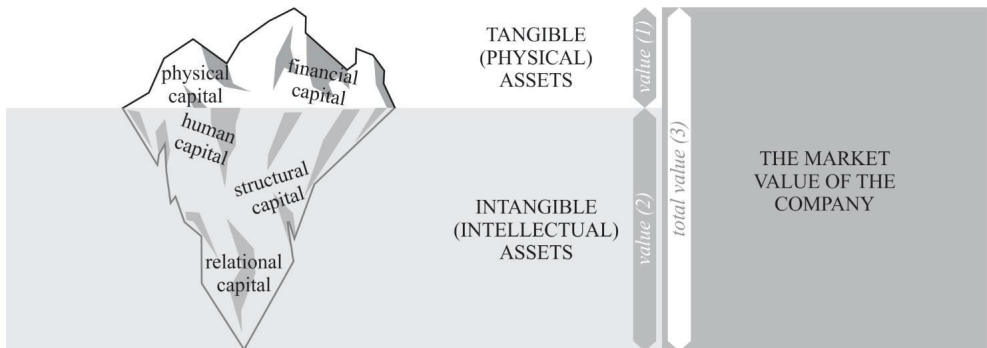
## 2. Review of previous studies on the role of intellectual capital

### 2.1. Specification framework of intellectual capital

The term intellectual capital in economic literature came to use in the 1960s. It implied a dynamic component to create additional value through company business activity. But the popularity of the concept grew from the 1980s with the advent of Stewart's "Brainpower - How Intellectual Capital Is Becoming America's Most Valuable Asset" which was further elaborated in 1997 through the work "Intellectual Capital: The New wealth of organizations."<sup>1</sup>

Intellectual capital can be easily understood through so called "Iceberg" or brand value concept. Accordingly, the market value is reflected as the sum of tangible (physical) and intangible (intellectual) properties. However, intangible assets dominate in the market value structure and comprise human, structural and relational capital.

*Figure 1 The market value of the company*



*Source: made by authors*

Complexity of intellectual capital research is associated with the problem of its unequivocal definition and understanding of components. Namely, to describe the nonmaterial (intangible) assets, intellectual capital, intangible assets, intangible resources, intangible value, intellectual property, and other terms are used. Analyzing the literature, we encounter various definitions. Itami defines intellectual capital as intangible assets of companies involving a number of elements, such as technology, customer loyalty, company image, corporate culture and management skills. According to Hall, the intellectual capital is the driving value that transforms the production resources in assets with value-added. Edvinsson and Malone regard intellectual capital as an asset with no physical expression, but of great importance for business. Sullivan regards the intellectual capital as the knowledge that can be converted into profit (Janošević, Dženopoljac, 2014, 312).

Furthermore, Stewart defined intellectual capital as a "collective brain power", of an organization made up of knowledge, information, intellectual property and experience that exists in the company. Roos, Pike and Fernstrom regard intellectual capital as all intangible and non-physical resources that are fully or partially controlled by the organization or those who contribute to the creation of added value. Bukowitz and Williams represent the intellectual capital as a form of

<sup>1</sup> For example, the assets of Hewlett Packard consisted mainly of intellectual capital, and their value on the stock exchange was called intellectual premium and it comprised added value.

intangible assets which due to flows of knowledge can potentially create goods (Jurczak, 2008, 38-39). Analyzing many definitions, it is evident that the basic concept of intellectual capital can be summarized through its three basic integrative components: human, structural and relational (consumer) capital. These components are intended to create added value, and at the same time strengthen the competitive competences of the company. All definitions generally differ, but none disqualifies the other, and all are based on the knowledge and assets arising from knowledge.

## **2.2. Evolution theory of intellectual capital**

In the early 20th century, many authors emphasized the potential of intellectual capital and potential comparative advantage in the performance of companies in the market. In fact in 1911, Taylor pointed out that the continuing training of workers, cooperation and communication improvement between managers and their subordinates was extremely important for company's efficiency. Furthermore, in 1934 Schumpert claimed that the knowledge will play a very important role in the process of creating new products. Simon, in his paper from 1945 (*Administrative Behavior*) questioned the neoclassical principles of limited resources. He claimed that the inputs of the capital were constrained by physical quantities or financial pressures. The restriction of intellectual capital was only conditioned by the rationality of employees. Polany had an important role in understanding the intellectual capital. In 1967 he introduced the terms explicit knowledge (can be protected and patented) and implicit aspects of knowledge (related to industrial know-how).

In 1980s, Romer published a series of papers entitled "New growth theory", where he explained that economic growth was conditioned by internal system of enterprises or state. He pointed out that the economic growth in one country required accumulation of knowledge at all its levels. His model was based on the division of the world into physical objects and ideas. The objects include all of the major steel mills to carbon and oxygen, a common feature is that they are subject to the law of diminishing revenues.

According to Romer, human beings possess, almost infinite capacity for reconfiguration of physical objects, creating new ideas for their use. In his endogenous growth model he named four basic inputs: (1) capital - measured in units of consumer goods; (2) work - skills at the disposal of the people; (3) human capital - activities related to formal education and training of employees; (4) index of technology level. In order to stimulate economic growth, according to him, countries must create and implement encouraging policies for investment in exploration and development of new ideas (not investing in accumulation of physical capital), and subsidize total accumulation of human capital at the state level. Romer concluded that the economic drivers of national growth were not measures and action plans adopted by the government, but rather a healthy competitive environment. The companies are "competing" with the help of their ideas as well as innovations that have to be realistic within the companies.

Owing to meticulous analysis and theories developed in this area, Romer was considered one of the founders of modern intellectual capital concept. There was a great interest among professionals and scientists as evidenced through numerous papers published in the last century, just to name the few: Hiroyuki I. (1980) *Mobilizing Invisible Assets*; Sveiby K.E. (1986) *The Know-How Company*; Teece D. (1986) *Profiting from Technological Innovation*; Amidon D. (1987) *Managing the Knowledge Asset into the Twenty-First Century*; Sveiby K.E. (1989) *The Invisible Balance Sheet*; Drucker P. (1989) *The New Realities: in Government and Politics, and Economics, and Societa and World View*; Savage C. (1990) *Fifth generation management*,

dynamic teaming, Virtual Enterprising and Knowledge Networking; Sveiby K.E. (1990) Knowledge Management; Senge M.P. (1990) The Fifth Discipline; Stewart T.A. (1991) Brainpower-How Intellectual Capital Is Becoming America's Most valuable asset; Kaplan R., Norton D. (1992) Balanced Scorecard model to measure the intangible asset; Stewart T.A. (1994) Intellectual Capital; Nonaka I, Takeuchi H. (1995) Knowledge Creating Company; Sveiby K.E. (1997) The New Organization Wealth; Stewart T.A. (1997) Intellectual Capital; Edvinsson L., Malone M. (1997) Intellectual Capital (Tadic, 2014, 928-930).

Several so called schools have contributed to the development of "phenomenon" of intellectual capital. One of them is the "Japanese school" (Hiroyuki et al.), which examined the effects of intangible assets on Japanese economic system. This theory points out that Japanese companies strengthen competitive competencies due to explicit and implicit knowledge. It is not the companies that are generators of knowledge, rather their employees. The role of information technology is especially emphasized for the purpose of summarizing this knowledge, and creating a knowledge base which represents the company's most important resource.

"New perspectives on resource efficiency" school (Penrose, Rubin, Rumelt, Prahalad, Teece et al.) is one of the theoretical courses. It emphasized that companies differ according to uniqueness of their own resources, abilities and talents at the disposal to employees. According to this school, companies should focus on knowledge management. Organizational learning should be the primary strategic goal of each company. "Swedish school" (Sveiby, etc.) is also mentioned. Its teachings are reflected through evaluation of human capital and the accounting of intangible assets. It observes the intellectual capital as the sum of components: human (individual), structural and customer capital. This is the model adopted by many Swedish companies as a standard in financial annual reports, the first time that the accounting of intangible assets was recorded. Today, intellectual capital is given considerable research attention.

### **2.3. Structural components of intellectual capital**

The structure of intellectual capital can be regarded from different aspects. Analysing Nokia's balance sheet ("Invisible" balance sheet), Sveiby regarded intellectual capital as intangible assets that included:<sup>2</sup> (1) Internal structure such as patents, various development concepts, models, computer and administrative systems, all this mainly developed by employees, and therefore is the company's property. Sometimes it can be obtained by purchasing it outside of the company. Organizational culture is a significant part of the internal structure. (2) External structure includes relationship with customers and suppliers, brand names, trademarks and brand image. The value of the company's assets is conditioned by its ability to successfully manage the above elements. (3) Individual competence represents the ability of employees to act in different situations. This includes technical and social skills, education, experience and values.

Accounting treatment of intellectual capital is significant due to the fact that the owners of capital often make investment decisions based on financial reports. There is often a gap between the market and accounting value (i.e. "Invisible" balance sheet). Intellectual capital (intangible assets), not presented in the balance sheet has an impact on the positive difference between these two values. International Accounting Standards (IAS) provide for distinguishing of intangible assets<sup>3</sup> only if they can identify, control, and be linked to future benefits or when the cost of acquired intangible assets can reliably be measured (Janošević, Dženopoljac, 2014, 313).

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<sup>2</sup> Invisible balance sheet: [www.sveiby.com/articles/InvisibleBalance.html](http://www.sveiby.com/articles/InvisibleBalance.html)

<sup>3</sup> More in IAS 38, pp. 746

The gap issue between the book and market value is evident in business practice. One of the reasons is how the measurement of values is conducted according to conventional financial performance indicators. For instance, tangible assets of company Merck (1986) amounted to 12.3% (of its market value), in Coca-Cola (1996) 4%. In the same year Microsoft tangible assets amounted to 6% of market value (Alpeza, 2010, 7) etc.

When it comes to intellectual capital structure, one of the most commonly used definitions involves three integrative components: human (individual) capital, structural (organizational) and relational capital (consumer) capital (Fincham, Roslender, 2003, 9-10). (1) *Human capital* is a generator of intellectual capital. It refers to accumulated value of investments in education, skills and the future of all employees and management, and also their ability to use knowledge, skills and experience of converting them to actively create company value. In addition to know-how, experience and skills, human capital represents the creativity, innovation, hard work, responsibility, perseverance, initiative, communication effectiveness, problem solving, critical thinking, independent learning, flexibility and adaptability of employees and management. Individuals having the following characteristics are called "brain workers". Their greatest value lies in the fact that they possess appropriate know-how as the most important and valuable resource for establishment and preservation of competitive advantage. (2) *Structural capital* includes intellectual property as a whole materialized and codified knowledge (patents, licenses, copyrights, franchises, software programs and other materialized value human capital), as well as all the plans, writing strategies, manuals, formally defined rules, control sub-systems, business applications, databases and so on. Unlike human capital, it is possible to quantify its determined value. (3) *Relational capital* in the literature is often called consumer capital. It represents the relationships and connections between the strategic business units, the company and the external environment, such as consumers, distributors, suppliers, partners and other interest groups (stakeholders) in the surrounding environment. Consumer capital is grouped in three categories: business networks, brand (including identity and image) and consumers i.e. the company's relation with them.

All three components of intellectual capital are in constant interaction. This interactive relationship creates synergy providing the competitive strength. However, synergistic effects are only possible with successful knowledge management and intellectual capital i.e. its integral structural components (Sundać, Schwartz, 2009, 56).

### **3. Means of measuring intellectual capital**

Modern business trends indicate that companies with a high share of intellectual capital have a large imbalance between the market and accounting value. In accounting theory, balancing these two values in the process of buying or selling companies is usually defined as a "goodwill". Intellectual capital is contained in all companies and organizational processes, from the top management down to the lowest level. Measuring intellectual capital arises because of the need to successfully manage it and foster it with the ultimate goal of improving business performance and strengthening own competitiveness. Analysis consistency is one of the prerequisites for effective management. However, if we take into account the fact that some elements are intangible (such as human capital), it is clear that the measurement is rather complex. Kaplan and Norton justify the importance of measuring it claiming what cannot be measured can not be controlled.

In order to effectively evaluate intellectual capital, quantifying intangible elements, different indicators associated with efficiency, stability, human resources, customer satisfaction, business

processes etc. are used. Problems with the application of these indicators are usually associated with the number of data and selection of appropriate indicators, ranking in the level of importance, a selection of sufficiently representative indicators, specifying quantitative values, finding multiple collinearity among the many indicators (Brankovic-Merdžo, Đogić, 2015, 366). Selection and application of indicators for analysis and measurement is extremely complex. It also represents indispensable prerequisite for efficient management of intellectual capital. The analysis and measurement can contribute to strategy development, evaluation of implemented strategies, analysis of the business performance, valuation of companies and a number of other factors. In the literature, there is no universal model of analysis and measurement. Several approaches are listed. Given the limitations of the scope of work we will briefly mention the basic ones:

Luthy (1998) and Williams (2000) classified methods into four categories (Jurczak, 2008, 40-44):

1. Returns on Assets Methods (ROA) is a method that measures the ratio of pre-tax profit in the reporting period and the average tangible assets of the company. Obtained value is compared with industry average. Product comparison makes the difference which is multiplied by the average company assets. This result represents the average annual earnings of intangible assets. Weighting of the average annual income with the average cost of capital (interest rate), one can estimate the value of nonmaterial company's assets (intellectual capital). It is evident that the ROA methods rely on the audited financial statements, and therefore have elements of the rigid assessment. This method in the analysis does not take into account the market value of the company. The following are within the ROA methods for measuring intellectual capital:
  - Economic Value Added (EVA) developed by Stewart (1997) indicates the level of intellectual capital utilization, and explain whether it is productive or not.
  - Human Resource Costing & Accounting (HRCA) developed by Johansson (1997) determines latent impact of human resources cost, which reduces company profits. The model measures contribution of human resources to the company in relation to the cost of hiring human resources (amount of salaries and other expenditures).
  - Calculated Intangible Value (CIV) was developed by Stewart (1997) and Luthy (1998) and aims to define the surplus attributable to intangible assets on the basis of return on tangible assets calculation.
  - Knowledge Capital Earnings (KCE) model developed by Leo (1997), measures the proportion of nominal wages above the expected income, which is attributable to accounting property.
  - Value Added Intellectual Coefficient (VAIC) was developed by Pulic (1997). This model measures the output value of capital over the values of the input key resources within the companies that create added value. Measurements can be made at the level of the company or within a specific industry branch.
  - Accounting for the Future (AFTF) developed by Nash (1998) is a projection system using a discounted cash flow. The difference in the end and beginning of the period represents the additional value created during the observed period.
2. Market Capitalization Methods (MCM). It represents the market value of the company and its value through equity. It is mainly used in the assessment of companies linked to the stock market valuation, or while comparing the financial value of nonmaterial property of companies within the same industry. And these models are based on the audited financial statements. This method can be used for the analysis of efficiency within the company and within certain industries. Normally it comprises:



- Tobin's q (Q) developed by Stewart (1997), ratio of the shares' market value and property' replacement cost.
  - Investor Assigned Market Value (IAMV) developed by Standfield (1998). This model takes the true value of the company as the market value and breaks it down by the material capital, which includes realized intellectual capital, erosion of intellectual capital and sustainable competitive advantage (SCA).
  - Market to Book Value (MBV) developed by Stewart (1997) and Luthy (1998), looks at the value of intellectual capital as opposed to market and accounting value.
3. Direct Intellectual Capital Methods (DICM). These methods are detailed and can be applied at any organizational level. They measure vertical resources and intellectual capital from the bottom up. They can be more precise than ROA and MCM methods. The DIC models include:
- Technology Broker (TB) developed by Brooking (1996), based on the company market value as a result of the addition of tangible assets and intellectual capital. Intellectual capital is estimated on the basis of diagnostic analysis in four components: market assets, property focused on human resources, intellectual property assets and infrastructure assets.
  - Citation-Weighted Patents (CWP) developed by Bontis (1996). The focus is on patents developed in the company. The effects of intellectual capital are based on development research through a series of indices such as number of patents, cost of patents in relation to turnover generated from them etc.
  - The Value Explorer (TE) developed by Andriessen and Tiessen (2000) represents the accounting methodology of KPMG used for the calculation and allocation of five types of intangible assets: assets and endowments, skills and tacit knowledge, collective values and standards, technologies and explicit knowledge, basic and control processes.
  - Intellectual Asset Valuation (IAV) was developed by Sullivan (2000) for the assessment value of intellectual property right.
  - Total Value Creation (TVC) was developed by Anderson and McLean (2000). Discounted cash flows are used in order to evaluate how the events affect the planned activities.
4. Scorecard Methods (SC). They are easily applicable for the analysis of the current state and are not based on financial indicators. The measurement is performed vertically from the bottom upwards. They can be used with nonprofit or government organizations and are intended for wider social analysis with the exception of profit-oriented companies. Measurement indicators are set contextual, meaning a resource may differ between each organization and purpose. They are not suitable for comparison. In this model we will find:
- Human Capital Intelligence (HCI) developed by Fitz and Enz (1994). It presents sets of indicators related to human capital, compared with the database.
  - Skandia Navigator (SN) was developed by Edvinsson and Malone (1997). According to this model, the hidden value of intellectual capital is the list of more than 50 value items such as a trademark, concessions, a database of clients, information systems, etc. The market value of the company includes financial capital (physical assets and money) and intellectual capital. Furthermore, intellectual capital makes human and structural capital, and this capital includes customer and organizational capital, while organizational is made up of the innovation and process capital.
  - Value Chain Scoreboard (VCS) was developed by Lev (2002). This model is presented through a matrix of non-financial indicators grouped into categories according to development cycle: discovery, learning, implementation and commercialization.
  - Intangible Asset Monitor (IAM). This model was developed by Sveiby (1997) and is a non-financial presentation format of measurement and management of intangible assets.

Management of the company selects indicators based on company's strategic goals four aspects: growth, renewal, efficiency of use, risk reduction and stability. The model is suitable because it can be integrated through the information system for constant monitoring.

- Intellectual Capital Navigator and Intellectual Capital Index (IC Index) developed by Roos and associates (1997). Through this model, the intellectual capital is divided into three categories: human, relational and organizational which includes conventional physical and financial resources. The purpose of this model is to help managers to monitor, through the measurement and visualization, the growth of intellectual capital.
- Value Creation Index (VC Index) was developed by Ittner and his associates (2000). The resulting index is the calculation used to compare and combine with financial indicators.
- Balanced Scorecard (BSC) developed by Kaplan and Norton (1996) measures company's performance whose intangible assets plays an important role in value creation. This method takes into account analysis of the entire enterprise through four promising categories (finance, customers, learning and growth, and the strength of internal processes). Each category has its particular scoring under the general indicators (objectives, measures, targets and initiatives).

#### 4. Conclusion

With regards to achieving sustainable competitiveness, modern enterprises need to pay special attention to human resources management, since people generate knowledge. Based on the knowledge the company builds its nonimitative difference relative to competitors in the global market. The task of management is to integrate available knowledge owned by the company utilizing possibilities of information technology. This is done in order to transform intellectual capital which is necessary to create value, build and preserve competitiveness. Strategic Resources are no longer traditional resources such as capital, land and labor, but the synergistic effect of a human, organizational and relational capital as intellectual capital components.

Human capital is a key component in intellectual capital structure. It is difficult to copy and imitate. Integrating human capital in the structural, the risk of losing competitive advantage is reduced. The structural capital comprises all the elements remaining in the company after working hours. It is not directly linked to turnover and absenteeism of employees. It is therefore recommended that the competitive advantage is based precisely on this element of intellectual capital. This leads us to the conclusion that investment in human capital should be imperative in modern enterprises allowing them market uniqueness and distinctiveness i.e. a competitive advantage over other market players.

#### REFERENCES

- Alpeza, M. (2010): *Znanje kao konkurentna prednost*, Ekonomski fakultet u Osijeku, Osijek
- Bontis, N. (2002): *Cuttingedge thinking on intellectual capital and knowledge management from the world's experts*, World Congress on Intellectual Capital Readings, Butterworth-Heinemann
- Branković-Merdžo, Š., Đogić, R. (2015): *Mjerenje intelektualnog kapitala u funkciji kvalitetnog upravljanja*, 9. Nučno-stručni skup sa međunarodnim učešćem „Quality 2015“, Neum, pp. 365-370.

Drucker, P.,(1994): *Razvoj društva znanja*, Pregled br. 267

Edvinsson, L. (2003): *Korporacijska longituda–Navigacija ekonomijom znanja*, Differo, Zagreb

Fincham, R., Roslender, R., (2003): *The Management of Intellectual Capital and its Implications for Business Reporting*, The Institute of Chartered Accountants of Scotland

Haljilji B., (2012) *Intelektualni kapital kao determinanta kreiranja vrednosti i konkurentske prednosti kompanija*, Socioeconomica, Vol. 1, No 2, pp. 303-312.

Janošević, S., Dženopoljac, V. (2014): *Efikasnost upotrebe intelektulanog kapitala kao determinanta finansijskih performansi kod najuspješnijih Kragujevačkih preduzeća*, pp. 311-328.

<http://ekfak.kg.ac.rs/sites/default/files/Zbornik/25%20%20S.%20Janosevic%20i%20V.%20Dzenopoljac.pdf> (accessed 15.06.2016.)

Jurczak, J., (2008): *Intellectual Capital Measurement Methods*, Institute of Organization and Management in Industry „ORGMA SZ”, Vol 1(1); pp. 37-45.

Kaplan, R.S., Norton, D.P. (1996): *Using the Balanced Scorecard as a Strategic Management System*, Harvard Business Review, January-February, pp. 75-85.

Kok, A. (2007): *Intellectual Capital Management as Part of Knowledge Management Initiatives at Institutions of Higher Learning*, Electronic Journal of Knowledge Management, Vol. 5, Issue 2, pp. 181-192.

Kolaković, M. (2003): *Teorija intelektualnog kapitala*, Ekonomski pregled, 54(11-12), pp. 925-944.

Marušnik, B. (2012): *Ljudski resursi u funkciji društveno-ekonomskog razvoja*, Socioeconomica, Vol. 1, No 2, pp. 166-174.

Pravdić, P., Kulinar, R. (2015): *Značaj upravljanja intelektualnim kapitalom*, Trendovi poslovanja, Broj 5, pp. 11-18.

Pulic, A., (2008): *The Principles of Intellectual Capital Efficiency - A Brief Description*, Centar za intelektualni kapital, Zagreb

Romer, P. (1990): *Endogenous Technological Change*, Journal of Political Economy 98, October, pp. 1002-1037.

Stewart, T.A. (1998): *Intellectual Capital: The new wealth of organizations*, London, Publishing

Sundać, D., Fatur, I. (2004): *Intelektualni kapital – čimbenik stvaranja konkurentskih prednosti logističkog preduzeća*, Ekonomski pregled, 55(1-2), pp. 85-96.

Sundać, D., Švast, N. (2009): *Intelektualni kapital – temeljni čimbenik konkurentnosti preduzeća*, Ministarstvo gospodarstva, rada i poduzetništva, Zagreb

Tadić, I. (2014): *Definisanje „snopova“ funkcije upravljanja ljudskim resursima i njihove povezanosti s finansijskim performansama preduzeća*, Ekonomska misao praksa dbk., God. XXIII, Br. 1, pp. 145-170.

*Nevidljivi bilans stanja*: [www.sveiby.com/articles/InvisibleBalance.html](http://www.sveiby.com/articles/InvisibleBalance.html) (accessed 24.06.2016.)





**Umjesto  
zaključka**

**Instead  
of a conclusion**

## Umjesto zaključka

Radovi 6. Međunarodnog znanstveni simpozija „GOSPODARSTVO ISTOČNE HRVATSKE, VIZIJA I RAZVOJ“(25-27.o5. 2017.g.) obuhvatili su pretežno sva tematska područja. Ipak je za istaknuti kako je najveći interes istraživača i znanstvenika za tematskapodručja „Novi trendovi u razvoju gospodarstva“, „Financijske institucije “ i Regionalni razvoj – izazovi i prilika“. Ostala tematska područja su ravnomjerno zastupljena osim tematskog područja „Društveno odgovorno poduzetništvo“, jer su obrađena dva rada, dok su u tematskom području „Međusektorska suradnja & Partnerstvo“ i „Značaj civilnog društva za razvoj regije“ obrađena samo po jedan rad. Očito se još nije uočila potreba neophodnog udruživanja raznih oblika, briga za socijalni sektor i njegovo uključivanje u gospodarske aktivnosti kako se ne bi osjećali otuđeno od društva, a isto tako i uloga nevladinih organizacija u pomoći za razvoj gospodarstva kroz aktivnosti „Quadraple helix model“. Ovu konstataciju, kod pregleda radova pretpostavljamo da će se uočiti problem i više na te teme provoditi edukacija, radionice s primjerima dobre prakse.

Ukupno je 119 radova, kao autori ili koautori sudjelovalo je cca 240 sudionika Simpozija i to pretežno mladih znanstvenika i istraživača sa raznih sveučilišta i prakse iz zemlje i inozemstva: Mađarske, Slovačke, Češke, Poljske, Slovenije, BiH, Srbije, Makedonije, Kosova, Armenije, Australije i Kanade.

### Tematsko područje „Povijesna naslijeđa u razvoju istočne Hrvatske“ obrađuje:

- „Multikulturalnost koja je na ovim prostorima ostavila značajne tragove kao što su građevine, povijesne lokalitete, spomenike s povijesnim obilježjima, arheološka nalazišta, sakralne objekte, povijesne tehnološke komplekse i druge sadržaje. U radu je iskazana potreba za evidentiranjem nepokretne kulturne baštine radi povećane turističke ponude istočne Hrvatske;
- vrijeme – gospodarskog života Hrvatske u Austro Ugarskoj Monarhiji;
- naselja Beljskog vlastelinstva na području današnje Hrvatske Baranje – tradicionalni oblici gospodarske djelatnosti;
- crnu slavonsku svinju koja je uključena u Nacionalni program očuvanja izvornih i zaštićenih pasmina domaćih životinja u RH – doprinos autohtone pasmine crne slavonske svinje te značenje istočne Slavonije u europskom kontekstu;
- Početke hoteljerstva u Osijeku sa svrhom obnove i razvoja turizma s naznakom kako .....“Sve navedene povijesno i arhitektonski vrijedne građevine recentno gube izvornu namjenu što degradira kulturni i gospodarski život središta grada...” te da „treba preispitati mogućnost vraćanja ovog prostora izvornoj ugostiteljskoj namjeni pri čemu je očuvanje izvorne elemente interijera potrebno odgovarajuće prezentirati.“;
- korištenje knjižnične baštine za stvaranje novih kulturnih i turističkih atrakcija u cilju razvoja i obogaćivanja turističke ponude, a u svrhu razvoja kulturnog turizma ...;
- povijesno naslijeđe Dubrovačke Republike što služi kao dobar primjer kako bi trebalo istaknuti povijesna naslijeđa sa svrhom razvoja kontinentalnog turizma.

### U tematskom području „Novi trendovi u razvoju gospodarstva“ radovi su predočili svoje vizije za razvoj kao što su:

- davanje smjernica i definiranje koraka za razvoj kontinentalnog i kulturnog turizma odnosno ključne aktivnosti koje će dovesti do povećanja broja noćenja u sezonama od 2017-2020.;
- stvaranje konkurentne prednosti – odnosno zadobivanje jedinstvene tržišne pozicije;
- razvijati gospodarstvo i približiti se europskim standardima;

- utjecati na poticanje inovativnosti i postizanja konkurentnosti na razini EU i RH
- postavljanje strateških ciljeva razvoja „zelene“ mobilnosti u urbanim sredinama koja je ne samo ekološki, zdravstveno i prometno opravdana nego ima svoje direktne i značajne pozitivne ekonomske učinke kako za korisnike, tako i za društvo u cjelini;
- problemi i izazovi s kojima se susreću novi poduzetnici, daljnji napredak u implementaciji *Second Chance principle*, prvenstveno na smanjivanje razdoblja potrebnog da se okonča stečajni postupak koji je neophodan u cilju stvaranja novih poduzetnika i novih poduzeća....;
- strategija upravljanja rizicima;
- digitalna burza kao model otvorenog i transparentnog tržišta potpomognutog digitalnom tehnologijom;
- upravljanje inovacijskim procesima usmjerava se u najvećoj mjeri kreativnost i poboljšavanje postojećih proizvoda, usluga i procesa. Cilj istraživanja je prikazati temeljne prednosti korištenja inovacija i tehnologije u okviru inovativnog menadžmenta kako bi se postigla konkurentska prednost. Svrha rada je dokazati poboljšanje proizvodnih procesa kao i samo zadovoljstvo gosta kroz korištenje inovativnih metoda upravljanja;
- uloga sektora prometa u hrvatskom gospodarstvu prema pojedinim vrstama prijevoza. Koristeći se statističkim metodama u radu se analiziraju gospodarski trendovi sektora prometa i trendovi kretanja pojedinih vrsta prijevoza;
- čimbenici koji utječu na strategije trgovačkih lanaca i formata, s naglaskom na suvremene oblike prodavaonica koji su najviše prilagođene potrošačima i trgovcima;
- prikazani shematski prikaz moguće upotreba CPS – *Cyber-physical system* u daljnjem razvoju industrije kako bi se cijeli proces mogao odvijati od kuće gdje bi kupci mogli sami dizajnirati proizvodi pustiti ga u proizvodnju. ....;
- prikazati promjene u strukturi razmišljanja i djelovanja zaposlenika poduzeća na primjeru Vinkoprom uvođenjem formalnog obrazovanja i strateškog upravljanja u poduzeću;
- primjera ekonomskih koristi koje marketing na društvenim medijima može ostvariti preko raznolikih društvenih medija putem komunikacijskih strategija koje imaju potencijal biti održiv;
- kretanje pojedinih varijabli mirovinskog osiguranja važnih za održivost čitavog sustava;
- uočavanje pojedinih prednosti i nedostataka u razvoju mirovinskog osiguranja ... prijedlog kako bi se poboljšali ekonomski i socijalni učinci mirovinskog osiguranja i omogućila njegova dugoročna održivost; Pronalaženje generalnog modela upravljanja znanjem koji bi omogućio gospodarski razvitak istočnoj Hrvatskoj;
- predstavljanje koncepta informacijske pismenosti mladih, cilj je analizirati koje i kakve vrste edukacija o informacijskoj pismenosti se nude u Hrvatskoj. Daju se smjernice i upute o uključivanju programa edukacije o informacijskoj pismenosti u redovitu nastavu u osnovnim i srednjim školama te s posebnim naglaskom na fakultetima;
- poduzetničko učenje u osam pan-europskih zemalja ... nužnost podizanja razine poduzetničke kompetetivnosti na razini svih uključenih zemalja .... Poduzetničko učenje neophodno kao doprinos društvenom i gospodarskom razvoju regije....;
- prikaz položaja raseljenog hrvatskog iseljništva s obzirom na određite na koji način doprinose domovini.



### **U tematskom području „Ljudski kapital u funkciji društveno – ekonomskog razvoja regije“ istaknuto je:**

- značaj cjeloživotnog učenja kao važan faktor u zapošljavanju ,te daje priliku svakome da se uključi u društvo znanja koje je glavna pokretačka snaga modernog društva a produktivnost može graditi konkurentnost na svjetskom tržištu ...;
- koliko su čelnici visokoškolskih institucija uspjeli implementirati principe Bolonjske deklaracije od njezinog uvođenja do danas;
- strategija upravljanja konfliktima ...;
- važnost učenja i vještina stranog jezika pri zapošljavanju i stjecanju uspješne karijere;
- potreba za korištenje mentorstva u stvaranju lidera u svim sferama modela razmjene znanja i iskustava, bez obzira o kakovim se poslovima radilo sa svrhom bržeg i kvalitetnijeg ostvarivanja postignuća, a kroz to i ostvarivanja bržeg gospodarskog rasta;
- postojanje značajne povezanost između društvenog kapitala i subjektivne kvalitete života povezanih s namjerom za iseljenjem.

### **Tematsko područje „Uloga prava u razvoju gospodarstva“ obrađuje:**

- preporuke za daljnja istraživanja o kružnom gospodarstvu u RH i njegovom utjecaju na okoliš i nacionalnu ekonomiju;
- ostvarivanje prava na intelektualno vlasništvo u RH. – jer je „intelektualno vlasništvo je važan gospodarski , ali i pravni čimbeniku pri sklapanju poslovnih odnosa;
- implementaciju menadžerskih inovacija do učinkovitosti lokalne samouprave;
- „Fiskalni federalizam u funkciji gospodarskog razvoja“ ukazuje na prednost fiskalnog federalizma i na probleme koji se tiču prikupljanja javnih prihoda odnosno izostanka prikupljanja istih od strane jedinica lokalne i regionalne samouprave...;
- javnu nabavu, te ističe „Čimbenik od najvećeg utjecaja na trajanje javne nabave stroga je zakonska propisanost postupka ...;
- zaštitu prava potrošača i mehanizmi njezine provedbe u nacionalnim sporovima s prekograničnim elementima;
- pravnu sigurnost u funkciji gospodarskog rasta ... ima za cilj definirati ključne probleme u funkcioniranju pravne države koji sprečavaju sigurnost ulaganja i razvoj gospodarstva;
- cijene u poljoprivredi na primjeru Poljske.

### **U tematskom području „Međusekorska suradnja& Partnerstva“ obrađeni su predloženi modeli:**

- „Novi oblici suradnje u funkciji razvoja znanja“ ... sa ciljem stvaranja „inicijative za ojačavanje sveukupne srednjoeuropske suradnje, kao nove međunarodne organizacije ili novih mehanizama suradnje „Tri mora“.

### **Radovi koji su obradili Tematsko područje „Ekologija – zaštita prirode i okoliša“ sadrže:**

- problem ekologije i zaštite okoliša ... Trendovi su na sve veću osviještenost potrošača o potrebi za ekološki proizvedenoj hrani od strane domaćih proizvođača, te se stoga javlja „sve više proizvođača eko proizvoda koji prodaju proizvode na vlastitim seoskim domaćinstvima, tržnicama i lokalnim sajmovima;
- odvojeno prikupljanja otpada uz ekonomsku korist ...;
- troškove učinkovitosti pogona konja u operaciji oranja ...;
- program i politiku obnovljivih izvora energije;

- vezu između obnovljivih izvora energije i održivosti turističke destinacije ...Rad govori o činjenici da je krajem 19. stoljeća u Osijeku osnovano Društvo za poljepšavanje grada koje je nastojalo razvijati građansku svijest u pogledu ekoloških pitanja i zaštite okoliša;
- ulogu mjera za poticanje proizvodnje „zelene“ električne energije“ „Cilj rada je utvrditi mogućnost ekološke poljoprivrede kao održivog sustava. Metode koje se koriste u radu su izračunavanje različitih kategorija potrošnje prirodnih resursa s naglaskom na neobnovljive izvore energije primjenom kalkulatora ekološkog otiska;
- analize i empirijski rezultati faktora efikasnosti utjecaja na okoliš ...;
- agroekologija kao čimbenik ekonomskog razvoja -- znači korištenje tradicionalnih metoda koje su u skladu s obilježjima lokalne sredine i ne ograničavaju se samo na proizvodnju hrane, nego i na preradu hrane, proizvode izrađene od prirodnih materijala, drva, kamena i dr. na način održivog odnosa prema prirodi ....;
- energetske učinkovitost zgrada.

#### **U tematskom područje „Društveno odgovorno poduzetništvo“ sudionici su obradili:**

- „Ekonomija dijeljenja“ kroz kritičku analizu pojašnjava različite interpretacije ovog pojma. „Cilj rada je pružiti holistički prikaz ekonomije dijeljenja i mogućnost njezine implementacije, kolaboriranja i suradnje na svim razinama;
- Društveno odgovorno poduzeće značajno mijenja oblike komuniciranja poduzeća s njegovim dionicima. ... Cilj rada je na znanstveno utemeljenim osnovama ukazati na potrebu kreiranja do poslovnih strategija od strane menadžmenta.

#### **U Tematskom području „Značaj civilnog društva za razvoj regije“ istaknuti su:**

- Ekonomski i financijski aspekti djelovanja neprofitnih nevladinih organizacija u Hrvatskoj, obrađuje potrebu za financiranjem neprofitnog sektora, stupnja razvijenosti socijalnog poduzetništva, kao i ukupnog ekonomskog potencijala neprofitnog sektora u cjelini.

#### **U tematskom području „Regionalni razvoj – izazovi i prilike“ sudionici su kroz viziju razvoja istočne Hrvatske naveli:**

- doprinos riječnih krstarenja gospodarskom razvoju istočne Hrvatske.
- primjenu integriranog sustava upravljanja u hrvatskim tvrtkama uz usmjerenost na poslovne klastere ,povezati broj certificiranih tvrtki radi sustavnog upravljanja kvalitetom, sustavnim upravljanjem okoliša
- testiranje Gibratova zakona u Hrvatskoj ;
- prometnu nesigurnost ... cilj rada je povećati sigurnost urbane prometne mreže grada Osijeka u blizini škola i dječjih vrtića ;
- tradicijsku vinogradarsku arhitekturu kao dio poljoprivrednog arhitektonskog nasljeđa ... još uvijek je sačuvan relativno velik broj primjera tradicijske vinogradarske arhitekture od kojih je jedan dio zaštićen kao kulturno dobro...;
- turistički klaster „Slavonska košarica“ na turističkim tržištima;
- problem regionalne nejednakosti te njihov utjecaj za ostvarivanje ljudskih prava. Razvoj modernog tržišta komercijalnog skladišnog prostora kao objekta logističke infrastrukture u regiji iskustvo iz Poljske;
- proces brendiranja turističkih destinacija Istočne Hrvatske, kreiranje imidža i turističkih proizvoda temeljenim na legendama i mitovima Istočne Hrvatske;
- analizu modela privatizacije u Slavoniji;

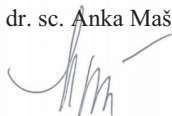
- ulogu i utjecaj zadruga na gospodarstvo Istočne Hrvatske - razni oblici poslovne povezanosti;
- inovacije kao čimbenik uspješnosti mikro poduzeća u Regiji Slavonija i Baranja. Postoji značajna povezanost između broja inovacija i uspješnosti poslovanja...;
- kulturni turizam i kulturno tradicijske manifestacije – kako bi se definirale glavne smjernice turističkog razvoja kulturo-tradicijske manifestacije;
- „Učinkovitost informacijsko komunikacijskog sustava i njihov utjecaj na poslovne procese u velikim Slavonskim poduzećima“ prijedlog autora je ukazati na nedostatke te ponuditi mjere za njihovo uklanjanje i poboljšanje kako bi se približili svjetskim trendovima poslovanja.

**U tematskom području „Financijske institucije“ najviše je zastupljenih radova koje obrađuju:**

- procjenu determinanti deficita tekućeg računa;
- fiskalne učinke, odgovornost i transparentnost;
- ulogu računovodstva u održivom razvoju parkova prirode Istočne Hrvatske;
- potrebu za većom financijskom pismenosti populacije na stručnim studijima visoke škole za menadžment u turizmu i informatici u Virovitici, te preporuke za jačanje financijske pismenosti kako bi razvijali svoju svijest o financijskim mogućnostima uzimajući u obzir sve potencijale struke;
- koncentraciju u bankarstvu na području Istočne Hrvatske te njen utjecaj na razvoj gospodarstva;
- financijsko ponašanje građana RH u zadnjih deset godina,..financijska pismenost građana je u porastu;
- učinak poreznih poticaja na gospodarski rast i razvoj, te na osnovu istraživanja, dani su i prijedlozi poboljšanja u području poticaja za istraživanje i razvoj;
- usporedba nacionalnog računovodstvenog okvira Hrvatske, Slovačke i Češke. U analizi računovodstvene regulative je ustanovljeno postojanje razlike, ali i sličnosti, što ukazuje na bolje razumijevanje nacionalnih računovodstvenih pravila;
- ekonometrijsku analizu plaća hrvatskih gradonačelnika i njihovih zamjenika - koji faktori i u kojem obujmu utječu na visinu plaća gradonačelnika i njihovih zamjenika.
- biheviorizam ponašanja tržišnih sudionika na donošenje odluka;
- utječe li cijena nafte na Hrvatsko tržište kapitala;
- digitalnu burzu;
- ponašanje i uglađivanje dividendi kompanija na Zagrebačkoj burzi;
- mogućnosti implementacije Balanced Scorecard Modela u poslovanje mikro poduzeća sa zaključkom da je prilično ograničen primjena BSC u mikro poduzećima, ali „da se uz prilagodbu modela može primijeniti praćenja uspješnosti poslovanja mikro poduzeća.

Svi ovi radovi trebali bi biti uzeti u obzir kod donošenja Strategije razvoja Hrvatske. Ako samo i jedan rad bude prihvaćen u praksi ovaj Simpozij opravdao je svoja nastojanja.

Prof. dr. sc. Anka Mašek Tonković



## **In Closing**

Papers submitted for the 6<sup>th</sup> International Scientific Symposium “Economy of Eastern Croatia, Vision and Development” (25<sup>th</sup> to 27<sup>th</sup> May, 2017) covered almost all thematic areas. However, it should be noted that scientists and researchers have shown the greatest interest for the following thematic areas: “New Trends in Economic Development”, “Financial Institutions” and “Regional Development - Challenges and Opportunities”. Other thematic areas are evenly represented except for the thematic area “Socially Responsible Entrepreneurship” where two papers have been submitted, while in the thematic areas “Inter-sector Cooperation & Partnerships” and “Significance of Civil Society for the Region’s Development” only one paper per area has been done. Clearly, the need was not recognized for necessary merge in various forms, care for social sector and its involvement into economic activities in order not to feel alienated from the rest of the society, as well as the role of NGOs in supporting the economic development through the “Quadruple Helix Model” activities. We believe this observation will help in recognizing the problem while going through the papers, and more education and workshops with good practice examples will be dealing with these topics.

There are 119 papers in total, and 240 participants of the Symposium have participated either as authors or co-authors. These are mostly young scientists and researchers coming from various universities or the practice, domestic and international, from Croatia, Hungary, Slovakia, Czech Republic, Poland, Slovenia, Bosnia and Herzegovina, Serbia, Macedonia, Kosovo, Armenia, Australia and Canada.

### **In the thematic area “Historical Heritage in the Development of Eastern Croatia” the papers deal with:**

- „Multiculturalism which has left numerous marks in this region, such as the buildings, historical sites, historical monuments, archaeological sites, sacral objects, historical technological complexes, and other.” The paper shows the need to register immovable cultural heritage in order to enrich the tourist offerings of Eastern Croatia;
- The time - Croatian economic life in the Austro-Hungarian Monarchy;
- Settlements in Belje seigniory in today’s Croatian Baranja - traditional forms of economic activities;
- Black Slavonian pig which is included in the National program for conservation of native and protected breeds of domestic animals in Croatia - contribution of the autochthonous breed of Black Slavonian pig and the significance of Eastern Croatia in the European context;
- The beginnings of the hotel industry in Osijek with the purpose of restoration and development of tourism, with the following notes: “...All the mentioned historically and architecturally valuable buildings have recently started to lose their original purpose which degrades the cultural and economic life of the city centre...”; and “...the possibilities of returning this area to its original catering purposes should be considered, during which we need to adequately present the remaining original elements of the interior...“;
- Using the library heritage to create new cultural and tourist attractions in order to develop and enrich the tourist offerings... ..and develop the cultural tourism...;
- Historical heritage of the Dubrovnik Republic which serves as a good example how we should promote historical heritage in order to develop the continental tourism.

**In the thematic area “New Trends in Economic Development” the papers presented their development visions, such as the following:**

- We need to set the guidelines and define the steps for development of the continental and cultural tourism, that is the key activities which will contribute to the increase of the number of overnight stays in seasons 2017 to 2020;
- Create a competitive advantage - that is, take up a unique market position;
- Develop the economy and get closer to the European standard;
- Influence the stimulation of innovation and increase of competitiveness on the national and EU levels;
- Set the strategic development goals for “green” mobility in urban areas which is not only ecologically, healthcare- and traffic-wise justified, but also has direct and significant positive economic benefits for the users and the society as a whole;
- Problems and challenges the new entrepreneurs face... further development in implementation of the Second Chance principle, primarily in decreasing the period necessary to finish the bankruptcy proceedings, which is necessary in order to create new entrepreneurs and new businesses...;
- Risk management strategy;
- Digital marketplace as a model of open and transparent market supported by digital technology;
- Management of innovation processes, which mostly directs creativity and improvements of the existing products, services and processes. The goal of the research is to present basic advantages of using innovation and technology within the innovative management framework in order to gain competitive advantage. The purpose of this paper is to demonstrate the improvement of production processes, as well as the guest’s satisfaction through usage of innovative management methods;
- The role of traffic sector in Croatian economy according to different types of transport. Using statistical methods, the paper analyses economic trends in the traffic sector and current trends for different types of transport;
- Factors that determine the strategies of retail chains and formats, with emphasis on modern forms of stores which are highly adapted to consumers and merchants;
- Presented schematic display of possible usage of CPS (Cyber-physical system) in further development of industry, so that the whole process takes place at home where consumers could design a product by themselves and send it to production...;
- Display the changes in the employees’ structures of thinking and acting by implementing formal education and strategic management within a company, on the example of the company Vinkoprom;
- Examples of economic benefits achievable by social media marketing through various social media using communication strategies with the potential to be sustainable;
- Movements of specific Pension Insurance variables important for sustainability of the whole system;
- Noticing some advantages and disadvantages in development of the Pension Insurance... a proposition to improve economic and social effects of the Pension Insurance and enable its long-term sustainability;
- Finding a general model for knowledge management that would enable economic development of Eastern Croatia;
- Presenting a concept for information literacy of young people... the goal is to analyse which and what kind of information literacy education are offered in Croatia... ...It gives guidelines and instructions for incorporating information literacy education

programs into regular classes in primary and secondary schools and universities with a special emphasis;

- Entrepreneurial learning in eight Pan-European countries... ..the necessity of upgrading the level of entrepreneurial competitiveness in all included countries... ..Entrepreneurial learning necessary as a contribution factor for social and economic development of the region...;
- An overview of the position of displaced Croatian emigrants considering their destination and the way they contribute to their homeland.

**In the thematic area “Human Capital in the Function of Social and Economic Development of the Region” we can emphasize:**

- Significance of the life-long learning as an important employment factor which gives everybody a chance to enter the society of knowledge, the main driving force of the modern society, and entrepreneurship which can build competitiveness in the world market...;
- In what degree did the leaders of higher education institutions managed to implement the principles of the Bologna Declaration since its introduction to date;
- Conflict management strategy...;
- The importance of learning and having foreign language skills for employment and having a successful career...;
- The need for using mentorship when creating leaders in all areas of the knowledge and experience exchange model, regardless of the type of business, with the purpose of a faster and better realization of achievements and consequently a faster economic growth;
- The existence of a significant link between the social capital and a subjective life quality connected to the intention to emigrate.

**In the thematic area “The Role of Law in Economic Development” we provide:**

- Recommendations for further research on circular economy in Croatia and its influence on the environment and the national economy;
- Introduction for the Symposium participants on realization of intellectual property rights in Croatia, because “the intellectual property is a significant economic and legal factor when making business relationships”;
- Through the implementation of management innovations to the efficient local government;
- *Fiscal Federalism in the Function of Economic Development* points to the benefits of fiscal federalism and problems regarding the collection of public revenues, that is the absence of their collection, by the local and regional governments...;
- Public procurement: “The foremost factor for duration of public procurement procedures are strictly prescribed legal procedures...”;
- Protection of consumer rights and mechanisms of its implementation... in national disputes with cross-border elements;
- *Legal Security in Function of Economic Growth...* has a goal of defining the key problems in the functioning of the rule of law which prevent investment security and economic development;
- Researching the question of agricultural prices on the example of Poland.

**In the thematic area “Inter-sector Cooperation & Partnerships” the proposed models were analysed:**

- *New Forms of Cooperation in the Function of Knowledge Development...* ...with the purpose of creating “the initiative to strengthen overall Central-European cooperation, as a new international organization or new cooperation mechanisms of “The Three Seas”.

**Papers dealing with the thematic area “Ecology - Protection of Nature and Environment” contain the following:**

- Problems of ecology and protection of nature... ..The trends are directed to increased awareness of consumers of the need for organically produced food by local manufacturers. Therefore, there are “more and more manufacturers of organic products who sell the products on their own rural households, markets and local fairs”;
- Separate collection of waste with economic benefit...;
- Costs of horsepower efficiency in the ploughing operation...;
- Renewable energy sources program and policy;
- Connection between renewable energy sources and sustainability of a tourist destination... ..The paper presents the fact that in the late 19th century in Osijek a Society for embellishment of the city was founded which was trying to develop civic awareness in terms of environmental issues and environmental protection;
- “The role of measures to encourage production of “green” electricity”... ..The goal of the paper is to determine the possibility of organic agriculture as a sustainable system. Methods used in the paper are calculating various categories of natural resources consumption with emphasis on non-renewable energy sources by applying ecological footprint calculator;
- Analyses and empirical results of environmental impact efficiency factor...;
- Agro-ecology as a factor of economic development - what it means is using traditional methods in accordance to characteristics of the local community, not only limited to food production, but also food processing and products made of natural materials (wood, stone etc.) in a manner of sustainable relations with nature...;
- Energy efficiency of buildings.

**In the thematic area “Socially Responsible Entrepreneurship” participants deal with:**

- *Sharing economy* through critical analysis elaborates on various interpretations of this notion. “Purpose of the paper is to provide a holistic view of sharing economy and the possibility of its implementation, collaboration and cooperation on all levels...”;
- Socially responsible enterprise significantly changes forms of communication between a company and its stakeholders... Purpose of the paper is to point out, on scientifically funded grounds, the need to create business strategies by the management.

**In the thematic area “Significance of Civil Society for the Region’s Development” we emphasize:**

- *Economic and Financial Aspects of the Activities of Non-profit Non-governmental Organizations in Croatia*; it addresses the need to finance the non-profit sector, the level of development of social entrepreneurship, as well as the overall economic potential of the non-profit sector as a whole.

**In the thematic area “Regional Development - Challenges and Opportunities” participants presented the vision of the development of Eastern Croatia:**

- Contribution of river cruises to the economic development of Eastern Croatia;
- Application of the integrated management systems in Croatian companies with the focus on business clusters; connect a number of certified companies in order to achieve systematic quality management and systematic environmental management;
- Testing the Gibrat’s Law in Croatia;
- Traffic insecurity... ..the aim of the paper is to increase the safety of Osijek urban traffic network near schools and kindergartens;
- Traditional vineyard architecture is part of the agricultural architectural heritage... .. there is still a relatively large number of examples of traditional vineyard architecture, some of which are protected as cultural heritage...;
- Tourist cluster “Slavonska košarica” (Slavonian basket) on the tourist markets;
- Problem of regional inequality and its effect on realization of human rights. Development of a modern commercial storage space market as the object of logistics infrastructure in the region, an experience from Poland;
- The process of branding tourist destinations of Eastern Croatia, creating an image and tourist products based on myths and legends of Eastern Croatia...;
- Analysis of the privatization model in Slavonia;
- The role and impact of cooperatives on the economy of Eastern Croatia - various forms of business connections;
- Innovation as a factor for the success of micro-enterprises in the region of Slavonia and Baranja. There is a significant connection between the number of innovations and successful business...;
- Cultural tourism and cultural-traditional manifestations - in order to define the main guidelines for tourism development of the cultural-traditional manifestations;
- *The efficiency of information communication systems and their impact on business processes in large Slavonian companies* - the author's suggestion is to point out the disadvantages and offer measures for their removal and improvement in order to get closer to the world's business trends.

**In the thematic area “Financial Institutions” the majority of represented papers deal with:**

- Assessment of determinants of current account deficit;
- Fiscal effects, accountability and transparency;
- The role of accounting in the sustainable development of nature parks of Eastern Croatia;
- The need for increased financial literacy of the population in professional studies at the College for Management in Tourism and Informatics in Virovitica, and recommendations for strengthening financial literacy in order to develop their awareness of financial capabilities taking into account all the potential of the profession;
- The concentration in the banking sector in Eastern Croatia and its impact on economic development;
- Financial behaviour of Croatian citizens over the last ten years.....financial literacy of citizens is on the rise;
- The impact of tax incentives on economic growth and development, and based on research, suggestions are given for improvements in the area of incentives for research and development;



- Comparison of the national accounting framework of Croatia, Slovakia and the Czech Republic. The analysis of accounting regulations has established the existence of differences, but also similarities, indicating a better understanding of national accounting rules.
- Econometric analysis of salaries of Croatian mayors and their deputies has researched which factors and in what volume affect the salaries of mayors and their deputies.
- Behavioural analysis of behaviour of market participants in decision-making;
- Does the price of oil affect the Croatian capital market?
- Digital stock exchange;
- Behaviour and refinement of company dividends on the Zagreb Stock Exchange;
- Possibilities of implementing the Balanced Scorecard Model in micro business operations with a conclusion that the application of BSM in micro businesses is fairly limited, but “with the adaptation of the model, it is possible to monitor the success of micro enterprise operations”.

All these papers should be taken into account when adopting the Croatian Development Strategy. If only one work is accepted in practice, this symposium has justified its endeavours.

Prof. Anka Mašek Tonković, Ph.D.



A handwritten signature in blue ink, appearing to be 'Anka Mašek', written over a light blue grid background.

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