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Foreword

The 8th scientific symposium „ECONOMY OF EASTERN CROATA – VISION AND GROWTH“ aimed to get together scientists and experts from different areas that study and research regional development as an interdisciplinary concept and present their opinions and recommendations regarding region of Eastern Croatia.

According to OECD, regional development can be seen as a general effort to reduce regional disparities by supporting economic activities in regions. Faced with numerious challenges, Croatian economy is trying to recover from still evident consequences of global financial crisis and multiply positive effects of EU membership since 2013. Globalization and global market liberalization offer number of opportunities at micro-, mezo- and macro- level for creating sustainable path of growth and development.

Altogether 103 papers are accepted for presentation and publication. Although not many, some of papers come from other countries: Bosnia and Herzegovina, Bulgaria, Hungary,Ireland, Poland, Serbia, Slovakia and Slovenia. The interest for the conference by researchers coming from other countries indicate that the symposium general topic of regional development is highly relevent and should be countinued as a conference theme.

As we vision Eastern Croatia as a sustainable and competitive region, we try to develop our symposium in the same direction. Therefore, this year’s symposium has been changed in several ways. First of all, we have organized additional events to make it more attractive for our exsisting and potential participants – we have a key-note speaker, professor Vlado Dimovski from University of Ljubljana, Slovenia, with a lecture on university response to the changing environment. Secondly, for the first time we have a Ph.D workshop. Thirdly, in order to motivate highest quality papers, we are introducing the best paper award which is this year awarded to the paper Budget outturns and political accountability: a comparative analysis of Croatian regions, authored by Katarina Ott, Velibor Mačkić and Simona Prijaković. And last but not least, instead of printed book for the first time the symposium proceedings will be published in e-version (USB stick).

We sincerely hope that these news, as well as all presentations and discussions during the symposium will, as in previous years, stimulate further research interest, scientific cooperation and policy recommendations for Eastern Croatia, Croatia in general, and all the countries the participants come from.

Mirna Leko Šimić

Mirna Leko Šimić
Organization Committee Chair

Topics

1. Global Economy and Sustainable Development
2. Macro Issues in Regional Development
3. Sectoral, Urban and Gender Issues in Regional Development
4. Financial Infrastructure and Economic Development
5. New Trends in Economic Development
6. Tourism and Economic Development
7. Cultural Heritage and Economic Development
8. Education and Human Resources in Regional Development
9. Managerial Challenges and Competitiveness
10. Non-Profit Sector and Economic Development
11. Branding, Social Entrepreneurship and Social Responsibility
12. Legal Issues in Regional Development
13. Professional Papers
14. In Closing

1 Global Economy and Sustainable Development

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THE IMPACT OF PERSONAL REMITTANCES FROM ABROAD ON THE CROATIAN ECONOMY

ABSTRACT

The dynamics of the population of Croatia in history was influenced by many adverse factors that contributed to a significantly slower development of the Croatian society and economy. The demographic implications of such movements, which are reflected in reduced fertility and in the additional worsening of age-sex structure, have already been explored in domestic literature and domestic demographers. From the economic consequences of research, greater emphasis has been put on the unsustainability of the pension system in the future. Although the changes in the age structure suggest a decrease in the labor contingency that would be manifested in the future in the lack of labor force, it is already felt in certain activities. Nonetheless, the restrictive effect of such demographic trends (mostly derived from emigration) on economic growth is rarely spoken. However, consideration of the economic consequences of emigration must also take into account the impact of remittances from abroad, whose level the CNB estimated at around 3-4% of GDP over the majority of analyzed period. However, Croatia's entry into the EU in 2013 opened the labor markets of most EU members for Croatian citizens, leading to a new emigration wave. These migration trends have intensified the pace of remittances, which made above 4% of the GDP from 2015 to 2017. But their share in reality, due to coverage problems, may be higher. The relatively high inflow of remittances to Croatia has encouraged us to investigate their impact on the growth of the Croatian economy. Similar surveys abroad do not give an unambiguous answer. Many researches show a positive or conditional positive relationship, but there are also those whose influence on economic growth is insignificant or even negative. The results of our research exclude the long-term link between remittances and economic growth and the short-term positive effects are limited only to the crisis and the post-crisis period.

Key words: *remittances, emigration, GDP and GDP growth, regression analysis*

1. Introduction

Before the recent crisis (1999 – 2008), the Croatian economy grew at an average annual rate of 4.2%. This was particularly influenced by the growth in investments and personal consumption, which was largely financed by the inflow of debt capital. In contrast, during the crisis (2008-2014) the economy fell at an average annual rate of 2.2% which worsened labor market conditions.

Unfavorable developments in the labor market have contributed to the emigration of the Croatian population, especially after the opening of the labor market of the European Union countries after the accession of Croatia in 2013. Although that scenario could have been expected because majority of EU10 countries („new" EU member states, joined since 2004) witnessed significant growth of emigration rates after joining the EU, institutional preparation in Croatia was limited. EU accession combined with the longest recession among EU countries (in recent crisis) proved to be the fertile ground for high scale emigration.

However, the tradition of emigration from Croatia is considerably longer and in modern times it covers the whole of the twentieth century (especially the 1970s and wartimes) and the second half of the 19th century. Long-term emigration had a negative impact on the development of the Croatian population, which has already been confirmed in Croatian demographic literature. Today, the unfavorable changes in the total population and age structure are highlighted as a strategic issue that is largely linked to long-term emigration, but is associated with economic weakness as well as development policy in the first twenty years after Second World War. Hence the 1960s are considered the key years in the development of the Croatian population (Akrap, 1999, 2014).

However, actual emigration "wave" from Croatia brings one important change: the significant proportion of families with children among emigrants (Akrap, Strmota and Ivanda, 2017). Although recent data shows the rise in remittances, it is unknown to what extent the "new" emigration takes part in remittance growth. Emigration of families with children, at least according to the New economics of labor migration theory (NELM) and similar theoretic reasoning, should lead to lower future remittances from those emigrants because whole family (or at least the core family members) moved abroad, making the usage of remittances substantially lower (e.g. towards older parents or relatives) or even obsolete. Nevertheless, the rise in mobility of families with children does not mean that remittance levels will fall, we just argue that remittance amount "per emigrant" could potentially be lower because of that.

Although emigration may seem as a purely negative process for the source economy, it may have a several positive effects, especially if the institutional response aligns with those effects. The most common way are personal remittances to relatives or for building a local infrastructure that can stimulate domestic demand. Another way is to encourage the entrepreneurial layer of our emigrants to invest in Croatia, but it needs a quality institutional framework to improve the business climate. Furthermore, they can buy Croatian goods abroad and stimulate exports or lobby for Croatian companies. Also, following the theoretical positive aspects of emigration on source country, we can expect the rise in wages, but it has not yet been observed for the case of Croatia (Bogdan and Ivanda, 2018). Other positive aspects of emigration for the source country are lower unemployment in occupations of emigrants and increased human and financial capital of returnees (Atoyan et al., 2016).

The best-known example of emigrations positive effect are remittances. Migration theories, a broad term for theories comprising economic, sociologic, demographic and other viewpoints of migration process present remittances as an important factor in explaining migration process, both on micro, meso and macro perspective. For instance, one of the well-known migration theories, the above-mentioned NELM, puts remittances in the core of its functioning. NELM explains migration from micro and meso level, thus giving the decision on migrating on both individual and his family/household. According to NELM, migration should improve economic position or provide other positive function for both levels, individual and family/household. Family/household act rationally and try to minimize or diversify risks, resulting in some members of the group migrating and some not, rather staying with different functions. The main channel through that happens are remittances, as they stabilize household income, minimize the risk of job loss and wage fluctuations (Taylor, 1999; Massey et al., 1993).

Recently, more and more papers are investigating the impact of personal remittances to national economies and these are mainly related to developing countries. This is understandable because these are areas with high fertility rates, high emigration and low income. As a result, the share of remittances from abroad in the GDP of these countries is often high. According to Eurostat data, Croatia and Latvia are the EU member states that are most dependent on remittances from abroad. But in Croatia the effect of remittances on the economy is insufficiently explored and the aim of this paper is to fill this gap. Only Bogdan (2017) examines the impact of remittances from abroad on the Croatian economy and confirms level effect on domestic demand and GDP. The hypothesis that is being tested in this paper is: *The long-term link between the remittances from abroad and the economic growth in Croatia does not exist. The positive short-term effects of remittances on economic growth in Croatia are limited to the recent crisis and the post-crisis period.*

Economic theory does not give a clear answer to the impact of remittances on national economies, so it is necessary to investigate empirical researches in the section 2. Empirical model was done and the obtained results were presented in the section 3. Finally, section 4 concludes our findings.

2. Literature review

There is no strictly economic dispute that the inflow of remittances from abroad encourages domestic demand and economic activity. But, economists do not care about level effect as the effect on growth rates. However, higher domestic demand can increase domestic inflation and cause real appreciation *via* higher inflation or higher unit labor costs. Additionally, foreign currency inflow may result in a Dutch disease and further deterioration of price competitiveness. Weaker competitiveness may be reflected in slow or negative economic growth. Also a safe inflow of transfers can improve household disposable income and result in a better living standard but at the same time can reduce the initiative for work and prospects for sustainable economic growth in the future.

Accordingly, economic theory cannot answer whether remittances affect economic growth positively or negatively, so it is important to investigate the results of empirical researches. The number of papers exploring the impact of remittances on the economic growth of countries or individual economies has recently increased. It is understandable that almost all these researches are related to post-transitional countries or developing countries.

Most of the available works show that the remittances positively affect economic growth in the European transition countries (León-Ledesma and Piracha, 2004; Goschin, 2014; Meyer and Shera, 2017; Comes, Bunduchi, Vasile and Stefan, 2018). Opposite them Gjini (2013) shows that such relationship is negative.

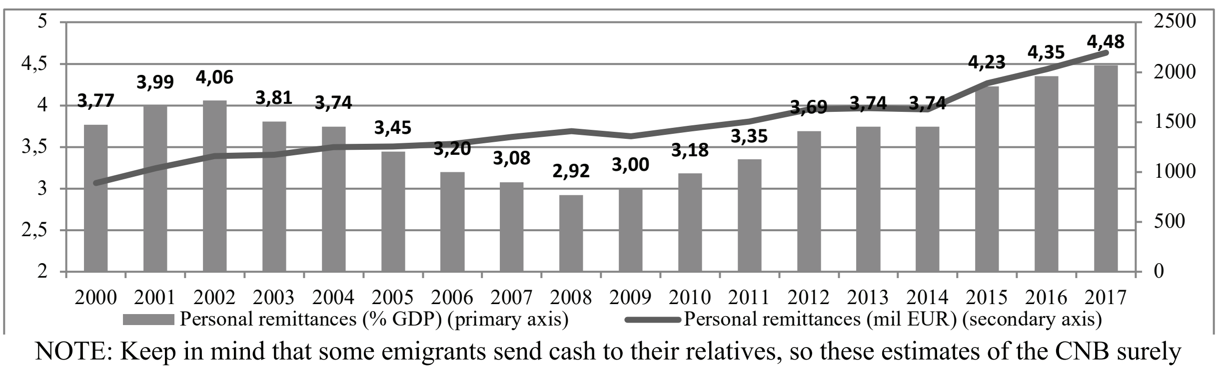
Surveys on a much larger sample of countries lead to different conclusions. Adams Junior and Page (2005) displays that remittances reduce poverty and stimulate growth in the developing countries. Catrinescu, Leon-Ledesma, Piracha and Quillin (2008) confirm that remittances improve growth in the countries with good quality institutions and appropriate economic

policies but Giuliano and Ruiz-Arranz (2009) and Sobiech (2019) showed that positive relationship is possible in less financially developed countries which confirms argument that remittances and financial development are substitutes. Chami, Fullenkamp and Jahjah (2005) find negative relationship between remittances and growth. Polat (2019) did not confirmed significant relationship between remittances and growth in eight countries that receive the highest portion of total remittances inflows in all over the world. Lartey, Mandelman and Acosta (2012) showed that Dutch disease phenomenon exists as a result of higher remittances inflow. Feeny, Iamsiraroj and McGillivray (2014) did not confirm relationship between remittances and growth with an exception of small island countries.
All these papers did not lead to a single conclusion on the impact of remittances on economic growth. Although many of them point to a positive relationship, in some of them, it is conditioned by the characteristics of the countries. In some researches the relationship is not significant or even assumes a negative sign. Since we are not pre-secure in the correlation sign, it is important to explore the effects in individual countries as well. As a country with a long tradition of emigration, Croatia imposes itself as an interesting example.

3. Empirical model and results

The introduction has already emphasized that EU accession in combination with long-lasting recession has been a fertile ground for emigration of Croat population. Remittances showed to be the reflection of that process. Not only they grew absolutely, but their growth significantly surpassed the growth of many other balance of payments components. The result is a significant growth of remittances as a part of GDP, even though GDP showed a growth higher than the EU average in recent times. Movements of remittances based on Croatian National Bank (CNB) data are presented in the figure 1. The data shows a steady increase in remittances from 8.9 million (2000) to 2.2 billion euros (2017). During the period of expansion of the Croatian economy (before 2008) it was lower than GDP growth, which reduced the share of remittances in GDP from 4.1 (2002) to 2.92% (2008). The dynamics of the remittances has been intensified since 2013. According to this data, the average annual increase in remittances between 2000 and 2014 was around 4.4%, and between 2015 and 2017 it grew to 7.9%. There is no doubt that a strong emigration wave from Croatia after entering the EU (2013) has significantly increased the inflow of remittances to Croatia. It remains to be seen the dynamics of remittances in the future, but it can be expected that with the firing of the emigrant wave it will return to the path it had until 2014.

Figure 1: *Payments in Croatia in millions of euros and as% of GDP*

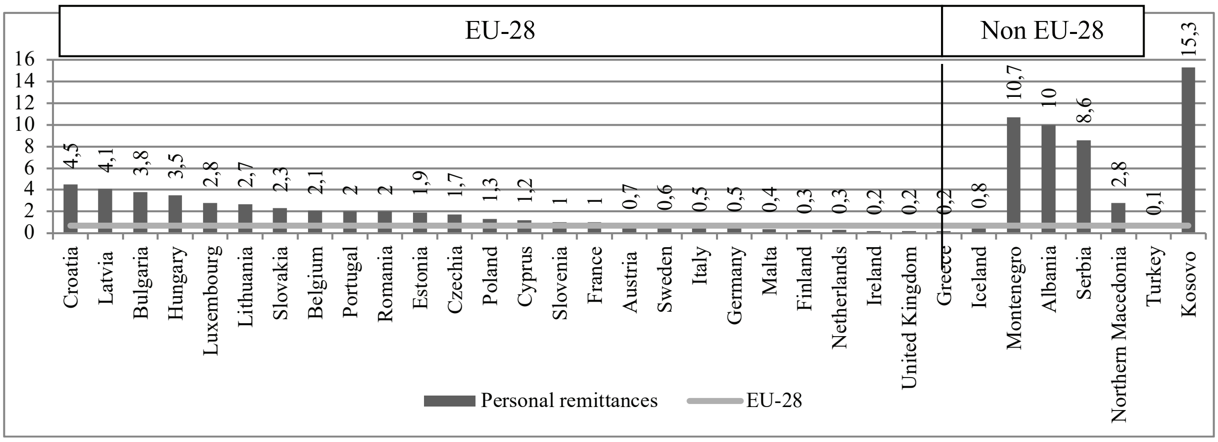


NOTE: Keep in mind that some emigrants send cash to their relatives, so these estimates of the CNB surely underestimate actual inflow of remittances

SOURCE: Croatian National Bank

It is useful to determine the size of these remittances by comparing with other EU members. Figure 2 shows that in Europe, the countries of former Yugoslavia and Albania receive the highest share of remittances in GDP. However, within the EU-28 Croatia and Latvia are most dependent on remittances from abroad.

Figure 2: *Inbound personal remittances, % of GDP (2017)*



NOTE: Missing Denmark, Spain, Switzerland
SOURCE: Obrzut (2018)

The summary of the dynamics of remittances from abroad points to the importance of researching of their impact on the Croatian economy. However, in the introductory part of the paper, it has already been emphasized that the influence of personal remittances from abroad on economic activity in Croatia is insufficiently explored. Empirical papers from section 2 give different answers about the effect of remittances on the growth rates of analyzed economies. Following the theoretical positive aspects of emigration on source country, we can already state the remittances pose a significant financial factor in Croatia, never mind its positive, neutral or negative effect.
This paper tries to investigate the impact of remittances on the Croatian economy. Quarterly remittance data was obtained from the CNB and prepared according to the *Balance of Payment Manual* (Sixth Edition). The time series starts with first quarter of 2000 and include 66 observations which are seasonally adjusted and logarithmic (variable LNR1_SA). LNR1_SA is confirmed as trend stationary using ADF (Dickey and Fuller, 1979, hence augmented DF test or ADF) and KPSS tests (Kwiatkowski, Phillips, Schmidt and Shin, 1992, hence KPSS). Growth rate is calculated using log-differences of GDP taken from Croatian Bureau of Statistics (CBS) and Eurostat. Since GDP is available quarterly and seasonally adjusted, we used quarterly growth rate *i.e*. log-differences of current GDP and last quarter GDP (labeled GDP_GROWTH and confirmed stationary using ADF and KPSS tests). It seems that relationship between GDP growth and remittances is possible only in the short run.

Estimated model basically takes form:

$$GDP\_GROWTH_t = \alpha + \beta LNR1\_SA_t + error_t \qquad (1)$$

Since required econometric properties include residual normality (tested using Jarque and Bera (1987) test), absence of autocorrelation (tested using Breusch-Godfrey test) and homoscedasticity (tested using Breusch-Pagan-Godfrey test), basic model is augmented with several dummy variables to capture certain quarters. Keep in mind that GDP growth is unlikely to be explained by only one variable, the autocorrelation is possible and stationarity of residuals is required to avoid spurious regression. Several dummy variables capture first and last quarter of 2007 and 2008 as well as first quarters of 2009 and 2012. Two types of models are tested –

first model also include dummy variable CRISIS to capture the fact that growth rate is lesser after first quarter of 2009. Second type include deterministic trend. Namely, quarterly growth rates show slow positive trend after first quarter of 2009. However, this approach could be misleading since trend component is almost perfectly correlated with LNR1_SA and can cause multicollinearity. The consequence of multicollinearity could be wrong signs but omitted problematic variable can cause misspecification (Bahovec and Erjavec, 2009). The statistic characteristics of analyzed variables and empirical results are shown in table 1 and table 2. The minimal value of variable GROWTH is achieved in the first quarter in 2009 (-3.75%) and the maximum in the first quarters of 2007 and 2008 (4.0%). However, the minimal value in the pre-crisis period is in the fourth quarter of 2007 (-1.5) and fourth quarter of 2008 (-3.0%) and the "second minimal" value during crisis is in the first quarter of 2012 (-1.8%). All these values are captured by an adequate dummy variable in an empirical estimation. Although the crisis period lasts from the first quarter of 2009 to the third quarter of 2014, growth rates after the first quarter of 2009 show a slight positive trend. Trend component in the pre-crisis period is not apparent at least until the end of 2005 and thereafter a negative trend is obvious. The minimum and maximum values of variable LNR1_SA were achieved at the beginning and end of the sample showing a clear positive trend.

Table 1: *Summary statistics for used variables*

	GROWTH	LNR1_SA
Mean	0.392632	5.827271
Median	0.338874	5.822415
Maximum	3.997723	6.246630
Minimum	-3.754758	5.289065
Std. Dev.	1.273498	0.197040
Skewness	-0.072795	-0.308528
Kurtosis	5.361942	3.180063
Jarque-Bera test	15.16657	1.136247
Probability	0.000509	0.566588
Sum	25.52110	384.5999
Sum Sq. Dev.	103.7949	2.523613
Observations	65	66

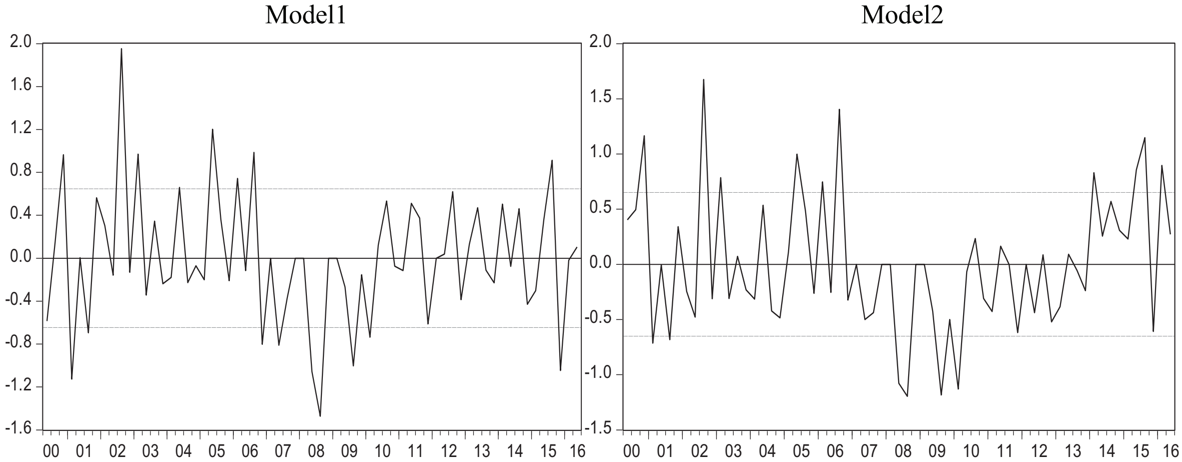
SOURCE: Own calculations

Table 2: *Results of regression analysis*

	Model1	**Model2**
LNR1_SA	***-0.880997***	**4.965758**
	(0.478436)	(1.510246)
DUMMY2007Q1	**3.170764**	**3.350213**
	(0.654653)	(0.656943)
DUMMY2007Q4	**-2.322144**	**-2.101348**
	(0.655072)	(0.656687)
DUMMY2008Q1	**3.155636**	**3.524716**
	(0.654841)	(0.656428)
DUMMY2008Q4	**-3.765556**	**-3.509997**
	(0.656198)	(0.656948)
DUMMY2009Q1	**-3.655181**	**-3.830822**
	(0.664678)	(0.663544)
DUMMY2012Q1	**-1.528474**	**-2.136466**
	(0.662311)	(0.662377)
CRISIS	**-0.928692**	**-**
	(0.192613)	
@TREND	-	**-0.069912**
		(0.014871)
Intercept	**5.938424**	**-26.20584**
	(2.764792)	(8.344936)
Number of observations	65	65
R2	0.774794	0.771490
Adjusted R2	0.742621	0.738846
Durbin-Watson statistics	2.217444	1.914397
F test	**24.08260**	**23.63329**
p-value	0.000000	0.000000
Breusch-Godfrey stat.	4.763856	6.763853
p-value	0.3124	0.1489
Breusch-Pagan stat.	6.147222	3.568642
p-value	0.6307	0.8938
Jarque-Bera test	3.067686	2.394951
p-value	0.215705	0.301956

NOTE: S.E. in parentheses
(**Bold** significant at 5%, ***italic*** at 10 %)
SOURCE: Own calculations

Figure 3: *Residuals of the models from Table 2*

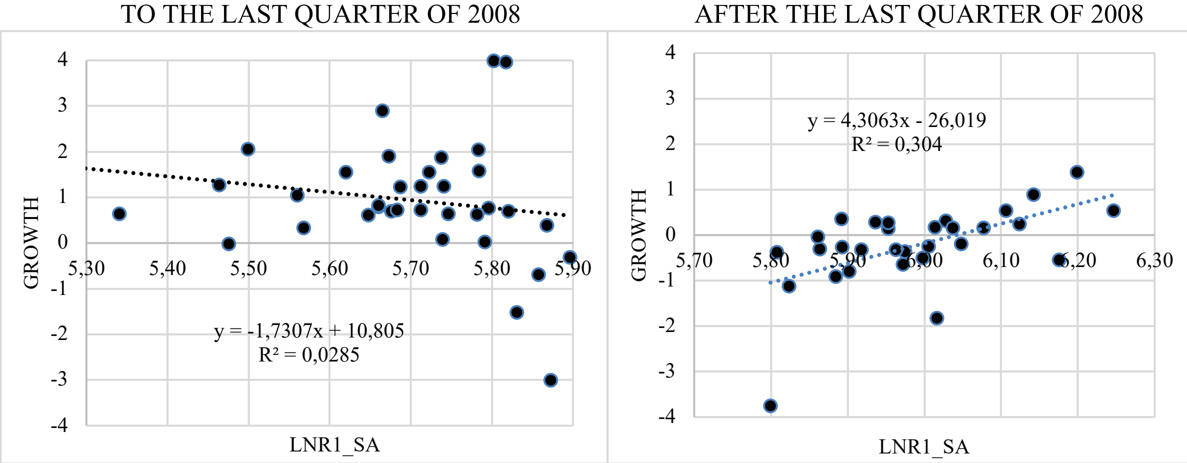


NOTE: Stationarity of both residuals is confirmed using ADF and KPSS tests.
SOURCE: Own calculations.

Many dummy variables are included in both models to achieve normal residuals (table 2). The residual normality is necessary for the t-test and the F-test to be reliable (Bahovec and Erjavec, 2009). Also residual stationarity is required to avoid spurious regression (figure 3). Additionally, autocorrelation and heteroscedasticity of residuals is not confirmed in both models. Since both variables are quarterly, autocorrelation has been tested up to the fourth order. Here the Durbin-Watson test does not have interpretative importance because it tests the first order autocorrelation, but its low values can signal the spurious regression.

The signs of parameters with the dummy variables of both models are the same and the magnitude varies only in the case of variable DUMMY2012Q1. However, the conclusions on the impact from abroad on growth rates are not the same. In the Model 1 the relationship is negative at significance level of 10 percent but in the Model 2 it turns to be positive at significance level of 5%. It should be noted that the inclusion of the trend component in Model 2 disrupted Klein's first criterion of multicollinearity (partial correlation coefficient between LNR1_SA and @TREND (about 0.95) is higher than multiple correlation coefficient (about 0.88)). A serious problem of multicollinearity can lead to wrong signs, so the question of the correctness of these two models arises. The correlation coefficient (calculated on the whole sample) between GROWTH and LNR1_SA is around -0.30 and point to a weak negative correlation in favor of the first model. But, scatter plot diagram is better option which is presented on the figure 4. The left scatter plot shows that a weak negative link is possible before the recent crisis. But the link becomes positive after the last quarter of 2008 as shown on the right scatter plot.

Figure 4: Scatter plots between GROWTH and LNR1_SA



NOTE: The equations in the plots do not reflect the estimates in Table 2.
SOURCE: Own calculations.

From figure 2 it can be concluded that the results of Model 1 are more acceptable for the period before the recent crisis and the results of model 2 for the crisis and post-crisis period. Despite this, the short-term significant positive effects of remittances from abroad are limited to the period following the last quarter of 2008. The absence of positive correlation for the period before 2009 does not mean that the remittances did not positively affect their recipients, but that their positive effect could not be captured by the model shown. Namely, before the recent crisis Croatia has achieved relatively strong economic growth based on strong domestic demand growth, financed by external debt. In addition, quarterly growth rates in the pre-crisis period were stagnant or had slight negative trend. In such circumstances, it is difficult to expect a positive link between remittances and economic growth. Moreover, a confirmed negative link (at significance level of 10%) before the recent crisis does not necessarily mean that inflow of remittances *causes* a reduction in growth rates. Of course, apart from the remittances, other factors could have reflected on the rate of income growth, but research on their impact was left for future papers. However, the tested hypothesis in this paper can be accepted.

4. Conclusions

Remittances are a reflection of the emigrant flows and as such present a financial link between individuals from home country and abroad. Croatia has witnessed high emigration rates since joining the EU and following increase in remittances is big enough to put Croatia on top of the EU countries for remittances as a share of GDP. It makes Croatia an interesting example for studying the impact of remittances on the national economy. Although there is no dispute that remittances can positively affect domestic demand, economists have also pointed to possible negative consequences such as Dutch disease or reduced motivation to work. Similar researches for developing and post-socialist countries lead to mixed conclusions.

The effect of remittances on GDP growth in Croatia was widely held as strongly positive based on the sheer amount of financial inflow, but this topic has not been scientifically explored. The new insights in the influence of emigrant' remittances has been done by testing the hypothesis: *The long-term link between the remittances from abroad and the economic growth in Croatia does not exist. The positive short-term effects of remittances on economic growth in Croatia are limited to the recent crisis and the post-crisis period.* Remittances and growth rates were confirmed as stationary variables, which excludes long-term relationship. However, a positive short-term impact was confirmed only in the crisis and post crisis period. Such a result approves the conclusion from Bogdan (2017) that, due to the negative economic performances, the absence of remittances from abroad would further deepen the recession in Croatia. Conversely, the negative link (at the significance level of 10%) before crisis probably means that the effect of remittances to the Croatian economy was minimal in that period, rather than the inflow of remittances actually reduced the rate of economic growth. Nevertheless, the hypothesis set out in this paper can be accepted.

In addition, the presented model can be augmented with additional regressors or the analysis can be focused on the GDP components. These results relate to the impact of remittances on GDP growth rates, but it is understandable that they may also extend to the growth of personal consumption as the largest component of GDP. It would also be useful to investigate the impact of remittances on the investments, which are the component of GDP with the strongest contribution to the future economic growth. Contribution from abroad to a financial development in Croatia as well as creation of physical a human capital is also left for future researches. If positive link between these variables and remittances would be confirmed, than the conclusions of this article will be discouraged.

The results of this article should not lead to the conclusion that emigrants cannot boost the growth of the Croatian economy. Entrepreneurs from "migrated Croatia" can invest in Croatia, stimulate technological transfers, improve the productivity of the Croatian economy, and thus stimulate economic growth. An essential prerequisite for these activities is to improve the business climate in Croatia. However, they were not the subject of this research since they are not related to the remittances but foreign direct investments.

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INTERNATIONAL TRADE AND EXCHANGE RATE REGIMES IN NEW EU COUNTRIES

ABSTRACT

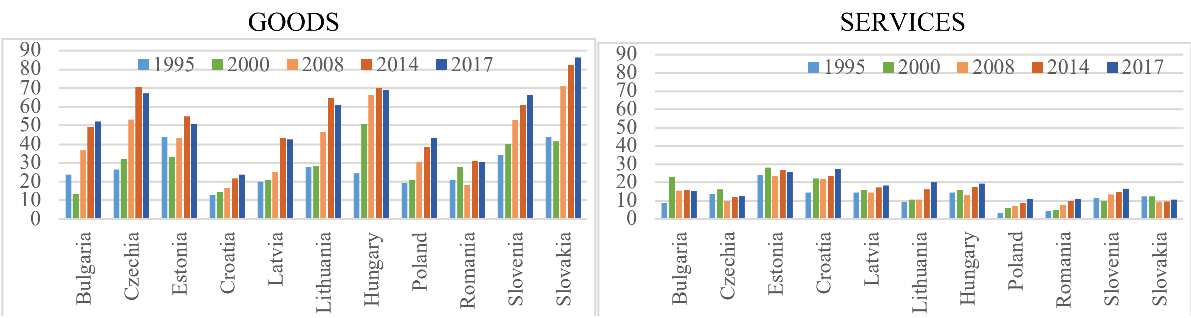
The aim of this paper is to investigate whether different foreign exchange rate regimes affect export rate (i.e. the ratio of exports in GDP). The comparative analysis showed that countries with flexible exchange rate are more engaged in the international trade and these differences stem from differences in the export rates. These differences disappear (or became lesser) after 2008 as a primarily consequence of the lesser differences in the goods exports. The results showed that nominal depreciation in the crisis times can boost the price competitiveness and stimulate exports. These results should not ignore the fact that exchange rate is not the only determinant of exports. Therefore, it is realistic to expect that before the recent crisis the exports is dominantly influenced by non-price competitiveness factors, while the impact of price components (that also include the exchange rate) is more limited to the period of the recent crisis.

Key words: *exports and imports, exchange rate regimes, descriptive statistics, regression analysis*

1. Introduction

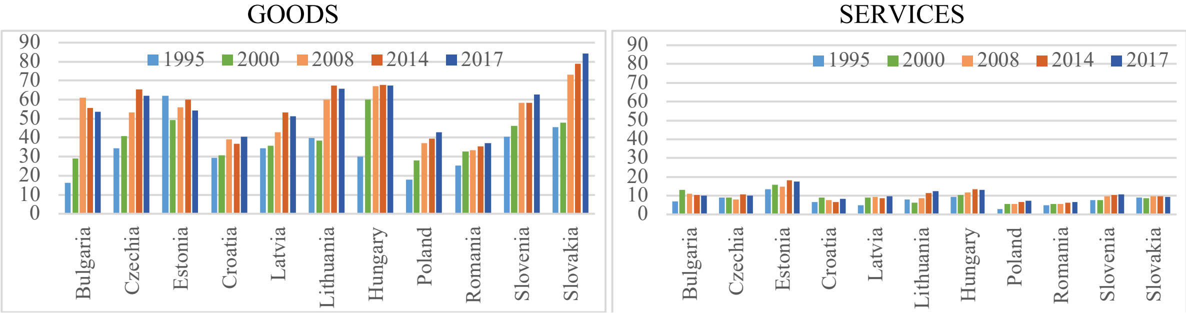
The determinants of international trade are among the most interesting topics for economists especially in small open economies (such as new EU members). Its significance on domestic employment, creation of human capital and overall economic activity is emphasized. The importance of international trade on domestic activity is usually measured by export rate (the share of exports in GDP) as well as import rate (the share of imports in GDP) which are showed in Figures 1 and 2 for new EU members (*i.e.* post-socialist countries that joined EU from 2004 onwards). The overall international trade is shown in Figure 3.

***Figure 1:** Exports of goods and services among new EU countries (% GDP)*



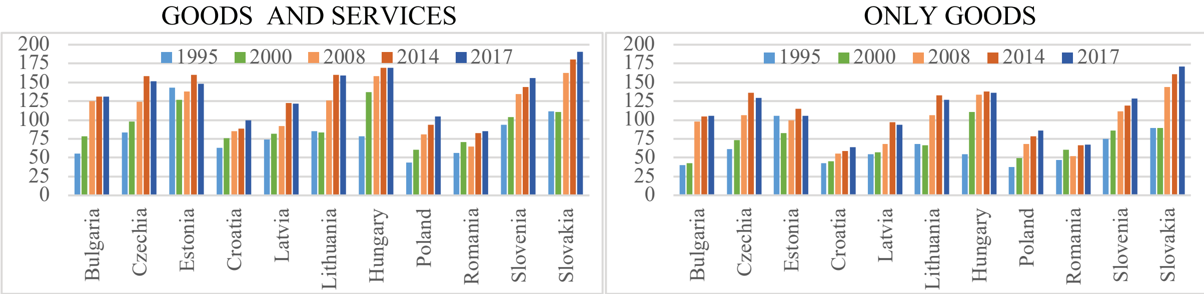
SOURCE: Eurostat (2019).

Figure 2: *Imports of goods and services among new EU countries (% GDP)*



SOURCE: Eurostat (2019).

Figure 3: *International trade of goods and services among new EU countries (% GDP)*



NOTE: The volume of foreign trade is defined as the sum of exports and imports. This graph reflects the sum of the content on the previous graphs.
SOURCE: Eurostat (2019).

The latest among these figures compares the external trade of new EU members for 1995, 2000, 2008, 2014 and 2017 since SNA data according to SNA 2010 methodology is available between 1995 and 2017. 2008 was the last year before the Great Recession in 2009 when all EU countries except Poland recorded negative growth rates. 2014 is the last year of recession in Croatia and the first year of EU membership. The conclusions for foreign trade according to Figure 3 are as follows[1]:

1. All countries increased the share of foreign trade in GDP in the observed period.
2. The dynamics of the increase differ between countries. The strong increase in Hungary was recorded between 1995 and 2000 and it continued between 2000 and 2008. Stronger increase in this share between 2000 and 2008 was recorded in Slovakia, Slovenia, Lithuania, Bulgaria and the Czech Republic.
3. In the remaining countries the dynamics are slower. However, it intensified in Latvia after 2008 while in Croatia it is similar to that in Poland and Romania which are (based on the number of inhabitant) relatively large economies *i.e.* with population higher than 20 million. Although it is a small country, Croatia is relatively weakly engaged in exports as well as in imports.

Regardless of the Figure 3, it is not the same, whether the growth of foreign trade share is dominated by the growth of the share of exports or imports. Comparison of Figures 1 and 2 clearly shows that a country with a high share of exports usually has a high share of imports (in particular commodities). However, majority of countries are experiencing a deficit in

[1]More than ¾ of foreign trade refers to the merchandise trade and in Figure 3 the trade of services is not shown. The growth rates of exports and imports are available in the Tables 2 and 3 in the Appendix.

merchandise trade compensated by the surplus in trade in services. The magnitude of the merchandise trade deficit differs between countries, so in 2008 was particularly high in Bulgaria (24%), Croatia (22%), Latvia (17%), Romania (15%), Lithuania (13%) and Estonia (12%). In some of the countries, foreign trade balance in goods became positive after 2008 (Czech Republic, Hungary, Slovenia and Slovakia).

In the study of foreign trade balance, greater importance should be on the side of export factors. According to the Figures 1 and 3 the higher share of foreign trade is associated with an increased share of exports. There is no doubt that EU accession (Romania and Bulgaria in 2007, Croatia in 2013 and others in 2004) contributed to it (especially as a consequence of fact that "old EU countries" are their main trading partners). Nevertheless, the dynamics of exports between them differ. Slovakia, Hungary, Czech Republic and Slovenia became the first four exporters among post-socialist economies. Unlike them the slowest dynamics of commodity exports were in Croatia with 13% of GDP in 1995 and 23.8% in 2017. However, export of services compensates for the weak Croatian performances in foreign trade of goods. Regardless, the entire Croatian exports in 2017 were 51% of GDP, making Croatia the weakest exporting economy among new EU members. There are some indications that EU accession also stimulated Croatian exports but to a lesser extent (compared with the previous accession of other members).

In basic econometric models exports are usually set as a function of foreign demand and real effective exchange rate. Given the foreign demand, real depreciation is needed to improve exports and one of the ways to achieve this is nominal depreciation. In accordance with the simplest interpretations, depreciation makes foreign goods and services relatively more expensive but domestic relatively cheaper and promote exports. But in the fixed exchange rate regime such a policy is disabled. Some of post-socialist countries have accepted this regime, but some economies with a flexible exchange rate in the first stage of transition (such as Slovakia, Hungary, Czech Republic and Slovenia) have become the largest exporters among new EU members. Also, countries with the fixed exchange rate regime before the recent crisis have achieved the biggest trade deficit in the goods. These facts impose following research questions in analysis: Does nature of the exchange rate regime affect trade balance and export performances in emerging EU countries? If answer is yes, can these differences be explained by exchange rate policies (and different exchange rate regimes)? The answers on these questions are given by testing the following hypotheses:

H1: *New EU members with a flexible exchange rate regime have a higher export rate before the recent crisis*.

H2: *The greater involvement of new EU members with a flexible exchange rate in foreign trade before the crisis stems from export orientation. There are no differences in the import rates before the crisis*.

H3: *The differences in export rates between groups of countries disappear after 2008. This is linked to a higher increase in the rate of export of services in countries with fixed foreign exchange rates*.

H4: *Differences in export rates may be to a lesser extent linked to changes in the nominal exchange rate than to a non-price competitiveness. However, the flexible exchange rate regime via nominal depreciation, helped to improve the export performance of new EU members in the recent crisis*.

H5: *In the recent crisis in the new EU member states with fixed exchange rates, the improvement in price competitiveness has more often achieved by cutting the relative unit labor costs and in the country with a flexible exchange rate by adjusting the nominal exchange rate*.

The formation of two different groups is explained in the empirical part of the paper.

The first and second hypothesis are accepted for export rates but the second hypothesis for import rates is accepted only if Romania and Poland are included in the sample of countries using flexible exchange rates. The third hypothesis is partially accepted, as reducing the difference in the export rate was more affected by the decrease in the difference in exports of goods. Since the results of the empirical analysis are mixed and the effects of the changes in nominal exchange rate changes are mostly limited to part of the period (crisis times), the fourth hypothesis is acceptable. Although a preliminary analysis has shown that the fifth hypothesis can be particularly accepted at the best case, the ultimate conclusion is that it can be fully accepted. Of all the observed countries, Croatia has achieved a minimal correction of the nominal exchange rate, but in return has also had the largest reduction in the relative unit labor costs. Other observed countries did not record a significant reduction in the unit labor costs. The empirical analysis of this paper confirms that the space to promote exports by exchange rate is small but exists.

The paper is organized as follows: in the second section literature examining export performance is presented. The third section presents the data and empirical model with results. Fourth (and the last) section concludes the findings of this paper.

2. Literature review

Economic researches resulted in a large number of papers investigating differences between exchange rate regimes. One of the most interesting topics is the influence of exchange rates on international trade. Arize, Malindretos and Igwe (2017) confirmed the existence of Marshall-Lerner condition in the long-run. Also, they showed that in the long-run the trade balance responds more strongly to real depreciations than appreciations but that nominal depreciation / devaluation can be successful in that period if it is linked to other appropriate policies. Other papers (*e.g.* Adam and Cobham, 2007; Qureshi and Tsangarides, 2010; Auboin and Ruta, 2013) suggest that reduced exchange rate volatility improves international trade which goes in favor of a fixed exchange rate. Also, there are some studies that confirm the flexible exchange rates accelerate the adjustment of the current account (Eguren-Martin, 2016) or this conclusion is valid in countries that are more open to trade (Romelli, Terra and Vasconcelos, 2018). However, Chinn and Wei (2013) did not find strong relationship between exchange rate regime flexibility and the rate of current account reversion even after accounting for the degree of economic development and trade and capital account openness.

Since the higher propensity to trade is traditionally associated with higher growth, the relationship between exchange rate regime and economic growth is being investigated in some papers. Some papers confirm that this relationship is positive in the fixed exchange rate (Jakob, 2016; Ashour and Chen, 2018; Guellil, Marouf and Benbouziane, 2017) or it is valid in developing countries but irrelevant for advanced European countries (Huang and Malhotra, 2004). Rodriguez (2017) showed that a higher degree of financial openness can mitigate the negative effect of exchange rate flexibility on growth. Investigating differences in exchange rate regimes are not just focused on international trade and growth rate. For example, Chowdhury, Bhattacharya, Mallick and Ulubasoglu (2016) displayed that a fixed exchange rate regime has better fiscal discipline at low levels of trade openness while a flexible regime produces a greater fiscal discipline above a certain level of trade openness.

Some papers are relevant due to orientation to European Union members. Esposito and Messori (2016) emphasized that all peripheral Eurozone countries had eliminated their current account deficits by the end of 2014 but this is a result of the Great recession instead of a productivity increase in their economies. The determinants of Eurozone current account imbalances are also investigated in Cesaroni and DeSantis (2015) and the result is that financial integration helped to explain decline in Eurozone periphery current account balance, but business cycle also has important role while effects of competitiveness disappear over time. Herrmann (2009) confirms that in new EU members a more flexible exchange rate regime significantly enhances the rate of current account adjustment. The difficulty of adjusting when the change in the nominal exchange rate is disabled is appropriately described in Blanchard (2007) in the case of Portugal. However, Begović and Kreso (2017) confirmed that real depreciation deteriorates trade balance in European transition countries implying that policymakers in these countries should not use exchange rate policy to improve trade balance. DeGrauwe and Schnabl (2004) showed that exchange rate stability is connected with higher real growth rates in Central and Eastern Europe. D'Adamo and Rovelli (2013) presented that premature euro adoption may foster excess inflation. It is known from the standard macroeconomic analysis that this can cause real depreciation and deteriorate price competitiveness. Relevant researches on Croatian data suggest that price competitiveness remains an important determinant of overall competitiveness. However, for a significant increase in the share of domestic exports in the European market, it is necessary to improve non-price competitiveness (Cavallaro, Esposito, Matano and Mulino, 2012). Other papers already confirmed the shift from importance of price competitiveness to non-price competitiveness in the new EU members (Stojčić, 2012; Stojčić, Bečić and Vojinić, 2012; Tica, 2012).

Next question in this paper is: Could the differences between exchange rate regimes from these papers be confirmed in the new EU members? It can be said in advance that the answers are mixed but the countries must be classified according to the degree of flexibility of the nominal exchange rate before the presentation of these responses. This is left for the next part of the paper.

3. Empirical model and results

3.1. Country grouping

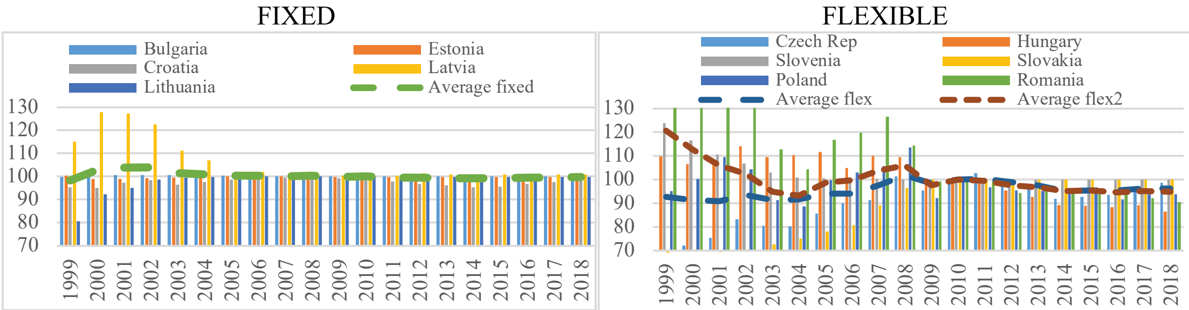
In the empirical papers foreign exchange rate regimes are classified in three categories – a peg, float and intermediate regimes[2]. The countries which follow hard and soft pegs in this paper are included among fixed exchange rate countries (termed FIXED) and those with float and intermediate regimes (with exception of Croatia[3]) are comprised in the flexible exchange rate group (termed FLEXIBLE). Markiewicz (2006) suggests that it is less likely that country would adopt fixed exchange rate regime unless it is small, its external trade is highly concentrated with the EU, inflation and/or deficit are higher or it is less financially developed. The formation of the groups was done according to the degree of flexibility of the nominal effective exchange

[2] Float regime consists of an independent float having a market-determined exchange rate and an independent monetary policy and a managed float with no pre-announced path for the exchange rate. Intermediate regimes include exchange rate with crawling peg, crawling bands and a pegged exchange rate within horizontal bands at least ±1% (Markiewicz, 2006, str. 486). Also, in that paper soft peg and hard peg are differed. Soft peg is a fixed peg arrangement within a band of more than ±1% and hard peg refers to currency board arrangements (Markiewicz, 2006, str. 486).

[3] Officially, Croatia does not have fixed exchange rate, but the exchange rate stability requirement justifies its inclusion in the economies with a fixed exchange rate. A stable exchange rate between the kuna and the euro is the key anchor for price stability given the country's high import dependency but it is also important due to the high deposit and credit euroisation of the Croatian financial system.

rate (NEER) shown in Figure 4. Left figure (a) suggests that changes of the NEER in Bulgaria, Estonia, and Croatia are very small and therefore their inclusion in the fixed exchange rate group is understandable. Latvia and Lithuania are also included in this group, regardless of some changes in the NEER at the beginning of the period[4]. Other countries (Poland, Romania, Slovakia, Hungary, Czech Republic and Slovenia) are included in the group of flexible exchange rates. However, the strong depreciation of the NEER in Romania at the beginning of 2000s affects the average NEER in this group. Other countries were faced with appreciation (Czech Republic, Slovakia) or slight depreciation (Slovenia, Hungary) over the part of the observed period. Furthermore, Slovenia (from 2004) and Slovakia (from 2005) entered the ERM II mechanism before the final adoption of euro which *de facto* turned them in the fixed exchange rate regime. So it was questionable whether these two countries should enter the fixed exchange rate group after entering the ERM II mechanism and adoption the euro. Although it is justified, this was not done in the descriptive analysis of this paper. Even if their retaining in the FLEXIBLE group has drawbacks, this is reasonable by their higher inclination to exports achieved during the flexible exchange rate regime. Also, their inclusion into the fixed exchange rate group will artificially increase average values of the variables that indicate exports (*i.e.* EXPORT and EXPORT_GOODS) in the economies with fixed exchange rate. Furthermore, the number of observations in the second group will be halved. After forming the groups it is possible to carry out a descriptive analysis and monitor the differences between them before the recent crisis and after 2008.

Figure 4: *Nominal effective exchange rate (2010=100) in post-socialist countries between 1999 and 2018*



NOTE: The fall (rise) of NEER stands for the nominal depreciation (appreciation). The term "average" stands for the mean of the group where "flex2" means that the FLEXIBLE group includes Romania and Poland.
SOURCE: Eurostat (2019)

3.2. Descriptive analysis

The second step in the analysis is to define the variables used. Variables associated with international trade (EXPORT, EXPORT_GOODS, EXPORT_SERVICES, IMPORT, IMPORT_GOODS, IMPORT_SERVICES) are unavoidable in the further analysis and are expressed as % of GDP. It has already been emphasized that focus of this article will be on the price competitiveness which makes the real exchange rate a necessary indicator. It is calculated by deflating the nominal foreign exchange rate. Both foreign exchange rates are often used as

[4] The regime in Latvia was float prior to 1994, then pegged to the SDR (1994-2005) or euro (2005-2013) before the final entrance in the monetary union (2014). Lithuania follows the currency board (from 1994) before the final adoption of the euro in 2015 (Twarowska, 2014, str. 116). While NEER in Latvia and Slovenia after 2005 is fixed, they are divided in different groups since Slovenia follows *de iure* float exchange rate regime (*de facto* intermediate) and Latvia soft peg (Markiewicz, 2006, str. 496-497; Twarowska, 2014, str. 116) before 2005.

effective exchange rates (*i.e*. the value of the domestic currency (good) in the terms of currency (goods) basket of our foreign trade partners). The number of partners and the deflator used is reflected in the value of the effective exchange rate index. According to Turner and Van't_dack (1993) and Klau and Fung (2006), the best price competitiveness indicator is obtained by deflating the nominal effective exchange rate (NEER) with unit labor on whole economy (termed REER_ULC) but deflating the NEER with consumer price index (REER) is also applied. In all cases the trade partners are members of the Eurozone. The rise of effective exchange rate stands for appreciation and *vice versa.* By dividing the REER and NEER variables the deflator ratio is obtained (relative unit labor costs (RULC) or relative prices (PRICE_REL)). This allows to monitor the differences in effective exchange rates and their components in two group of countries.

The differences in export rates also mean differences in the share of domestic demand in GDP (labeled DD). Stronger domestic market orientation is associated with a weaker orientation towards exports. Favorable financing conditions as well as fiscal policy of government can fuel domestic demand. Therefore, the fiscal policy indicators used in the descriptive analysis are net lending / borrowing, public depth (both as a share in GDP) as well as the share of general government investments in GDP (variable INVEST_PUBLIC). The economic characteristics analysis also included growth rates (variable GROWTH) and the deviation of current GDP from the potential GDP (YGAP - as % of potential GDP). Most of these variables were also used by Cesaroni and DeSantis (2015), Bogdan, Cota and Erjavec (2016), Cota, Erjavec and Bogdan (2017) and Bogdan, Cota and Erjavec (2017). Although the hypotheses of the proposed research are related to the exchange rate regimes, more involved variables will enhance the analysis. However, the results of the descriptive analysis are presented in relatively large tables (Table 4 and Table 5) and are shown in the Appendix of this paper. Table 6 provides variables and its sources.

Table 4 provides the summary statistics of each variable with respect to the economic cycle (“expansion” *i.e.* 1999-2008 vs. “crisis and post-crisis period” *i.e.* 2009-2017) and the exchange rate regime (“fixed” vs. “flexible”). Statistical *t*-test about equality of arithmetic means is used to confirm the first, second and third hypothesis. It was applied to examine whether the mean difference (column 7 in Table 4) is statistically significantly different from zero. The significant and positive values of this indicator are in favor of FLEXIBLE countries. However, the final conclusion can also be influenced by the inclusion of Romania and Poland (although relatively large countries) in the FLEXIBLE group. Therefore, the similar analysis is done in Table 5 if Romania and Poland are excluded from the analysis (marked as Option 2 that differs from the situation when all countries are analyzed – Option 1). Indeed, the descriptive analysis in Tables 4 and 5 points to the following conclusions:

1. For most variables, differences in the averages of observed groups of countries in the analyzed period were confirmed. A significant positive difference in the pre-crisis period was recorded in variables EXPORT, EXPORT_GOODS and DEBT implying their higher value in the countries with flexible exchange rate[5]. Contrary to them, countries with fixed exchange rate have higher values of variables EXPORT_SERVICES, IMPORT_SERVICES, DD, GROWTH, BB and INVEST_PUBLIC. The difference in arithmetic mean is not significant only in the case of variables IMPORT, IMPORT_GOODS, YGAP and the components of real exchange rate.

[5] Positive differences in the case of variables EXPORT and EXPORT_GOODS does not mean that differences are necessary derived from the foreign exchange rate since other factors (EU accession, business climate, complexity of goods, FDI in industrial sector and others) are also important.

Countries with fixed foreign exchange rates were more focused on the domestic market including public investments although at the same time they had a smaller share of the budget deficit and public debt in GDP. This is possible if the inflow of foreign capital increased aggregate private consumption and triggered a strong GDP growth[6] that was higher than the growth of the budget deficit and public debt[7]. Irrespective of the differences in DD, there is no difference in the variable IMPORT, but it does not reveal the structure of imports (it is possible that the share of imports of intermediate goods is higher in the countries with a flexible exchange rate corresponding to a higher share of final goods and services in the overall imports of the second group). However, these results could be influenced by the inclusion of Romania and Poland in a group of flexible exchange rate. As relatively large countries, these economies may be more oriented to the domestic market and less to the exports, which may be reflected in the conclusions on the impact of domestic demand. It would be useful to repeat the analysis when these two economies are excluded from the FLEXIBLE group.

2. Descriptive analysis without Romania and Poland in the pre-crisis period is presented in the left part of Table 5 (Option 2). Significant differences in the arithmetic means from Table 4 are also confirmed in Table 4 with a stronger magnitude (with the exception of the trade of services that is weaker). Now the significance of differences in arithmetic means in case of variables IMPORT, IMPORT_GOODS and components of real exchange rate has arisen. Although the macroeconomists do not care about the level of the real exchange rate (but the dynamics), the real exchange rate (REER) and its components (PRICE_REL, NEER) are smaller in countries with flexible foreign exchange rates. However, the RULC are higher so the mean difference in REER_ULC is insignificant.
3. Conclusions on the difference between the arithmetic means during the recent crisis and post-crisis period are mostly similar to those in point 2 (clearly, with different magnitudes since the whole sample is included). The difference is not valid only in cases of variables IMPORT, GROWTH, YGAP and INVEST_PUBLIC. However, it is questionable whether there is a significant difference for the variable EXPORT (p-value is 0.0992 which is marginally significant at 10%). Since Bogdan, Cota and Erjavec (2017) have already confirmed that this difference disappears in the crisis period (by 2014), it is convenient to test what happens with the difference between the averages of the EXPORT variable between 2014 and 2017. Regardless of whether the difference between the arithmetic means of the variable EXPORT is slightly diminished or completely insignificant, both are happened primarily due to a reduced difference for the variable EXPORT_GOODS (because the difference in EXPORT_SERVICE in favor of the FIXED group also decreases). But, it is more important to point out that all the average values of the components of the real exchange rate in countries with flexible foreign exchange rates have less value. This means that, on average, after 2008, the nominal effective exchange rate, relative price levels and relative unit labor costs have lower values in these economies. Also, the magnitude of other variables that are significant before the crisis ((except the variables INVEST_PUBLIC and DD) becomes weaker.

   The average value of the variable DD is, as a results of the crisis, smaller in both groups of countries. Given the insignificance of the differences between the averages of the variable INVEST_PUBLIC, the reduction in aggregate private consumption was

[6] Since there is no difference in import and the export rate is lower than the import rate, there is an inescapable deficit of the current account that is financed by capital inflows from abroad.

[7] The inclusion of Croatia in the FIXED group throughout the analysis period undermines the average of fiscal variables for these countries.

stronger in countries with a fixed foreign exchange rate. The results for the variable INVEST_PUBLIC, DEBT and the components of the real effective exchange rate point to the possibility that discretionary fiscal policy and price competitiveness are much more important in fighting the crisis in flexible exchange rate countries, but for the overall conclusion the dynamics of these variables is required.

4. These differences are slightly different if Poland and Romania are excluded from the analysis (Table 4 – Option 2). More pronounced differences after 2008 are noted in the cases of variables IMPORT, IMPORT_GOODS, DD, RULC, REER_ULC and DEBT. The big difference for the DEBT is related to the growth of Hungarian and Slovenian public debt in crisis and post-crisis times. Another significant result is the negative difference for the variables REER_ULC and RULC. The RULC dynamics in Figure 5 show in the fixed exchange rate countries the RULC have fallen more during times of crisis but also increased more in the post-crisis period.

The descriptive analysis from Tables 3 and 4 really confirms that the new EU members with a flexible exchange rate actually have a higher export rate before the recent crisis, so the H1 hypothesis can be accepted. There is also no significant difference in the import rate in the observed period, which means that the H2 hypothesis can also be accepted. However, it is questionable whether it can be concluded that differences in export rates disappear after 2008. The positive response is more likely but the average difference in EXPORT_SERVICE is slightly declining, which means that the difference in EXPORT should first be sought in the export of goods. So, H3 hypothesis is partially acceptable. The conclusion about the H4 and H5 hypotheses cannot be made solely with descriptive analysis, but a regression estimation is also needed. However, preliminary results show that the H5 hypothesis can be partially accepted, but the rejection cannot be completely excluded. The final answer will be given by regression analysis.

Before the regression estimation, it is necessary to know the dynamics of the variables (visible from Figure 6 in the Appendix) in which it will be carried out, as this enables us to create expectations about the possible link. Since there are no differences in imports (according to Table 3), international trade will be monitored through exports.

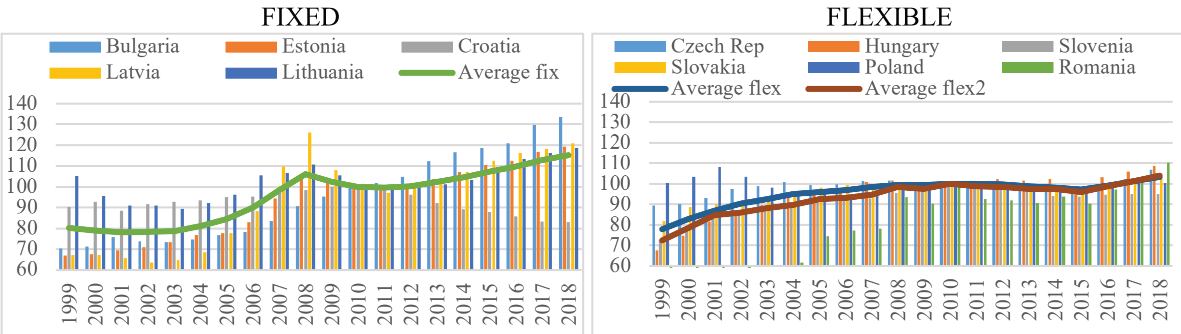
To understand the characteristics of both groups of countries, it is important to observe the movements of these variables. Variables EXPORT and IMPORT rise during the observed period with a strong drop in 2009 but the annual averages between two groups differ. In addition to Slovak, Hungary, Czech Republic and Slovenia (all from the FLEXIBLE group), more interesting cases are two countries from FIXED group – Estonia which is strongly engaged in exports (the export rates 61.5% in 2004, 83.1% in 2014 and 76.5 in 2017; the import rates: about 70% in 2008 and 72% in 2017) and Croatia with relatively small export and import rates (already highlighted in the introduction of paper). Overall export rate in Croatia was between 35 and 40% prior to the recent crisis but rose to 51% in 2017[8]. It was previously stressed that most of the countries before the recent crisis had a trade deficit that during the crisis declined or became positive. However, larger trade deficit was inherent to a countries with the fixed exchange rate.

[8] It is worth remembering that the share of some variable in GDP can be increased in several ways. In addition to the usual faster growth of this variable compared to GDP, there are also:

- The lower decline of this variable in absolute terms compared to the GDP decline
- The greater or unchanged value of this variable under recession.

The current results of descriptive analysis point to the conclusion that in the analysis of foreign trade, greater emphasis should be placed on export performances that depend on price and non-price competitiveness. In this text, however, the emphasis is on price competitiveness that is captured by the real effective exchange rate and its components – the NEER and the RULC. The dynamic of NEER is already shown on Figure 4 but the dynamics of RULC are also required and presented in the Figure 5. Data show that both groups of countries were faced with an increase in RULC before the recent crisis but this was more pronounced in the fixed exchange rate group. Reducing the RULC during the crisis in the FLEXIBLE group was relatively negligible compared to the FIXED group which after 2012 recorded (with the exception of Croatia) a stronger increase in the RULC.

Figure 5: *Relative unit labor costs (2010=100) in post-socialist countries between 1999 and 2018*



SOURCE: Own calculation using data from the Eurostat (2019).

If we summarize these results, it is apparent that in countries with a fixed exchange rate the inflow of debt capital stimulated domestic demand resulting in higher domestic unit labor costs and prices deteriorating export performances. The effects on the NEER disappear as a result of nature of the form of the exchange rate regime. However, real appreciation can be higher than nominal appreciation when a country follows a flexible exchange rate regime. Nevertheless, the dynamics of the NEER in these countries before the crisis was different implying depreciation in Slovenia (before entry into the ERM II mechanism), Romania (until 2004) and Hungary, appreciation in the Czech Republic and Slovakia and oscillations in Poland. In the crisis, countries with flexible exchange rate had nominal depreciation periods (except for Slovenia and Slovakia that introduced the euro) and it is questionable how much it contributed to their exports. To answer this question, a regression analysis is required in the next part of the paper.

3.3. Regression analysis

When a price competitiveness is an important determinant of exports, exports are usually defined as the function of the real exchange rate. Since the RULC dynamics of Figure 5 justify hypothesis H4, NEER can be used as a regressor *i.e.*:

$$\boldsymbol{EXPORT} = \boldsymbol{f}(\boldsymbol{NEER}). \tag{1}$$

Additionally, the impact of RULC has already been explored in Bogdan (2018) for the FIXED group including Slovenia and Slovakia. The analysis was similar to this and showed that countries with fixed exchange rates reduced RULC but that the impact of non-price competitiveness factors is still stronger. In the context of this paper the conclusions of Bogdan, Cota and Erjavec (2017) are important. These results have shown that real depreciation encouraged exports in the conditions of recent crisis, but these effects are associated with nominal depreciation. An analysis was made on the panel data, so analysis on individual countries could further confirm or reject this conclusion. Individual country analysis can incorporate the countries with change in the NEER *i.e.* Czech Republic, Poland, Hungary, Romania as well as Croatia but must use quarterly data which are seasonally adjusted. If the negative relationship between EXPORT and NEER is obtained, nominal depreciation can increase exports. The analysis also included time dummy variables to maintain the residual normality. The results of empirical analysis are summarized in Table 1.

Table 1: *Summary of the empirical results*

Country	Nominal effective exchange rate (NEER)	Results of analysis
Hungary	Continuous trend of depreciation with large oscillations by the end of 2011; cumulative yearly depreciation (2010 – 2018) about 14% or 1.8% *per annum*	Negative relationship between NEER and exports (analysis without the slope dummy)
Czech Republic	Continuous trend of appreciation with large oscillations by the beginning of 2011 and after the beginning of 2014; cumulative yearly depreciation from 2011 to 2014 about 11% or 3.7% *per annum;* possible negative relationship with exports between 2001 and 2003 and after 2010.	Unclear connection across the sample. The sub-samples confirmed the negative relationship in the mentioned periods (2001-03, 2010 -) which is not always related to depreciation.
Poland	Continuous trend of depreciation with large oscillations until the beginning of 2010 and a mild appreciation since the beginning of 2016; cumulative yearly depreciation from 2010 to 2016 about 8.4% or 1.5% *per annum*	A negative correlation between NEER and exports that is even stronger after 2010
Romania	Strong depreciation by the end of 2004. Slight depreciation again after 2008. cumulative yearly depreciation from 2010 to 2018 about 9.5% or 1.2 *per annum*	Negative relationship between NEER and exports in the crisis and post-crisis period.
Croatia	Stable exchange rate in the pre-crisis period with mild appreciation until 2008 which continues after 2014; cumulative yearly depreciation of 4.6% or 1.2% *per annum* between 2010 and 2014.	Limited weakening effects of nominal depreciation in the crisis period. The more important impact of reducing RULC.

SOURCE: Creation of the author according to Table 7 in the Appendix and dynamics of NEER and EXPORT.

According to the Table 1 the conclusions about the effects of nominal depreciation are mixed. In Poland, Romania and Hungary, nominal depreciation likely has a positive impact on exports. In the case of Czech Republic and Croatia, the caution is required when concluding. When the whole sample is analyzed, the connection between NEER and EXPORT was not verified in Czech Republic. When analysis is performed on two sub-samples, there are sub-periods in which this link is negative. The data overview shows the periods of simultaneous nominal appreciation and decrease of EXPORT as well as periods of simultaneous nominal depreciation and increase of EXPORT. This does not have to mean that the appreciation has adversely affected exports but may be a sign that the inflow of foreign capital simultaneously increased domestic demand and caused appreciation, so export growth could be slower than GDP growth. In the case of Croatia it has been shown that there are some indications that nominal depreciation could contribute to improve price competitiveness. But the conclusions are sensitive with respect to the specification of the link – in some specifications NEER is not significant in combination with RULC. Given the dynamics of NEER and RULC and the movement of EXPORT, it is reasonable to assume that the reduction of unit labor costs has more influenced the price competitiveness of Croatia.

4. Conclusion

The article explores the impact of exchange rate regimes on the international trade of new EU members. Differences in the international trade in pre-crisis times stem from differences in the export rates (acceptance of first and second hypothesis). These differences disappear (or became lesser) after 2008 as a primarily consequence of the lesser differences in the goods export. Hence, the article is oriented to price competitiveness of exports that can be improved by reducing relative labor costs and /or nominal depreciation. Data shows that countries with flexible exchange rates were not focused on reducing the relative unit labor costs, so the emphasis was on the nominal exchange rate. Although the results of the analysis are mixed, they show that nominal depreciation may still stimulate exports in the crisis times. However, the exchange rate cannot be the sole determinant of exports and that greater emphasis should be placed on non-price competitiveness for a significant increase in exports.

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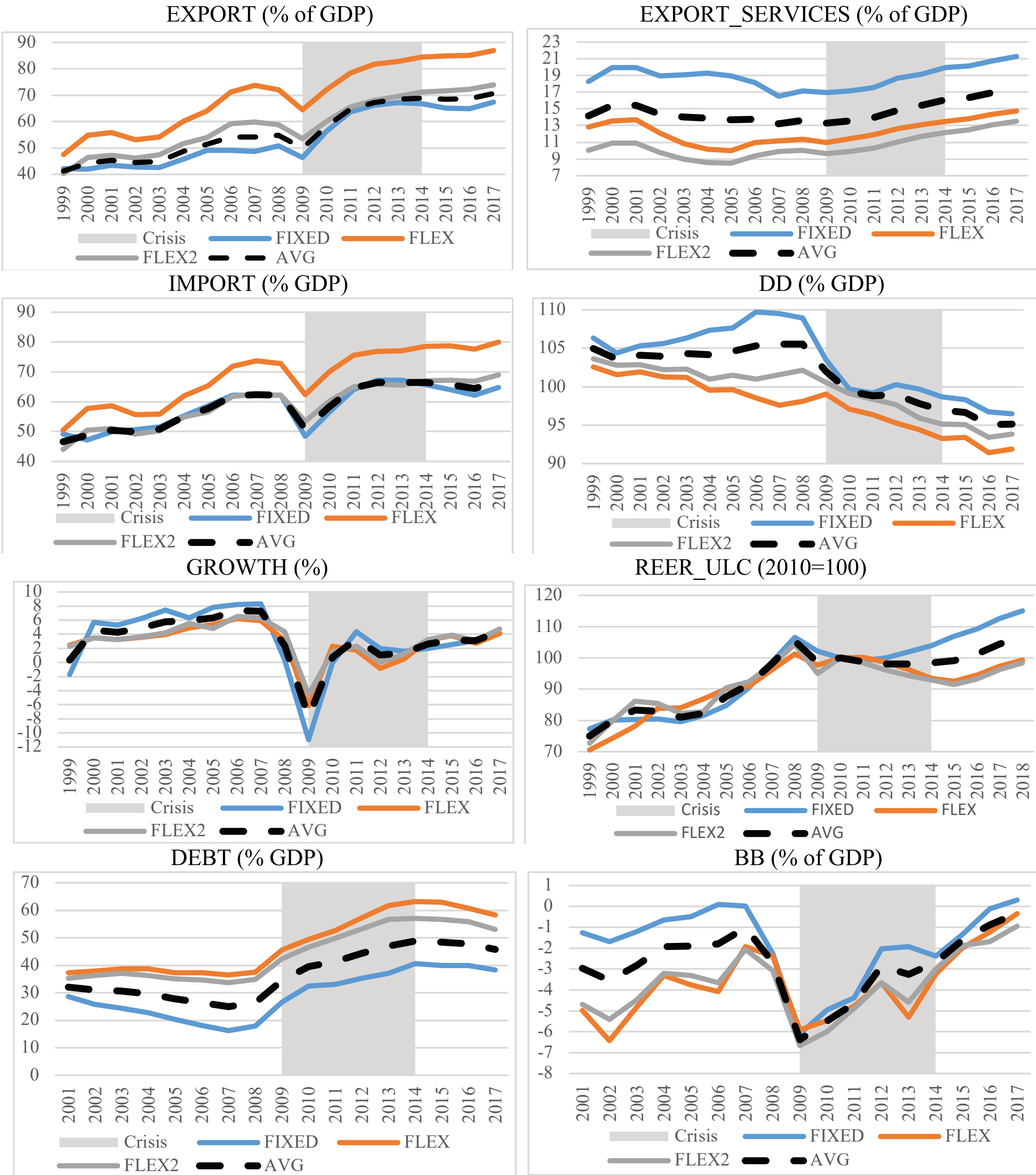
Appendices

Figure 6: *Annual averages of variables used in the analysis*



NOTE: Slovakia and Slovenia are included in the group of countries with flexible exchange rate. Graphs show annual averages on whole sample (AVG) and countries with flexible (termed FLEX2) (FLEX – the group FLEX2 without Romania and Poland) or fixed exchange rate regime (FIX).
SOURCE: Eurostat (2019).

Table 2 : *The average annual growth rates of exports of goods and services in the new EU member states*

	Average annual growth rate (goods)				*Average annual growth rate (services)*				*Average annual growth rate (goods and services)*			
	1995-1999	1999-2008	2008-2017	1995-2017	1995-1999	1999-2008	2008-2017	1995-2017	1995-1999	1999-2008	2008-2017	1995-2017
Bulgaria	-9.33	11.49	7.30	5.71	17.60	1.69	-1.49	3.07	-1.36	6.35	4.91	4.32
Czechia	6.74	15.82	4.86	9.56	5.23	1.10	3.91	2.99	6.30	12.10	4.71	7.97
Estonia	10.77	9.80	5.10	8.02	8.62	4.71	2.63	4.55	10.03	7.77	4.28	6.73
Croatia	0.06	9.02	4.42	5.46	10.20	5.85	0.97	4.59	5.98	7.07	2.52	4.99
Latvia	10.28	11.13	5.40	8.60	3.07	8.95	3.07	5.44	7.00	10.21	4.52	7.27
Lithuania	4.60	15.84	6.13	9.71	12.03	6.42	9.72	8.77	6.98	13.31	6.88	9.48
Hungary	20.40	15.21	2.94	10.91	3.57	5.01	6.80	5.48	14.72	13.06	3.67	9.41
Poland	7.57	10.43	5.62	7.92	14.44	8.91	9.48	10.13	8.56	10.17	6.36	8.31
Romania	6.43	12.78	10.19	10.54	8.87	12.01	4.65	8.38	6.86	12.70	8.81	10.02
Slovenia	7.90	10.06	3.58	6.98	-0.04	7.68	1.90	3.86	6.06	9.59	3.24	6.31
Slovakia	3.00	15.08	5.21	8.72	6.32	3.10	2.90	3.59	3.87	12.91	4.97	7.94
maximum	20.40	15.84	10.19	10.91	17.60	12.01	9.72	10.13	14.72	13.31	8.81	10.02
minimum	-9.33	9.02	2.94	5.46	-0.04	1.10	-1.49	2.99	-1.36	6.35	2.52	4.32

NOTE: Average annual growth rates are counted as geometric rates. If we denote this rate with G, then the formula $(1+G)^{t-1}$will get a cumulative rate of growth.
SOURCE: Author's calculation from Eurostat (2019) data.

Table 3: *The average annual growth rates of imports of goods and services in the new EU member states*

	Average annual growth rate (goods)				*Average annual growth rate (services)*				*Average annual growth rate (goods and services)*			
	1995-1999	1999-2008	2008-2017	1995-2017	1995-1999	1999-2008	2008-2017	1995-2017	1995-1999	1999-2008	2008-2017	1995-2017
Bulgaria	10.37	12.35	2.45	7.84	-19.38	8.39	-1.66	-1.30	2.85	11.57	1.78	5.88
Czechia	6.88	12.78	4.03	8.05	7.36	5.61	4.35	5.41	7.02	11.56	4.07	7.62
Estonia	9.55	10.72	2.86	7.23	13.31	8.01	4.53	7.50	10.39	10.13	3.21	7.29
Croatia	4.15	9.98	0.32	4.88	8.66	2.91	0.28	2.84	5.29	8.52	0.32	4.51
Latvia	8.11	10.69	2.14	6.65	22.13	9.77	-0.39	7.56	10.05	10.49	1.70	6.73
Lithuania	10.84	14.95	4.01	9.61	12.07	10.11	6.66	9.04	11.06	14.24	4.33	9.52
Hungary	19.00	12.07	2.88	9.40	7.09	10.54	3.47	6.97	16.52	11.84	2.95	8.93
Poland	16.36	8.98	4.19	8.28	17.73	6.99	6.74	8.77	16.58	8.70	4.55	8.35
Romania	9.60	19.94	5.30	11.87	-5.19	15.89	5.63	7.58	7.46	19.36	5.34	11.27
Slovenia	8.84	8.65	1.72	5.79	3.99	7.22	0.47	3.82	8.09	8.42	1.54	5.49
Slovakia	5.30	12.76	3.86	7.68	6.25	6.79	0.73	4.17	5.40	11.90	3.51	7.22
maximum	19.00	19.94	5.30	11.87	22.13	15.89	6.74	9.04	16.58	19.36	5.34	11.27
minimum	4.15	8.65	0.32	4.88	-19.38	2.91	-1.66	-1.30	2.85	8.42	0.32	4.51

NOTE: Average annual growth rates are counted as geometric rates. If we denote this rate with G, then the formula $(1+G)^{t-1}$ will get a cumulative rate of growth.
SOURCE: Author's calculations from Eurostat (2019) data.

***Table 4** Summary statistics for the new EU members regarding the exchange rate regime and economic activity (1999-2017)*

Variable	Mean	Standard Deviation	Minimum	Maximum	Obs.	Mean Difference	Mean	Standard Deviation	Minimum	Maximum	Obs.
	Flexible exchange rates (1999 – 2008)					To 2008	Fixed exchange rates (1999 – 2008)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)-(8)	(8)	(9)	(10)	(11)	(12)
EXPORT	51.0900	16.4334	24.1000	83.3000	N=60	5.4220**	45.6680	10.6317	30.5000	70.2000	N=50
EXPORT_GOODS	41.3950	14.5095	17.2000	73.5000	N=60	14.3330**	27.0620	10.3006	10.9000	46.6000	N=50
EXPORT_SERVICES	9.6950	3.3188	4.0000	16.3000	N=60	-8.9190**	18.6140	5.3629	10.5000	28.4000	N=50
IMPORT	54.3000	14.7030	29.9000	85.0000	N=60	-0.5820	54.8820	10.9666	36.5000	74.6000	N=50
IMPORT_GOODS	46.6683	13.1294	25.6000	76.8000	N=60	2.1663	44.5020	9.4663	27.3000	61.2000	N=50
IMPORT_SERVICES	7.6367	1.9433	4.3000	11.7000	N=60	-2.7513**	10.3880	3.0035	6.1000	16.4000	N=50
DD	102.0950	4.4692	95.0000	118.1000	N=60	-5.0250**	107.1200	3.6487	101.1000	115.8000	N=50
GROWTH	4.4358	2.2409	-0.4637	10.8140	N=60	-0.9545*	5.3903	4.1045	-8.4211	11.8049	N=50
YGAP	0.9612	3.4459	-5.8374	8.1916	N=60	-0.6855	1.6467	4.5589	-7.2978	13.8097	N=48
BB	-3.9017	2.3794	-12.0000	-0.1000	N=60	-2.7871**	-1.1146	2.0877	-5.2000	2.9000	N=48
REER	86.4852	13.1658	50.5000	110.1900	N=60	-0.8022	87.2874	7.6600	64.1800	101.2000	N=50
PRICE_REL	90.7946	29.4341	34.4057	181.8602	N=60	2.2815	88.5131	11.2155	61.6790	121.1696	N=50
NEER	103.8458	30.6862	68.1300	257.4100	N=60	2.5600	101.2858	7.7063	80.7000	127.8700	N=50
RULC	87.8439	16.5666	22.7070	108.2511	N=60	2.4208	85.4231	14.5942	63.6416	126.0805	N=50
REER_ULC	87.3982	15.1868	55.7700	118.4700	N=60	1.4212	85.9770	12.8580	67.1000	127.1900	N=50
DEBT	35.2367	14.9950	11.9000	71.6000	N=60	12.0795**	23.1571	17.7636	3.7000	75.9000	N=49
INVEST_PUBLIC	3.9542	1.0466	1.6000	7.7000	N=60	-0.3978*	4.3521	1.3939	1.7000	7.3000	N=48
	Flexible exchange rates (2009 – 2017)					After 2008	Fixed exchange rates (2009 – 2017)				
EXPORT	67.3130	20.3167	26.0000	96.9000	N=54	4.6219*?	62.6911	14.7464	34.5000	86.5000	N=45
EXPORT_GOODS	55.7630	18.4843	19.2000	86.4000	N=54	12.1274**	43.6356	14.9398	14.6000	68.6000	N=45
EXPORT_SERVICES	11.5444	3.4853	6.3000	19.4000	N=54	-7.5178**	19.0622	4.7453	10.9000	27.3000	N=45
IMPORT	64.4389	17.4234	32.4000	93.8000	N=54	2.2100	62.2289	13.5238	38.0000	84.4000	N=45
IMPORT_GOODS	55.4519	15.6432	26.4000	84.4000	N=54	3.7474*	51.7044	11.2770	31.1000	71.3000	N=45
IMPORT_SERVICES	8.9870	2.4328	5.1000	13.8000	N=54	-1.5330**	10.5200	3.6254	6.0000	18.7000	N=45
DD	96.5648	4.1952	88.6000	105.6000	N=54	-2.6108**	99.1756	3.2288	93.6000	107.6000	N=45
GROWTH	1.7061	3.2100	-7.7498	7.0074	N=54	0.7535	0.9526	5.0217	-14.8052	7.6000	N=45
YGAP	-1.7049	2.0001	-6.5263	1.8503	N=54	0.2888	-1.9937	3.7025	-12.5050	2.7127	N=45
BB	-3.7000	2.7113	-14.7000	1.5000	N=54	-1.1489**	-2.5511	3.1006	-9.1000	1.2000	N=45
REER	98.0013	3.2249	91.0400	102.6100	N=54	-2.2454**	100.2467	2.9431	94.6700	107.8100	N=45
PRICE_REL	95.0344	6.3428	81.4473	105.0617	N=54	-4.8235**	99.8578	3.7948	91.7275	107.7561	N=45
NEER	96.8757	3.6877	88.5200	102.7900	N=54	-2.7165**	99.5922	1.3798	95.4500	101.6400	N=45
RULC	98.3976	3.3078	90.1872	106.0572	N=54	-5.9499**	104.3475	9.7229	83.3692	129.6900	N=45
REER_ULC	95.2959	4.2724	85.7000	102.7400	N=54	-8.7048**	104.0007	10.5224	81.4100	129.6900	N=45
DEBT	52.3815	16.6583	22.1000	82.6000	N=54	16.4948**	35.8867	22.5220	6.1000	84.0000	N=45
INVEST_PUBLIC	4.3407	0.9450	2.6000	6.6000	N=54	0.0274	4.3133	1.0094	2.2000	6.6000	N=45

NOTE: Slovakia and Slovenia are included into the group of countries with flexible exchange rate. Column Mean Difference includes the point estimate of arithmetic mean differences before and after 2008 with positive (negative) values indicating the upper (lower) bound test. * denotes significance at 10% and ** at 5%.
SOURCE: Own calculations.

Table 5: *t-statistic in the testing of equality of arithmetic means*

Variable	Time span (1999 – 2008)								Time span (2009 – 2017)							
	Option 1				Option 2				Option 1				Option 2			
	Mean difference	Standard error	t-statistics	p-value	Mean difference	Standard error	t-statistics	p-value	Mean difference	Standard error	t-stat	p-value	Mean difference	Standard error	t-stat	p-value
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
EXPORT	5.4220**	2.6237	2.0665	0.0207	15.0020**	2.3000	6.5227	0.0000	4.6219*	3.5680	1.2954	0.0992	17.3950**	2.7871	6.2412	0.0000
EXPORT_GOODS	14.3330**	2.3945	5.9858	0.0000	21.9430**	2.3460	9.3532	0.0000	12.1274**	3.3940	3.5732	0.0003	23.5144**	2.8188	8.3421	0.0000
EXPORT_SERVICES	-8.9190**	0.8796	-10.1402	0.0000	-6.9415**	0.8324	-8.3388	0.0000	-7.5178**	0.8608	-8.7336	0.0000	-6.1233**	0.9107	-6.7235	0.0000
IMPORT	-0.5820	2.4735	-0.2353	0.4072	7.4955**	2.3308	3.2158	0.0009	2.2100	3.1440	0.7029	0.2419	13.0100**	2.6044	4.9955	0.0000
IMPORT_GOODS	2.1663	2.1796	0.9939	0.1613	9.0480**	2.1320	4.2439	0.0000	3.7474*	2.7400	1.3677	0.0873	13.1761**	2.3369	5.6383	0.0000
IMPORT_SERVICES	-2.7513**	0.4981	-5.5235	0.0000	-1.5555**	0.4648	-3.3465	0.0007	-1.5330**	0.6406	-2.3930	0.0096	-0.1644	0.6200	-0.2652	0.3958
DD	-5.0250**	0.7812	-6.4326	0.0000	-6.9250**	0.6698	-10.3392	0.0000	-2.6108**	0.7543	-3.4610	0.0004	-4.4839**	0.7233	-6.1991	0.0000
GROWTH	-0.9545*	0.6549	-1.4574	0.0747	-1.1654**	0.6786	-1.7174	0.0450	0.7535	0.8761	0.8601	0.1963	0.3086	0.9367	0.3294	0.3714
YGAP	-0.6855	0.8022	-0.8546	0.1976	-0.3929	0.8008	-0.4907	0.3125	0.2888	0.6221	0.4642	0.3220	0.0594	0.6431	0.0923	0.4633
BB	-2.7871**	0.4344	-6.4162	0.0000	-3.0679**	0.5259	-5.8334	0.0000	-1.1489**	0.5977	-1.9223	0.0289	-0.9906*	0.6761	-1.4651	0.0735
REER	-0.8022	2.0336	-0.3945	0.3470	-3.4019*	2.4136	-1.4095	0.0820	-2.2454**	0.6270	-3.5813	0.0003	-1.9389**	0.7042	-2.7532	0.0037
PRICE_REL	2.2815	4.1535	0.5493	0.2922	-8.0441**	4.1124	-1.9561	0.0279	-4.8235**	1.0423	-4.6278	0.0000	-3.8689**	1.2825	-3.0167	0.0020
NEER	2.5600	4.1439	0.6178	0.2694	-7.3373**	2.8230	-2.5991	0.0061	-2.7165**	0.5476	-4.9608	0.0000	-2.0664**	0.7064	-2.9251	0.0028
RULC	2.4208	2.9997	0.8070	0.2107	6.1771**	2.4849	2.4859	0.0075	-5.9499**	1.5346	-3.8772	0.0001	-5.0880**	1.5284	-3.3289	0.0008
REER_ULC	1.4212	2.6987	0.5266	0.2998	-0.3713	2.9338	-0.1265	0.4498	-8.7048**	1.6914	-5.1465	0.0000	-7.2468**	1.6941	-4.2777	0.0000
DEBT	12.0795**	3.2226	3.7484	0.0002	14.2804**	3.5645	4.0063	0.0001	16.4948**	4.0944	4.0286	0.0001	20.9578**	4.5117	4.6452	0.0000
INVEST_PUBLIC	-0.3978*	0.2454	-1.6212	0.0543	-0.2121	0.2444	-0.8677	0.1941	0.0274	0.2000	0.1370	0.4457	-0.1300	0.2187	-0.5945	0.2770

NOTE: During all time horizons Slovenia and Slovakia are included as countries with flexible exchange rate regime. Option 2 excludes Romania and Poland (as relatively large countries) from the analysis. * denotes significance at 10% and ** at 5%.
SOURCE: Own calculations.

Table 6: *Data used in a descriptive analysis and sources of data*

Variable	Label	Value	Source
EXPORT, EXPORT_GOODS, EXPORT_SERVICES	Exports of goods and services (export rate) (overall, only goods, only services)	% of GDP	Eurostat
IMPORT, IMPORT_GOODS, IMPORT_SERVICES	Exports of goods (exports of goods ratio)	% of GDP	Eurostat
DD	Domestic demand	% of GDP	Eurostat
GROWTH	Growth (change of GDP)	%	Eurostat
YGAP	Output gap (deviation from potential product)	% of potential GDP	AMECO
REER, REER_ULC	Real effective exchange rate – deflators: consumer price index and unit labor costs in the economy – 18 trading partners (Eurozone)	Index (2010=100)	Eurostat
NEER	Nominal effective exchange rate – 18 trading partners (Eurozone)	Index (2010=100)	Eurostat
PRICE_REL, RULC	$PRICE\_REL = REER/NEER,\ RULC = REER\_ULC/NEER$	Index (2010=100)	
BB	Budget balance: Net lending / borrowing	% of GDP	Eurostat
DEBT	General government debt	% of GDP	Eurostat
INVEST_PUBLIC	General government gross fixed capital formation	% of GDP	Eurostat

Table 7: *Empirical analysis*

	Hungary	Romania	Czechia			Poland	Croatia		
			All	Pre-crisis	Crisis		All	Crisis1	Crisis2
EXPORT_SA(-1)	**0.507437****	-	**0.943111****	**0.892500****	-	-	-	-	**0.665720****
NEER_SA	**-0.283837****	-0.040900	0.016488	0.057231	**-0.699047****	**-0.123325****	**-0.763328****	***-0.303974***	***-0.306008****
DUMMY200714	-	**19.37328****	-	-	-	-	-	-	-
DUMMY2001Q3	-	-	-	-	-	-	**3.585513****	-	-
DUMMY2004Q2	-	-	**10.55017****	**9.360971****	-	-	-	-	-
DUMMY2008Q4	-	-	-	-	**-7.428813****	**-4.066876****	-	-	-
DUMMY2010Q1	-	-	-	-	**-6.549946****	-	**2.772773****	1.980737	-
DUMMY2009	-	***-1.515486***	-	-	**-11.19055****	**-5.976004****	-	-	-
DUMMY2010	-	-	-	-	-	-	-	-	**2.238825****
DUMMY200103*NEER_SA			-	**-0.024689****	-	-	-	-	-
DUMMY200714*NEER_SA	-	**-0.191150****	-	-	-	-	-	-	-
DUMMY200914*NEER_SA	-	-	-	-	-	-	**-0.045093****	-	-
DUMMY201018*NEER_SA	-	-	-	-	-	**-0.044897****	-	-	-
DUMMY201118*NEER_SA	-	-	0.011106	-	**0.066519****	-	-	-	-
RULC	-	-	-	-	-	-	-	-	**-0.280057****
@TREND	-	0.106606	-	-	**0.119801****	**0.452170****	**0.210457****	**0.448448****	-
Intercept	**66.93342****	**33.89513****	2.119604	2.226571	**129.9026****	**29.01676****	**105.2473****	**39.81306****	**70.20484****
AR(1)	**0.648515****	**1.202988****	**0.315277****	-	-	**0.449628****	**0.506101****	-	-
AR(2)	**0.293302****	-0.233690	-	-	-	-	-	-	-
AR(3)	***0.249469****	-0.024957	-	-	-	-	-	-	-
AR(4)	**-0.319664****	-0.003759	***-0.182820****	-	-	**-0.319104****	-	-	-
Observations	80	80	80	36	44	80	75	40	40
R2	0.980734	0.964847	0.989226	0.985178	0.964717	0.995386	0.944992	0.952579	0.953237
F-stat	**619.3417****	**213.4794****	**1117.118****	**515.1108****	**168.6116****	**2219.049****	**194.6982****	**241.0509****	**178.3651****
Durbin-Watson stat	1.863860	1.989107	1.842834	1.770082	1.539339	2.237870	1.960489	1.172750	2.044180
Breusch-Godfrey	4.978576	10.91778	7.452557	**7.551824****	**8.200917****	7.476962	1.018741	6.544724	1.417659
BPG test	0.206463	7.102494	2.351448	5.226386	16.49826	8.625413	1.243021	7.096135	15.21564
Jarque-Bera test	3.958080	0.884577	0.504308	-	-	0.068480	0.969529	-	-

NOTE: Because of the size of the table, standard errors are not shown and significance is highlighted by the asterisks: * denotes significance at 10% and ** at 5%. Residual normality was tested by Jarque-Bera test, autocorrelation (4th order) with Breusch-Godfrey test and heteroscedasticity with Breusch-Pagan-Godfrey (BPG) test.
SOURCE: Own calculations.

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IMPACTS AND PERSPECTIVES OF TRADE INTEGRATION BETWEEN THE EUROPEAN UNION AND THE USA

ABSTRACT

The research problem stems from the constraints on the precise identification of the potential impacts of the implementation of the Transatlantic Trade and Investment Partnership (TTIP) between the EU and the USA, especially on EU trade and its Common Trade Policy. The aim of the research is to review the prospects for its further implementation by analysing the current trade relations between the EU and the USA and by examining key TTIP elements. The purpose of the research is to examine all relevant and to point out crucial effects of this Agreement. The research has identified potential key impacts of TTIP, especially economic effects, effects on small and medium enterprises and effects on the global economy. Key economic effects include impacts on GDP, employment and exports, manifested for example through changes in wages and prosperity. Furthermore, the implementation of this Agreement would open up the possibility of even better inclusion of small and medium-sized enterprises in world trade flows, thereby contributing to the achievement of their higher level of innovation and competitiveness. The effects on the global economy are primarily manifested through the abolition of regulatory and other constraints and the overall incentives for liberalization, which could have an effect on increasing the volumes of international trade and further global economic integration. Based on our research, it is possible to conclude that the TTIP destiny is largely uncertain and that its further implementation will largely be determined by political factors – such as national interests or internal, as well as external, political pressures. The research is mainly based on secondary data collected from relevant international statistical databases and official publications and research of international trade organizations.

Key words: *EU, trade integration, TTIP, USA*

1. Introduction

The EU and the USA are the most important world trading forces, with the EU, alongside China (16.9 % of world exports), dominating exports (15.8% of world's exports), while being the world's leading importer (17.3% of world production) (Eurostat, 2019). Also, liberalization of world trade, characterized primarily by the removal of trade restrictions, has resulted in the strengthening of trade links between these two global powers. According to Eurostat, (2019), the United States were the most important export partner for the EU, accounting for 13.4% of total exports. Also, the USA, alongside China, is the most important import partner, which accounted for 9.6% of the EU imports. A similar situation can be found by analysing the USA foreign trade. According to The Observatory for Economic Complexity (2019), 18.1% of total USA export is carried out by the most significant partners from the EU (Germany, Great Britain, France, Netherlands, Belgium, Luxembourg, Ireland). Likewise, most important EU partners account for 13% of total US imports.

Further attempts to intensify trade relations between the United States and the EU began in 2013 with the initiative for the Transatlantic Trade and Investment Partnership (TTIP), whose main objective is to create the world's largest free trade zone (FTA) between these two partners. This would greatly affect global trade and investment flows.

The research problem stems from the limitations in the precise identification of potential implementation impacts of the Agreement on the EU Trade Policy and the EU economy. Also, significant challenges derive from the opposition of a significant part of the population to the Agreement, as well as the changes in the US political and trade paradigm. The research goal is to examine current trade relations between the EU and the USA, and to determine the prospects for further rapprochement by examining key TTIP elements. The research purpose is to indicate the potential effects of the Agreement implementation on the EU Trade Policy and the economy.

The contribution consists of five interrelated chapters. After introductory considerations and the determination of basic research segments, crucial elements of the TTIP developments are given, as well as certain key events relevant for its implementation. Current understandings of potential impacts of the Agreement on EU Trade Policy and the European economy follow next. The paper continues with the formulation of scientifically-based development and implementation perspectives of this Agreement, based on identified potential impacts and relevant current problems and constraints. The research concludes with key scientific-based findings.

2. Theoretical foundations of trade integration between the European union and the USA

Key theoretical aspects of integration processes need to be meaningfully elaborated and presented in order to consider important aspects of the EU-USA trade association; with particular emphasis on co-operation motives and its potential impacts.

Generally, motives for initiation of economic integrations can be economic and political. Mathews (2003) explains the basic economic motives of economic integrations, such as the trade benefits associated with improved allocation of resources and greater competition, easier access to foreign markets, securing the credibility of politically difficult domestic decisions, increasing international negotiation power at international forums towards *non-member* countries and attracting external assistance for investments necessary to foster deeper integration. Kandžija and Cvečić (2010) complement Mathews by highlighting general economic motives of creating (regional) economic integrations: achieving competitiveness, economic growth, bigger markets, economies of scale, increasing competition, boosting investments, more efficient production and use of available resources.

As before mentioned, the analysis of economic integrations can also include political motives, which usually include enhanced negotiating power, successfulness of political reforms and the assurance of political support. Grgić and Bilas (2008) emphasize the achievement of national security goals and the concept of economic integrations as steps towards political unification as possible political motives of economic integration. Whalley (1996) points out that the most important motive for participating in an integration is "the idea that reciprocal trade liberalization will enable better and easier access to markets that will benefit all parties involved".

Furthermore, the effects of economic integration can be divided into static and dynamic. As the most important static effects of integration, Aplleyard (1992) distinguishes accumulation, allocation and location effects. Thereat, accumulation effects imply trade creation and trade diversion, effects on the terms of trade, as well as the effects on competitiveness and product diversification. Allocation effects include effects on medium- to long-term growth while location effects represent spatial allocation of resources. On the other hand, dynamic effects work in the long run and are observable through increased competition, achieving optimal production and the economy of scale, as well as through the effects on investments and the balance of payments.

According to Grgić and Bilas (2012), the effects of economic integration can be classified as ‘positive’ and ‘negative’. This distinction is associated with the before mentioned classification of static and dynamic effects. Consequently, positive effects include the assurance of competition, the economy of scale, the attraction of foreign direct investments and the development of negotiating power. On the other hand, negative effects stem from limitations of the negotiating capacity, the reduction of enthusiasm for multilateral negotiations, the omittance of weakest countries, trade and investment diversions and the creation of a "labyrinth" of rules of origin.

Considerations of economic integrations and the empowerment of trading blocs, such as the EU-USA trade association, include estimations of their impacts on global prosperity. Krugman (1992) points out that the optimal situation for global welfare is the existence of a single trade block, which would include all countries, while the second best situation would be the existence of a larger number of fragmented trading blocks. Furthermore, he points out that the worst situation for global prosperity is when there is a small number of blocks (specifically three: *The Triad*), which are characterized by great economic power – because the majority of trade and economic activity is concentrated there. In such a case, negative effects for the global economy are specifically reflected in countries which are not part of those big blocks. Krugman's theory is based on two opposing hypotheses. Firstly, there are no natural trade areas, which annuls the geographic weight in trade. According to the second hypothesis, the expansion of blocks is basically expressed by political hostility toward the rest of the world and by turning to itself. The assumption of the existence of several regional blocks favours the search for co-operative solutions and the balance in international trade relations. The attractiveness of big markets is directed towards connecting with strong blocks and countries, affecting the achievement of economic benefits and the creation of prosperity.

The Transatlantic Trade and Investment Partnership[1] is a free trade and investment agreement between the European Union and the United States of America, initiated in 2011, whose implementation through negotiations started in 2013 (European Commission, 2019). With this agreement, the EU wants to create the foundations for facilitation of trade and investments for European companies on the American market, primarily through the reduction of administrative constraints. The primary objective of this Agreement is to create a free trade area[2] between the USA and the EU, which would represent the world's largest association of this kind. Both parties agree that the implementation of the Agreement would increase the volume of trade, which would have an impact on economic growth and new jobs on both continents (European Commission (1), 2013). The final version of the Agreement should have 24 chapters, divided into 3 key parts: Access to Markets, Regulatory Co-operation and Rules (European Commission, 2015).

TTIP negotiations started in 2013 and by October 2016, 15 rounds of negotiations were held, discussing the most important aspects of the future trade and investment partnership between the EU and the USA (Table 1). However, after the new US President Donald Trump came to power and changed the US trade paradigm (characterized primarily by the implementation of protectionist measures against the main partners), negotiations were frozen.

[1] The European Commission represents the EU in negotiations, for which the EU Trade Commissioner is responsible, and negotiations are conducted by negotiating teams consulted with experts in each section, such as those for agriculture, small and medium sized businesses etc. The Commission negotiating teams engage using guidelines received by the Council of Ministers. The Commission advises the Council of Ministers and reports to the European Parliament. The Commission also advises representatives of the society, including non-governmental organizations, employers' organizations, the health sector, environmental protection groups, animal welfare groups, religious communities, consumer associations, trade unions, specialists associations, etc. For the United States side, the Trade Representative of the USA and his negotiation team are included. After negotiations, the decision making phase follows. The Decision whether to accept the Agreement is made by the European Parliament, together with the Governments of each Member State.

[2] A free trade zone (or area; FTA) represents a grouping of several customs areas, in which the member states abolish mutual trade barriers, while retaining specific national barriers toward third countries (Kandžija, 2008). In this type of economic integration there is no abolition of national sovereignty over tariffs and organizations that exercise their control. A free trade zone includes customs controls between member states in order to avoid importing goods into countries where customs are relatively low, especially if the purpose is to later forward them toward countries with high customs duties. Also, rules of origin are of great importance for this form of integration. In order to achieve tolerance and fairness of the system, FTA's strive to ensure close tariff levels and 'amicable' trade policies, while a simple FTA is primarily covered by sensitive sectors such as steel, agriculture and textiles.

***Table 1:** Negotiation rounds within the TTIP between 2013 and 2016*

Round	Year	Location	Negotiation Chapters
	2013		
I	July	Washington	Investments, Public Procurement, Services, Textiles, Rules of Origin, Energy and Raw Materials, Legal Issues, Sanitary and Phytosanitary Barriers, Access to Markets
II	November	Brussels	Services, Investments, Energy and Raw Materials
III	December	Washington	Services, Public Procurement, Energy and Raw Materials, Sanitary and Phytosanitary Barriers, Intellectual Property Rights, Labour and Trade Issues, Textiles, Small and Medium Enterprises, and Regulatory Compliance
	2014		
IV	March	Brussels	Small and Medium Enterprises within the TTIP
V	May	Arlington	Trade and Investments
VI	July	Brussels	Sustainable Development, Workers' Rights, Environmental Protection, Energy and Small and Medium Enterprises
VII	September - October	Washington	All chapters of Regulatory Co-operation except Textiles; a focus on the impacts of the Agreement on specific sectors
	2015		
VIII	February	Brussels	All chapters except Investments and Dispute Resolution
IX	April	New York	All three parts of the TTIP Agreement
X	July	Brussels	All chapters except Customs, Sustainable Development, Environmental Protection and Investment Protection
XI	October	Washington, Miami	All chapters except Investment Protection and the Investment Arbitration. Agreed liberalization of trade and abolition of customs at 97% of goods.
	2016		
XII	February	Brussels	All chapters; focus on intellectual property rights and rules of origin (of goods)
XIII	April	New York	Services, consumer associations, trade unions, groups and environmental companies. Focus on regulatory sectoral co-operation.
XIV	July	Brussels	All three parts of the TTIP Agreement
XV	October	New York	All three parts of the TTIP Agreement

Source: Prepared by authors according to European Commission (2019)

3. Potential effects of trade integration between the European union and the USA

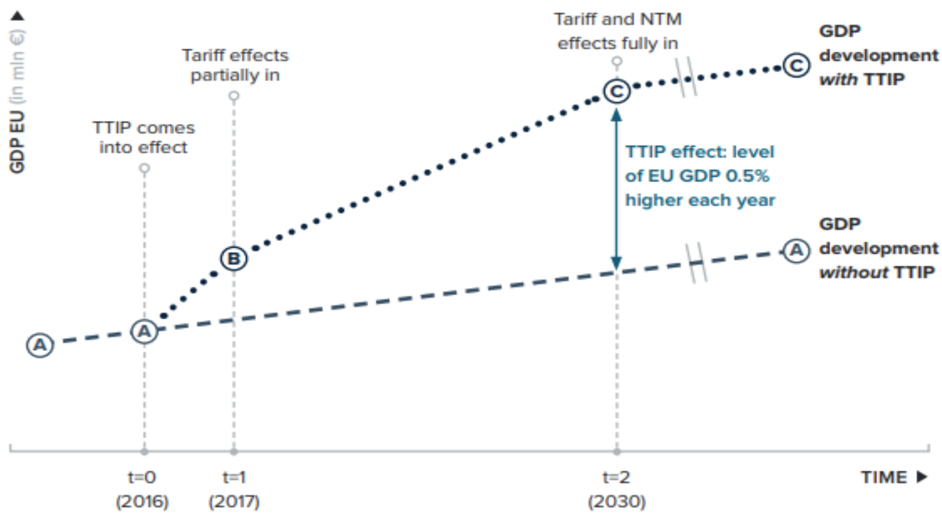
The overall potential effects of TTIP formation can be summarized into economic effects, effects on small and medium-sized enterprises and effects on the global economy.

Economic effects of trade integration of the European and American economy have been considered in various studies such as the one carried out by the Centre for Economic Policy Research (CERP) (European Commission (2), 2013). According to this study, in the case of full implementation of the Agreement and the adjustment of both economies, the annual economic gains of integration would amount to 0.5% of EU's GDP and 0.4% of US' GDP by 2027.

Expressed in absolute values, the European economy would gain 120 billion Euros, while the American economy would rise by 95 billion Euros. Such positive economic effects stem from the effects of market opening and the alignment of legislative frameworks, which should be achieved by full application of TTIP. Furthermore, positive effects of integration should result in increased incomes for households in the future, where a family of four would approximately gain 545 additional Euros. These positive effects should come as a result of increased wages and other earnings and lower prices. However, it should be pointed out that more than 80% of gains will arise as a direct result of the abolition of trade barriers.

Potential effects of TTIP's implementation on EU's GDP are further elaborated with Figure 1.

Figure 1: *The effects of TTIP on EU's GDP*



Source: retrieved from World Trade Organization, 2016, pp. 39

Figure 1 indicates that in the situation without the TTIP, the European GDP will grow in the long run, but with lower rates, which are shown with the A-A-A scenario. On the other hand, in case of full TTIP implementation, the effects will begin to manifest in the short term, primarily because of the abolition of customs duties, which can be found in the A-B scenario. By 2030 all barriers and duties should be abolished, as shown in the trend depicted with the B-C points. After the full implementation of the TTIP, the EU GDP growth is expected to steadily increase by 0.5% per annum, and in the USA for 0.4% per annum, as previously noted.

Positive effects of the Agreement need to be looked at both in terms of imports and exports. Recent research suggests that EU exports to the USA should increase by 28%, i.e. by 187 billion Euros. In contrast, USA imports to the EU are expected to increase by 159 billion Euros. Additional gains would also be achieved in trade with the rest of the world. In this segment, exports of European products and services could increase by more than 33 billion Euros, while USA exports could increase by EUR 80 billion. Such increases in exports to third countries would be the direct consequence of the reduction of costs associated with non-tariff barriers and the harmonization of technical product standards. Overall, total EU exports would increase by 6% to an additional 220 billion Euros, while USA exports by 8% or 240 billion Euros of goods and services sold. Total imports would increase by about 5% in both economies, i.e. EUR 226 billion in the EU and EUR 200 billion in the USA.

According to Francois et al. (2013) TTIP implementation scenarios can be summarized into ambitious and less ambitious ones (Table 2).

Table 2: *Changes in EU's exports and imports by sector in percentage shares and in million of Euros*

	Total exports				Total imports			
	Less ambitious		Ambitious		Less ambitious		Ambitious	
Sector	%	Mln €	%	Mln €	%	Mln €	%	Mln €
agriculture, forestry, fisheries	0.22	936	0.41	490	3.84	1,953	5.22	2,657
the rest of the primary sector	-0.02	-29	0.24	313	0.78	5,424	1.05	7,322
processed food	5.21	9,252	9.36	16,620	6.56	5,364	10.07	8,628
chemicals	5.07	19,368	9.26	35,405	5.67	18,376	9.01	29,183
electrical products	0.04	35	-0.01	-10	3.10	10,706	5.87	20,298
transport vehicles	20.11	45,699	41.75	94,857	24.14	44,039	43.11	78,626
other transport equipment	3.26	5,357	6.10	10,032	6.72	6,208	11.21	10,353
other machines	1.68	10,072	1.47	8,810	1.05	5,055	1.54	7,418
metallurgy	7.15	9,875	12.07	16,656	5.25	18,552	9.76	34,483
wood/paper products	2.16	2,936	4.19	5,694	5.65	3,673	11.20	7,277
TOTAL	3.37	125,235	5.91	219,970	2.91	128,424	5.11	225,899

Source: Prepared by authors according to Francois et al, 2013, pp. 64

The data from Table 2 indicates that the EU would benefit from the Agreement, with the automotive industry as first – increasing export by 20.11% up to 41.75%, followed by the metallurgy sector, whose exports would increase by 7.15 up to 12.07%, then processed food products (5.21 - 9.36%), chemicals (5.07 - 9.26%) and other transport equipment with growth rates ranging from 3.26% up to 6.1%. Estimates suggest that total exports of agriculture, forestry and fisheries could increase by 0.41%. In general, export growth is expected to increase by 3.4% up to 5.91%. On the other hand, the implementation of the Agreement should increase imports by 2.91% up to 5.11%, where the most benefits could be achieved by sectors such as: motor vehicles and other transport equipment; wood, paper and paper products; processed food.

In such a case, businesses will be offered the opportunity to purchase raw materials, materials and other low-cost production components, which will result in increased competitiveness on the domestic and foreign markets. Furthermore, a greater choice of products will be available to consumers at lower prices. Increased market competition could result in increased productivity and employment growth. However, in such a situation less efficient companies can hardly compete in a bigger market (European Commission (1), 2013).

The effects of the TTIP implementation on small and medium-sized enterprises is also very important, as they account for 99% of the total number of enterprises in the EU and the USA and provide for two-thirds of employment. SMEs also emerge as a driver of innovation and the creation of new products and services. The TTIP could create new opportunities for US and European companies in the future through the abolition of tariffs, market regulation and abolition of non-tariff barriers, trade in services, public procurement and comprehensive trade facilitation (European Commission, 2015). Benefits for SMEs should come from greater transparency in public procurement, as the governments in Europe and the USA buy a wide range of products and services from private companies, offering new business opportunities for small businesses which provide advisory services and offer various products and services. Lower costs, greater transparency and simpler bureaucracy at the borders should result in greater benefits for small exporters and producers. The key objective of TTIP negotiations is to stimulate trade by reducing unnecessary cross-border costs and delays by simplifying border procedures. Restrictions in the customs practices and TTIP-driven reforms should facilitate business and enable small and medium-sized enterprises to participate in transatlantic trade (European Commission, 2015). Furthermore, given that SMEs are key players in innovation, the implementation of the Agreement should enhance the protection of intellectual property rights, non-tariff treatment of digital products and access to a large number of services and digital applications, thus ensuring business advances in the online market (European Commission, 2015).

The effects of TTIP implementation can also be observed through potential effects on the rest of the world. CERP (2016) predicts that other EU and US trade partners could also increase their revenue by almost 100 billion Euros. Specifically, high income countries (OECD countries) could increase their income by 36 billion Euros, i.e. their revenue would increase by 0.19% according to the most ambitious scenario of the Agreement. On the other hand, lower income countries could achieve additional revenues up to 2.4 billion Euros, which means that the TTIP implementation will not have the same spill-over effect on all partner countries. Furthermore, benefits of the TTIP for the rest of the world will be reflected by increasing EU and US households' revenues, thereby increasing their demand (including for goods and services produced outside the EU and the USA). Given the interconnectedness of production chains, the growth in demand for American and European goods will have an impact on the growing demand of their companies for raw materials from the rest of the world, thereby increasing exports from third countries. Benefits for the rest of the world will also come from the effects of harmonizing regulatory measures and technical regulations. This situation implies the appearance of the ‘spill-over effect’, where there is a potential for reducing some regulatory measures not only for bilateral trade of the Agreement partners but also for other exporting countries to the EU and the USA. The European Commission (2013) points out that, after taking into consideration the *spill-over effects* and the scope of regulatory measures for transatlantic trade, the costs associated with the abolishment of non-tariff barriers toward third-country exports could drop by 20%, while the other 80% of reductions will be absorbed by the EU and the USA.

Despite the likely positive effects of its implementation, the TTIP has been in a deadlock for almost three years. The reasons for such a situation can be found in the changing US trade paradigm, uncertainties related to the United Kingdom's withdrawal from the EU, scepticism toward the Agreement and the appearance of studies which point to the negative effects of the overall TTIP implementation process. The further destiny of the TTIP will largely be conditioned by the possibilities of joint dialogue and finding common interests and by creating tools that will reduce the potential negative effects of the Agreement.

4. Challenges and perspectives of further implementation of the TTIP

Key challenges of future TTIP implementation derive from potentially negative effects identified in relevant studies and the existing limitations in its implementation, which have resulted in the current "freezing" of negotiations.

Among the studies pointing to negative aspects of the implementation of the Agreement, Capaldo (2014) indicates that the implementation of the TTIP would result in a decline of GDP, personal incomes and an increase of unemployment, as well as the growth of financial instability. He points out that the TTIP implementation would have a 2.07% drop in exports of European countries, with particular effect on Northern Member States, France (1.9%), Germany (1.14%) and United Kingdom (0.95%). The reduction of GDP would be mostly felt in the Northern EU Member States (0.5%), France (0.48%) and in Germany (0.29%). French workers would have biggest income losses in the ten-year period (5,500 Euros per worker), followed by workers in the Northern countries (4,800 Euros), the UK (4,200 Euros) and Germany (3,400 Euros). Furthermore, Capaldo (2014) points out that the implementation of the TTIP would result in the loss of 600,000 jobs in the EU, mostly in Northern Members States (223,000 jobs), Germany (134,000), and Southern EU members (90,000). The European Commission has confirmed that the conclusion of the Agreement could result in long-term unemployment, and for that purpose EUR 70 million have already been allocated for necessary social assistance to Member States for the period 2014-2020, within the framework of the European Globalization Adjustment Fund and the European Social Fund. Furthermore, the surplus of indirect taxes such as the turnover tax or the VAT would decrease in all EU countries (mostly in France; 0.64%) which would increase the public deficits in the EU.

Capaldo (2014) warns of the adverse effects of the TTIP on intra-EU trade. Despite the increase of trade (primarily exports) with the USA, mutual trade of EU Member States could result in a 21% to 41% reduction. Extensive trade reliance on the USA would make the EU more vulnerable to conditions set by Americans. In case the EU could effectively implement anti-cyclical instability policies, greater trade dependency would not be that problematic. However, the current institutional structure of the EU lacks a central fiscal supervisory body which in practice would prevent governments of Member States to implement fiscal expansion, suggesting that the TTIP could introduce the EU into a period of more instability.

Rak Šajn (2014) states that secrecy during negotiations was one of the key reasons for the rise of scepticism among Europeans. Assertions of cheaper imported products are perceived among Europeans as the imports of cheap food from the USA, which brings fears of negative consequences for European small and medium-sized businesses. EU citizens are worried that US genetically modified food products and products treated with pesticides will come to Europe much easier.

Marjanovic (2014) indicates that restraints on the banking sector introduced to prevent financial "breakdowns", such as those associated with the 2008 economic and financial crisis, could be abolished. The same author indicates that the TTIP could reduce privacy on the Internet by enabling all the basic ACTA[3] provisions that have been already dropped by the European Parliament. The author also points out that switching to the "US labour market system" could result in weaker trade unions and the deterioration of workers' rights in Europe. However, the population is largely concerned with the fact that by establishing the TTIP, some multinational companies would become more powerful than national governments, which would no longer be able to regulate the markets and limit the power of the corporate sector. According to Williams (2015), the implementation of the TTIP would open up the European healthcare system, education and water supply market to US private companies.

Challenges facing the TTIP are also related to the BREXIT referendum outcomes. Almost 52% of voters opted to "rescue" Britain from challenges such as the migration crisis, various insecurities and financial difficulties. The United Kingdom and the United States are important trading partners, so there is a concern over the continuation of the TTIP negotiations, due to the unclear effects of the British withdrawal from the EU. After BREXIT, the economic importance of the EU market for US products will potentially fall by 16%, which could reduce the attractiveness of the European market for Americans.

However, the US Trade Representative Mike Forman reaffirmed after the referendum that "the economic and strategic reasons for the TTIP remain strong". The EU is aware of the great economic opportunities that can be achieved through the Agreement, but it also cares about protecting its interests and standards. Another factor posing a challenge for the continuation of negotiations is the situation in France and Germany. Almost 70% of Germany's citizens are against the TTIP, while the French president expressed concerns about the basic principles of agricultural trade and reciprocity in accessing public procurement markets. Moreover, Germans expressed concerns that the TTIP would endanger consumer protection in Europe and are dissatisfied with the lack of transparency within the negotiations. Furthermore, most EU citizens believe that the US is committed to reducing the EU level of protection, and are significantly concerned about the role of arbitration courts, where companies can sue the government of a particular country (Nataraj, 2016).

There are many initiatives and associations that are trying to stop the Agreement, and one of such initiatives is "Stop TTIP". Their main arguments against the Agreement are: reduction of

[3] Anti-Counterfeiting Trade Agreement (ACTA) is an initiative of an agreement to strengthen the international legal framework for an effective fight against global spreading of counterfeiting and internet piracy for the purpose of establishing international standards for the implementation of Agreement (www.ustr.gov/acta, 10/06/2016).

standards and workers' rights, violation of civil liberties and personal data privacy, privatization, dispute resolution mechanism, health and food safety, ‘attack’ on nature and climate. The representatives of the initiative point out that the benefits of the TTIP will only be felt by international corporations that will increase profits, while workers may experience deterioration in standards and labour rights. By concluding the TTIP, a Trade Counterfeiting Agreement would be put forward, which could endanger the data privacy and allow corporations to access citizens’ personal information for commercial purposes. The liberalization of the services and public services markets gives private companies the opportunity to increase their profits. Deregulation agreed during negotiations could remove particular state regulations which restrict free trade, including some aspects of food safety and environmental protection. US standards in food production and treatment of animals as well as environmental protection are considerably different (looser) from the European standards. This implies that the harmonization of European and US food safety regulations could reduce consumer protection standards and food safety controls in the EU (Euractiv, 2019).

5. Conclusions

The research carried out has identified potential effects of the full implementation of the TTIP on EU Trade Policy and the overall European economy. These effects include general economic effects, effects on small and medium enterprises and effects on the global economy. With respect to the basic groups of effects, recent research is consistent with identifying the effects of implementation of the Agreement on economic growth, trade patterns and other macroeconomic aggregates. In this context, it is necessary to point out the benefits for SMEs, which will enable stronger involvement in international trade flows and the achievement of international competitiveness and innovation, primarily through knowledge transfer and technology transfer. Ultimately, the implementation of the Agreement will stimulate further liberalization of the global economy, and in particular the relationship between the two considered partners and the increase in the overall volume of international trade. On the other hand, some recent researches discuss potential negative effects of the creation of a free trade area between the EU and the USA, which could result in losses of global prosperity. Key identified challenges of the TTIP include the changes in the US trade paradigm, the difficulties of implementation of the Agreement and the scepticism among the population. All of this consolidates the scientific contribution to this research.

Further research on these issues will largely depend on the dynamics and scope of the implementation of the Agreement and should be oriented towards the quantification, potentially even the use of relevant econometric tools, in order to estimate concrete effects of this hugely ambitious process. Still, taking into consideration the dynamics of global integration and international trade developments, the authors of this paper agree that it takes time to precisely identify key economic effects of deeper trade and economic co-operation (or even integration) between the EU and the USA.

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A MODEL FOR ANALYSING EXPORT STRATEGY IN METAL PROCESSING INDUSTRY IN CROATIA

ABSTRACT

Metal processing industry historically has important role and significance for Croatian economy. At the beginning of the transition, during early 90's of the last century, sector of metal processing industry was systematically destroyed in Republic of Croatia. Today, industrial production is getting again the growing importance. Leading economies in the world and successful economic operators based their business on entrepreneurial strategies. Because of globalization, there is great competition among market participants. Enterprises must have a well-designed strategy to be successfully positioned on the market and to achieve a greater market share.

The main goals of this paper are: to present theoretically competitiveness as an element of export strategy, to explain division of metal processing industry in Croatia and to research strategic orientation of the export and its impact on productivity of enterprises in metal processing industry. The study was conducted on 508 enterprises in the metal processing industry Methodology of research is statistical analysis of enterprises in sectors C24, C25 and C28 according to NKD 2007 (data are taken from portal Business Croatia). In this paper are analysed large size, small and medium enterprises from all Croatian counties (21 counties). Result according research is that metal processing industry is not achieving good business results and it is necessary to apply the strategic models and methods to achieve a competitive position and regional leadership.

***Keywords**: Metal processing, Competitiveness, Export, Productivity, Strategy*

1. Introduction

Metal processing industry is one of the most important industries in the Republic of Croatia, which holds a key position in the structure of the economy, while at the same time is one of the leading ones. Enterprises in metal processing industry are focused on: exports, introduction of new technologies, training of skilled personnel, quality system certification and environmentally friendly production. Production program of engineering industry in Croatia is very diverse and could fill up all the needs of potential customers and partners. Entrepreneurs in the sector continue to strengthen, and this is reflected by growth off their production capacity, new products implementation and higher exports level. (Agency for investments Competitiveness) Competitive advantage is one of the principles of modern economics and strategy is a tool by which is achieved competitive advantage. This model should be used to improve the business in the metal processing industry.

2. Competitiveness as an element of export strategy

Strategy is one of the key factors in enterprise that enables development of competitive advantage. Strategies can be divided in groups: general business strategy and individual strategies of particular functions; strategies that create change and new markets, business strategies on foreign markets, external strategy, human resources strategy and others.

Croatian economy is still under the influence of the global crisis, which is the biggest financial and economic crisis after the Second World War. "The global crisis is the result of an action aimed only at the profits of individuals, not the wealth of society - it leads to social crises and unsustainable economic growth." (Jurcic, 2011) The crisis is the result of the previous jumpy rise of food and energy prices. "From 1970 to 2008 there were: 124 banking crises, 208 foreign exchange crises, 63 debt crises, 42 double and 10 triple crises have been registered worldwide." (World Bank, Global Economic Prospects, 2010)

Business strategies are different because competitors can have: broad product lines or limited production focus, some have expensive products, while some have lower pricing classes some operate in smaller geographic areas, some globally, some operate in just one industry and some in many different industries etc. Every enterprise has the opportunity to develop a strategy, which will distinguish it from competitors. “A large number of enterprises seem that achieving long-term competitive advantage over competitors depends firstly on owning and developing knowledge and skills, and secondly on owning of a recognizable product. The reason is that competitors are able to copy a popular or innovative product, but it is far more difficult to figure out how to duplicate the experience and competitive advantage that an enterprise has been creating and developing for long time.” (Thompson & Strickland, 2006: 6).

3. Current state and the division of metal processing industry in Republic of Croatia

Metal processing industry in the Republic of Croatia has a long tradition of successful business and development until 1990s. At the end of the 80s of the last century there was a significant decline in industrial production, many enterprises fail or are unsuccessfully privatized, and significantly reduced the number of employees.

“According to the National Classification of Activities 2007 (NKD 2007) metal processing industry belongs to the "area C" which contains the industry, which deals with the transformation of materials into new products. Classification of economic activities can often be unclear about the boundaries between manufacturing and other sectors of the classification system.” (Croatian Bureau of Statistics) It is noteworthy that such activity classification is applied since 2008; until then, another classification methodology was applied. Sector of the metal processing industry includes:

- C24 Manufacture of basic metals
- C25 Manufacture of fabricated metal products, except machinery and equipment
- C28 Manufacture of machinery and equipment.

“Activity C24 includes melting and / or refining ferrous and unwanted metals from ore or scrap, using electro metallurgic and other process of metallurgic techniques. Activity C25 includes the manufacture of "pure" metal products (such as parts, containers and structures). Activity C28 includes the manufacture of machinery and equipment that act independently on materials either mechanically or thermally or perform operations on materials including their mechanical components that produce and apply force, and any specially manufactured primary parts. " (Industrijska strategija Hrvatske 2014.-2020)

4. Methodology

Analysis of enterprises in metal processing industry is conducted on data from the portal Business Croatia in 2015 year. Metal processing industry analysis is based on three sectors - according to NKD 2007 (National Classification of Activities), sectors C24, C25 and C28. In this paper are analyse large size, small and medium enterprises. The simple included 15 large enterprises (total population), 93 medium size enterprises and 400 small size enterprises.

A sample of enterprises was taken from all Croatian counties (21 counties). Sample is proportional to the number of small enterprises registered in each county. It analysed in total 508 (large, small and medium-sized) enterprises in the metal processing industry in the Republic of Croatia.

5. Analysis of the competitiveness of exports of metal processing industry

The competitiveness of an enterprise or industry as a whole can be partially displayed by analysing of level of exports. At a time of globalisation and European integration, objective for each enterprise is business expansion to foreign markets. International market offers many opportunities for business development and growth, especially for additional income. This paper research and analyse the level of revenue that enterprise in metal processing industry achieved through activity of exports in 2015.

Table 1 shows the value of products sold in the domestic market for the period from 2008 to 2012 in the Republic of Croatia. Table shows revenue from domestic sales of small, medium and large enterprises of metal processing industry, respectively C24, C25 and C25. The revenues from the sale of the small businesses account for around 50% of total revenue of observed industry in Croatia.

Table 1: *Revenue (in HRK) from domestic sales in the metal processing industry in the Republic of Croatia for the period from 2008 to 2012 year*

Sector	Revenue from domestic sales (HRK)			
	Small	Medium	Large	TOTAL
	2012.			
C24	556,773,867	113,657,596	347,323,583	1,017,755,046
C25	3,215,897,629	1,843,310,567	700,737,739	5,759,945,935
C28	1,604,846,486	594,058,554	141,598,594	2,340,503,634
	2011.			
C24	314,252,020	157,981,373	419,446,695	891,680,088
C25	3,412,908,727	2,393,984,275	364,613,145	6,171,506,147
C28	1,430,646,196	656,866,844	82,422,916	2,169,935,956
	2010.			
C24	290,962,107	125,384,757	367,854,095	784,200,959
C25	3,213,678,683	2,167,274,326	369,867,237	5,750,820,246
C28	1,197,506,612	614,697,824	190,881,120	2,003,085,556
	2009.			
C24	401,463,902	243,336,281	252,274,782	897,074,965
C25	3,170,882,440	2,184,725,576	396,920,925	5,752,528,941
C28	660,255,671	626,498,468	161,791,151	1,040,907,926
	2008.			
C24	325,867,747	301,213,081	906,930,716	1,534,011,544
C25	4,244,255,571	2,446,532,454	730,542,069	7,421,330,094
C28	2,021,520,611	869,199,474	121,980,242	3,012,700,327

Source: made by author according to County Chamber Slavonski Brod

Small businesses generate a significant share of sales. The largest amount of income is realized by enterprises in the sector C25, followed by the sectors C28 and C24. Table 1 shows the impact of the global economic crisis, because incomes of enterprises in 2008 are higher in almost all sectors in comparison with revenues in 2012. Table 2 shows the value of sold products on the international market, respectively, rate of exports for the period from 2008 to 2012 in the Republic of Croatia in small, medium and large enterprises.

***Table 2:** Revenue (in HRK) from foreign sales for the metal processing industry in the Republic of Croatia for the period from 2008 to 2012 year*

Sector	Income from foreign sales (HRK)			
	Small	Medium	Large	TOTAL
	2012.			
C24	551.622.905	571.009.491	1.199.799.475	2.322.431.871
C25	1.319.210.146	1.440.286.523	2.148.415.406	4.907.912.075
C28	549.802.354	1.267.766.191	1.185.670.391	3.003.238.936
	2011.			
C24	155.981.337	599.976.956	1.525.379.689	2.281.337.982
C25	1.184.728.338	1.277.570.361	1.464.252.423	3.926.551.122
C28	597.732.602	1.441.950.700	761.612.727	2.801.296.029
	2010.			
C24	139.723.750	459.613.834	1.220.412.673	1.819.750.257
C25	1.072.782.010	921.857.087	1.309.552.920	3.304.192.017
C28	528.819.014	1.292.469.638	411.163.533	2.232.452.185
	2009.			
C24	702.501.305	292.345.320	486.832.101	1.481.678.726
C25	937.978.816	991.068.156	1.372.107.433	3.301.154.405
C28	175.221.384	1.055.678.270	717.385.114	327.283.094
	2008.			
C24	128.620.582	452.450.264	1.416.956.746	1.998.027.592
C25	1.124.420.893	1.313.934.045	1.019.561.699	3.457.916.637
C28	817.591.815	1.782.291.981	142.643.982	2.742.527.778

Source: made by author according to County Chamber Slavonski Brod

According to table 2, on foreign market small enterprises earn much less income than medium and large enterprises, even up to ten times. Export growth was recorded in 2012 for the sector C24. For development the competitiveness, metal processing industry should increase the level of exports. This can be achieved by modernizing of technology and production facilities, development of marketing strategies (advertising and promotions), through greater efforts to launch products on the international market. Increasing of exports would contribute to the development of this industry, but also to the development of the economy in general.

6. Research

Hypothesis: enterprises strategically focused on exports in the metal industry are significantly more productive.

To check the hypothesis: Firms strategically focused on exports in the metal industry are significantly productive. Spearman correlation coefficient which represents the non-parametric equivalent of Pearson correlation coefficient (the product of rank correlation) will be used to measure the association between variables (export and parameters: size of enterprise, total income and expenses, EBITDA, EBIT, EBT, income taxes, net income, added value, productivity, import, assets / liabilities, non-current and current assets and equity, current ratio, Altman Z score, turnover days and obligations in the days, operating margin, cash cycle days, ROE, ROA, revenue per employee and net profit per employee, average net salary).

After the correlation analysis univariate and multivariate regression analysis will be carried out. We wanted to see how many of the predictors have impact on exports, and the impact of model (all significant predictors of univariate analysis) on export (dependent variable).

Correlation matrix of exports connection with observed parameters shows that all parameters are significantly correlated with export. The highest level of correlation shows predictors: total expenditure (ρ = 0.770), total revenue (ρ = 0.775), added value (ρ = 0.777), total assets / liabilities (ρ = 0.710) and current assets (ρ = 0.723). The weakest positive correlation is with the rate of return on equity (ROE) (ρ = 0.103). Negative correlation of exports are the days of binding obligations and trade receivables.

By Spearman correlation coefficient estimated connection of the export with the observed parameters is given. It is proven that correlation (greater than 0,500) of export with most parameters. As the correlation coefficient (Rho) ρ> 0.500 and the significance is less than 0.05 assumption H1.2 is accepted, total expenditure (ρ = 0,770), the average net salary (ρ = 0.556), total revenues (ρ = 0.775), EBITDA (ρ = 0.600), EBITDA (ρ = 0.530), value added (ρ = 0.777), , trade (ρ = 0,681), trade payables (ρ = 0.657), imports (ρ = 0.671), total assets / liabilities (ρ = 0.710), fixed assets (ρ = 0.671) and equity (ρ = 0.658) leads to growth in exports. The average net wage, total income of all observed parameters are positively correlated with growth in exports (Table 3). From the above it is clear that a hypothesis is confirmed.

***Table 3:** The Spearman correlation coefficient of exports for the observed parameters*

	Spearman correlation coefficient	
	Rho(ρ)	p
Total expense	0.770	<0.001
The average net salary	0.556	<0.001
Total revenue	0.775	<0.001
The number of members of the Management Board	0.339	<0.001
EBITDA	0.600	<0.001
EBIT	0.530	<0.001
EBT	0.497	<0.001
Profit tax	0.372	<0.001
Net profit	0.488	<0.001
Added value	0.777	<0.001
Productivity	0.472	<0.001
Net working capital	0.449	<0.001
Trade receivables	0.681	<0.001
Commitments towards suppliers	0.657	<0.001
Import	0.671	<0.001
Total assets / liabilities	0.710	<0.001
Fixed assets	0.671	<0.001
Current assets	0.723	<0.001
Capital and reserves	0.658	<0.001
Current ratio	0.230	<0.001
Altman Z score	0.177	<0.001
Turnover days (days)	-0.202	<0.001
Days binding commitments (days)	-0.096	<0.001
Operating margin	0.215	<0.001
ROE	0.103	<0.001
ROA	0.245	<0.001
Revenue per employee (HRK)	0.464	<0.001
Net profit per employee (HRK)	0.249	<0.001

Source: made by author

To avoid erroneous signs of regression coefficients, the statistical insignificance of some independent variables that are actually significant in relation to the dependent variable (exports), and vice versa, the independent variables strongly correlated with each other are excluded from further analysis.

In the univariate analysis next variables are taken: size of enterprises number of members of the board, tax, productivity, trade, import, current ratio (liquidity ratio) of enterprises in metal processing industry, revenue per employee and net profit per employee.

Results in table 4 indicate that credit rating, the number of board members, tax, productivity, trade and import and revenue per employee have significant impact on export (Table 4).

__Table 4:__ Individual parameters impact on the change in exports - univariate regression analysis

Parameter	Standardized coefficient β	t	p
Credit rating	-0.172	-3.731	<0.001
The number of members of the Management Board	0.315	7.063	<0.001
Profit tax	0.297	7.002	<0.001
Productivity	0.134	2.798	0.005
Trade receivables	0.633	18.415	<0.001
Import	0.695	21.768	<0.001
Current ratio	-0.027	-0.610	0.542
Altman Z score	0.013	0.297	0.766
Revenue per employee (HRK)	0.158	3.254	0.001
Net profit per employee (HRK)	0.024	0.490	0.624

Source: made by author

Dimensions that are built in the model are significant, p <0.001 and a whole explains 63.5% of the variance of exports, a correction of 63% of the variance of exports. The strongest predictor that affects exports is import (β = 0.376) (Table 5).

__Table 5:__ The final model of the impact of the change in exports - multivariate regression analysis

Parameter	Standardized coefficient β	t	p
The number of members of the Management Board	0.120	3.515	<0.001
Profit tax	0.115	3.362	0.001
Trade receivables	0.250	6.131	<0.001
Import	0.376	8.882	<0.001
Constant		-2.301	0.022

$R=0,797$; $R^2=0,635$; Corrected $R^2=0,630$; $p<0,001$

Source: made by author

On the export significant impact has credit score (p <0.001), the number of board members (p <0.001), income tax (p <0.001), productivity (p = 0.005), trade (p <0.001) and imports (p <0.001) and revenue per employee (p = 0.001). Predictors that have a significant impact on export are included in the model. Within the whole model the greatest impact on exports has import (β = 0.376). The model is completely statistically significant (all parameters together, significantly contributing to the change in export), (p <0.001) and overall explains 63.5% of variances of export and corrected with 63% of export variance.
As explanation, according this research data, the number of board members ranges from 1 to 6 members, mean value 1 (interquartile range 1 - 2). Large enterprises (3% of total 508 enterprises) have more board members and more employees (from 0 to 1698 employees) and this is accompanied by a higher level of company export.

7. Conclusion

According this paper research was conducted on 508 enterprises in total in the metal processing industry (sectors C24, C25 and C28 according to NKD 2007) from all Croatian counties (21 counties). The main result of research is that enterprises focused on export are significantly more productive. This hypothesis is confirmed by Spearman correlation coefficient which shows connection of the export with 28 parameters. Multivariate regression analysis shows that form all observed parameters import has the greatest impact on export. According to the research, recommendation for further development is that companies, in in all their segments, should be focused on increasing of the level of exports, which ultimately will lead to a better market position and better financial results. However, it is necessary to apply the strategic models and methods to achieve a competitive position and regional leadership.

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THE COHESION POLICY INSTRUMENTS AS A FACTOR OF COMPETITIVENESS IN CROATIA[1]

ABSTRACT

The main objective of the research is to measure the impact of the Cohesion Policy instruments on the competitiveness of the Republic of Croatia. Through its full membership in 2013, the Republic of Croatia has acquired the basic prerequisite for using the instruments of the European Union's Cohesion Policy. The research measures the impact of the use of Cohesion Policy instruments, which essentially represent grants from the European Structural and Investment Funds to the competitiveness of the Croatian economy. The period of observation is from 2014 to 2018. The results include measuring the correlation between investment in thematic areas and relevant competitiveness factors. The conclusion is related to the existence of correlation i.e. proof of the existence of a concrete positive effect on the competitiveness of the Republic of Croatia. Conclusions and recommendations are made based on the results of the research.

Key words: *Instruments of Cohesion Policy, Factors of Competitiveness, Competitiveness of the Republic of Croatia, ESI Funds*

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1. Introduction

Cohesion policy is the European Union's support development policy. It covers all regions and cities of the EU with the aim of supporting job creation, business competitiveness, economic growth, sustainable development and raising the quality of life of citizens (Maleković, Puljiz, Keser, 2018). Legislative tools (directives, regulations, laws and regulations), strategic programming and planning, and non-refundable funds from EU funds and various financial instruments are used for the implementation of Cohesion Policy.

The paper deals exclusively with the impact of the use of grants from EU funds on the competitiveness of the Republic of Croatia according to the 12 pillars of GCI competitiveness. According to the Partnership Agreement "The Republic of Croatia has implemented EUR 10.67 billion for the implementation of Cohesion Policy in the 2014-2020 programming period." Funding Cohesion policies in this period are largely implemented through ESI funds (European Structural and Investment Funds), which combine 5 funds; The European Regional Development Fund (ERDF), the European Social Fund (ESF), the CF (Cohesion Fund), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). Given that the period of observation from 2014 to 2017 as sources of funding for Cohesion Policy, non-grant funds from the pre-accession period and the cohesion period (programming period 2014-2020) will be taken.

According to previously stated, it is possible to assume that instruments of Cohesion Policy have positive impact on the level of competitiveness of Croatia. Subject of research are instruments of Cohesion policy - non-refundable funds from EU funds. The research consists of five interrelated parts. After the introduction, the second part of the research presents methodology. The third part of the research includes Global Competitiveness Index for the Republic of Croatia from year 2013 to 2018. The fourth part shows the results of the EU funds in the Republic of Croatia for the period 2014 - 2017. The fifth part analyzes the correlation between sub indexes of competitiveness. Fifth part of the research sets out concluding observations.

2. Methodology

The methodology of the research in question is based on measuring the amount of contracted and paid grants from EU funds and the value of twelve pillars of competitiveness according to the Global Competitiveness Index. In order to bring the amounts of contracted and paid out of EU funds to the extent to the degree of causality with indicators of twelve pillars of competitiveness, they are presented in terms of operational programs and areas of investment (priority axes). Thus, for example, funds from priority investments in strengthening human resources and labor market put in relation with the sub-indices of competitiveness Labor market efficiency, resources for technical assistance and institution building in relation to the sub-indices of the Institution and the like. The observation period is four years and lasts from 2014 to 2017.

Given that during the period under review contracted and paid off grants from the two programming periods (from the 2007-2013 programming period to the programming period 2014-2020), their values are presented separately or according to the operational programs of the relevant programming periods.

Grants from EU funds from the 2007-2013 programming period have been used following the following operational programs and components: Component I of the IPA Program - Transition assistance and institution building, Component II of the IPA Program - Cross border cooperation, Component V of IPA Program - Rural development, Operational program Traffic, Operational program Environmental protection, Operational program Regional competitiveness, Human resources development Operational program, Fisheries operational Program. Grants from ESI funds during the 2014-2020 programming period were used following the adoption of the following operational programs: Operational Program Competitiveness and Cohesion 2014-2020, Operational Program for Effective Human Resources 2014-2020, Operational Program for Maritime and Fisheries 2014-2020, Rural Development Program of the Republic of Croatia for the period 2014-2020. Other sources of EU funding from the Territorial Cooperation Program, the Union Program and other sources due to the lack of relevant information are excluded from the survey, and their share in the total amount of disbursements is negligible compared to the total available financial resources of EU funds. The sources of data and information on the amounts of contracted and paid grants are reports from the Government of the Republic of Croatia on the use of European Structural and Investment Funds and pre-accession EU assistance programs.

The level of competitiveness is measured by the Global Competitiveness Index (GCI) of the World Economic Forum. The Global Competitiveness Index is based on twelve pillars or areas of competitiveness that are divided into three components: Basic prerequisites (Institutions, Infrastructure, Macroeconomic environment, Health and primary education), Efficiency incentives (Higher education and training, Efficiency of the goods market, Efficiency of the labor market, Financial market development, Technological literacy, Market size) and Factors of innovation (Business sophistication, Innovation). The values of each of the twelve competitive sub-indexes are calculated based on the values of the respective indicators. For the calculation of the value of the sub- index, the macroeconomic environment uses the indicators linked solely to the gross national product, so the impact of the investment of the grant on the change in value of this sub-index is measured in the total value of the disbursed funds in the Republic of Croatia during the observed period.

In Table 1. shows the sub-indices for competitiveness and operational programs (priority axes), in accordance with the principle of causality.

Table 1: *The sub-indices for competitiveness and operational programs (priority axes), in accordance with the principle of causality.*

Dependent variables (Competitiveness Indexes)	**Independent variables** (Operational Programs / Priority Axes)
Institutions	IPA I; IPA V; OP Environment Protection; OP Regional Competitiveness; OP Human Resources Development; OPCS (PO 2: Use of Information and Communication Technology; PO 10: Technical Assistance); OPULY (PO 4: Good Governance; PO 5: Technical Assistance); PRR (M2; M7; M19; M20);OPPIR
Infrastructure	IPA I; OP Environment Protection; OP Traffic; OP Regional Competitiveness; OPCS (PO 5: Climate Change and Risk Management; PO 6: Environmental Protection and Sustainability of Resources; PO 7: Relationship and Mobility);PRR (M7; M8)
Macroeconomic environment	The total amount of funds disbursed for all operational programs and operating axes.
Health and primary education	OPCS (PO 4: Promotion of Energy Efficiency and Renewable Energy Sources; PO 6: Environmental Protection and Sustainability of Resources; PO

	8: Social Inclusion and Health; PO 9: Education, Skills and Lifelong Learning); OPULJP (PO 2: Social Inclusion)
Higher education and training	OPCS (PO 4: Promotion of Energy Efficiency and Renewable Energy Sources; PO 8: Social Inclusion and Health; PO 9: Education, Skills and Lifelong Learning); OPULY (PO 3: Education and Lifelong Learning)
Goods market efficiency	IPA I; IPA V; OP Regional Competitiveness; OP Human Resources Development; OPCC (PO 3: Business Competitiveness; PO 4: Promotion of Energy Efficiency and Renewable Energy Sources; PO 5: Climate Change and Risk Management; PO 6: Environmental Protection and Sustainability of Resources, PO 9: Education, Skills and Lifelong Learning); OPULY (PO 1: High employability and labor mobility); PRR (M3; M4; M5; M6; M10; M11; M13; M17; M18); OPPIR
Labor market efficiency	OP Human Resources Development; OPCS (PO 8: Social Inclusion and Health; PO 9: Education, Skills and Lifelong Learning); OPULY (PO 1: High employability and labor mobility; PO 2: Social Inclusion; PO3: Education and Lifelong Learning)
Financial market development	OPKK PO 3: Business Competitiveness
Technological readiness	OPKK PO 2: Use of Information and Communication Technologies
Market size	IPA I; IPA II; OPCS (PO 8: Social Inclusion and Health); PRR (M13; M18)
Business sophistication	IPA I; IPA V; OP Regional Competitiveness; OP Human Resources Development; OPC (PO 3: Business Competitiveness, PO 4: Promotion of Energy Efficiency and Renewable Energy Sources; PO 6: Environmental Protection and Sustainability of Resources); OPULY (PO 1: High Employability and Mobility of Labor Force; PO 2: Social Inclusion); PRR (M1; M9; M16)
Innovation	OPCW PO 1: Strengthening the economy by applying research and innovation; OPPIR

Source: Author's processing according to operational programs for program periods 2007-2013 and 2014-2020.

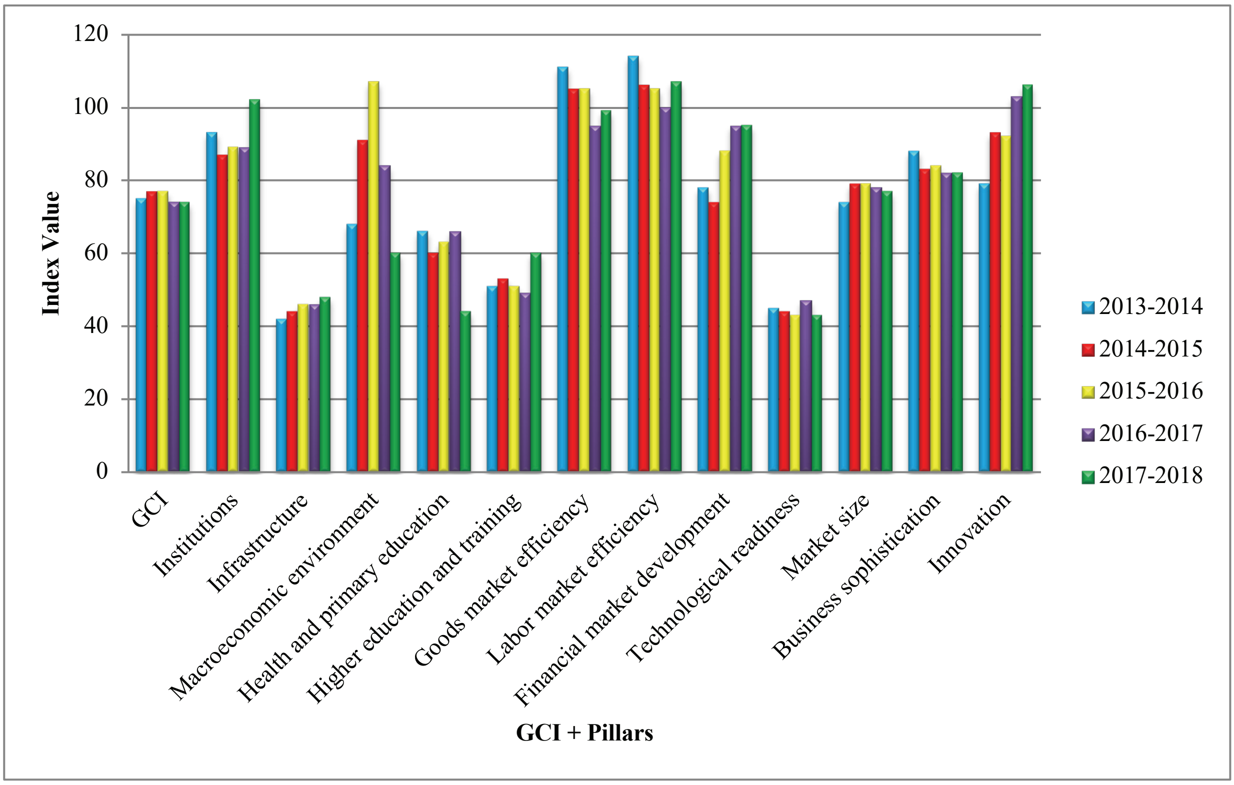
When allocating the effects of the independent variables (paid out), the relevant weighting was given in relation to the relevance of the influence on the dependent variables. The correlation between the above variables was measured by introducing the causal relationship between the competitiveness index and the amount of investment from the relevant operational programs and the priority axes.

The existence and the correlation firmness between the variables range in the range of +1 to -1 of the Pearson coefficient of correlation r. The maximum positive value +1 represents the existence of a perfect positive correlation between the observed variables while the lowest negative value -1 represents the existence of a perfect negative correlation.

3. Global Competitiveness Index for the Republic of Croatia for 2013/2014. by 2017/2018. years

According to the present movement of the value of GCI and sub-index of competitiveness during the period are recorded in the value of in almost all indicators (Figure 1). In 2013/2014 Croatia was ranked 75th in terms of global competitiveness compared to 140 observed countries. Next year, the Republic of Croatia recorded a decline in competitiveness for two places and is ranked 77th. In 2015/2016. The Republic of Croatia is staying in the same place as in the previous year, until 2016/2017. the Republic of Croatia recorded a growth of competitiveness for three places. No changes have taken place in the last year, so the Republic of Croatia retains the 74rd place of global competitiveness.

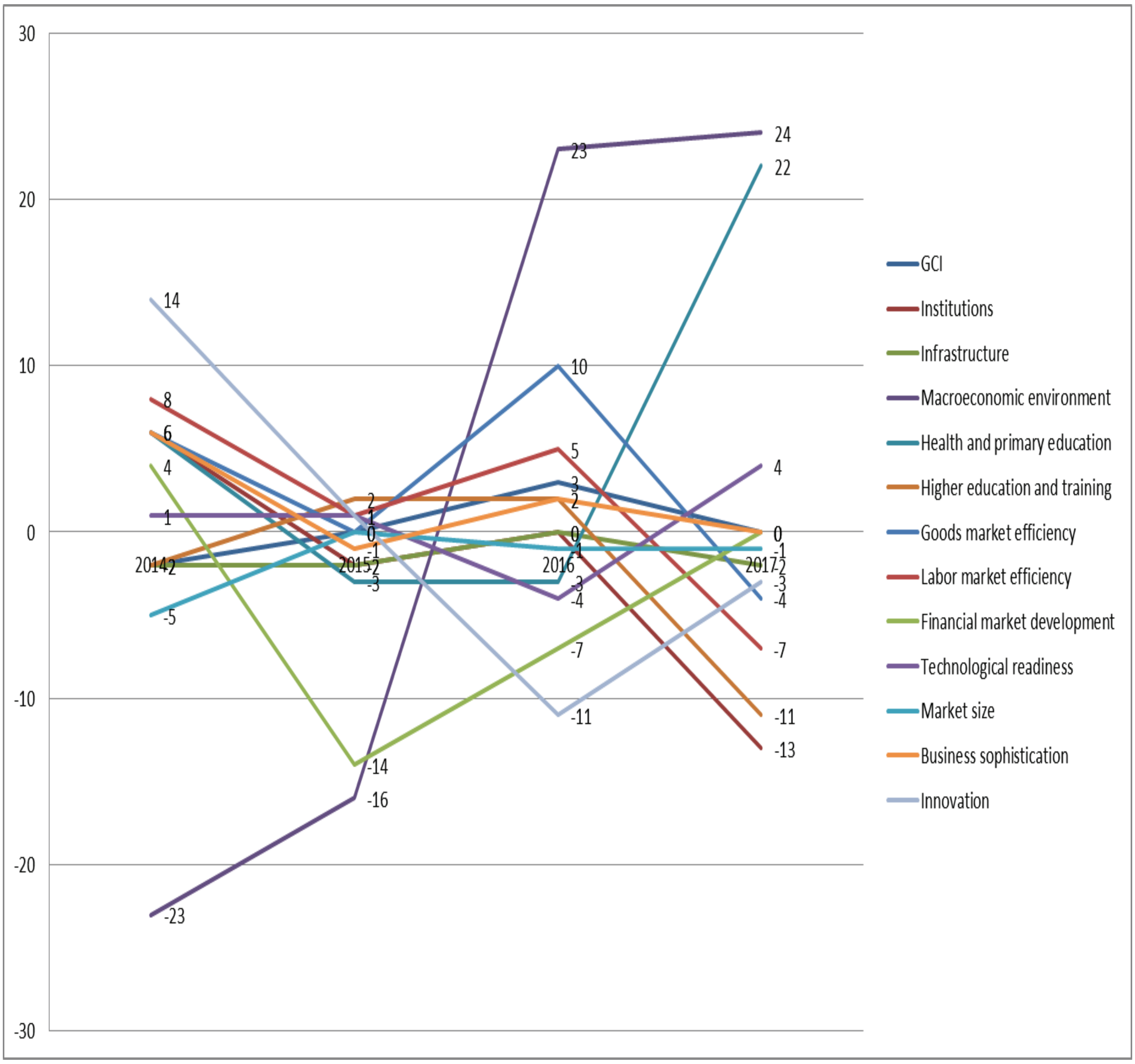
Chart 1: *Changes in the value GCI and sub-index of competitiveness in the period of 2013/2014 to 2017/2018*



Source: Author's Review by The Global Competitiveness Report 2013/2014 - 2017/2018

Significantly larger changes over the observed period are recorded in the value of the competitiveness index. The biggest changes are recorded in the index under Innovation according to which the Republic of Croatia is ranked 79th in 2013/2014 and 2017/2018. the year ends at the 106th place of the ladder, which represents a drop of 27 places on the competitive scale. At least changes are recorded at the sub-index of competitiveness Technological literacy, according to which the Republic of Croatia in 2013/2014. the year is 45th, and in the last year of the observed period it ends at 43st place of competitiveness. Chart 2 shows the changes in the number of places in the Republic of Croatia on the level of global competitiveness according to the GCI and the sub-indices of competitiveness over the observed period.

Chart 2: *Changes in the number of places in the Republic of Croatia on the level of global competitiveness according to the GCI and the competitiveness sub-indices for 2014/2015. by 2017/2018. years*



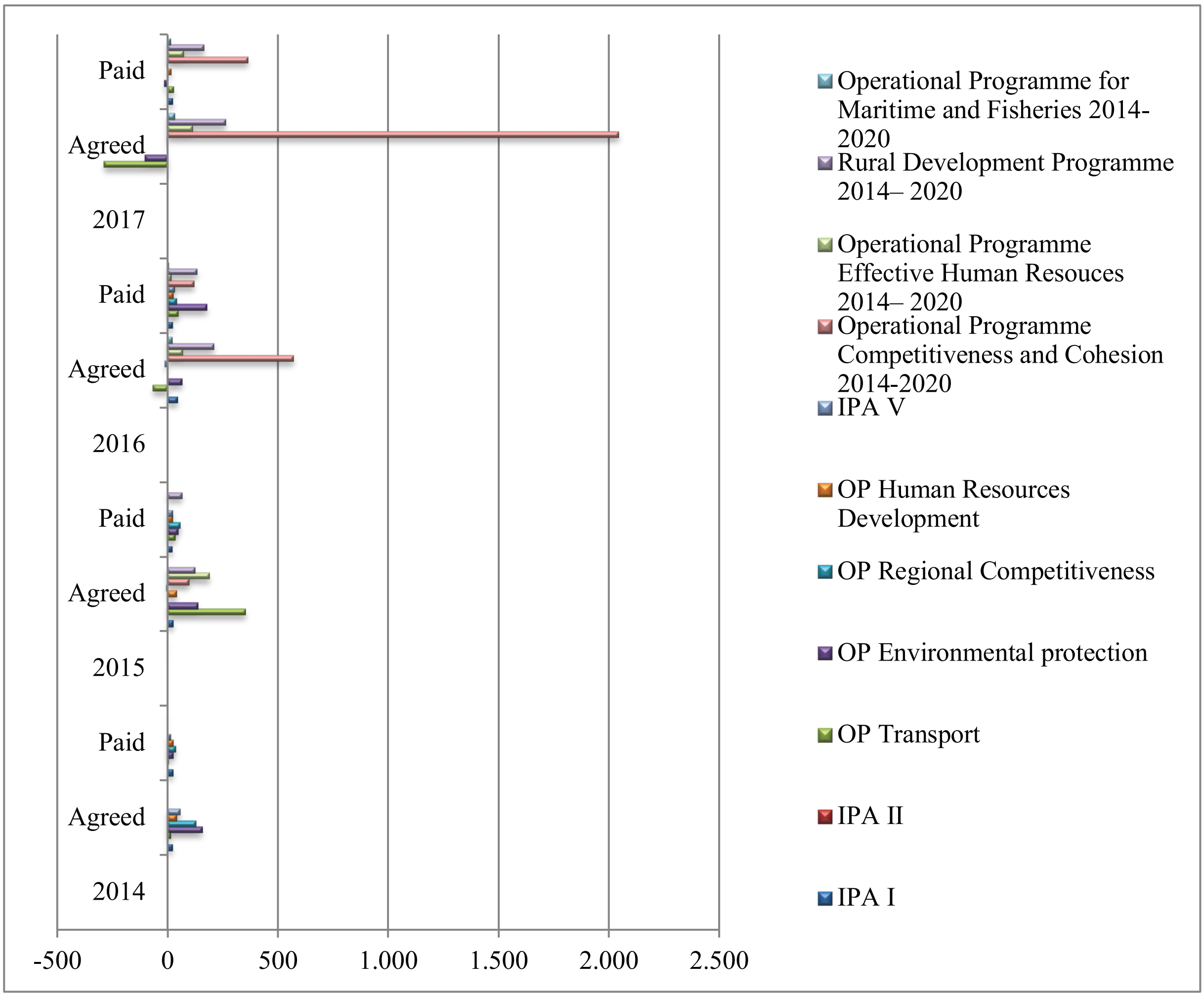
Source: Author's Review by The Global Competitiveness Report 2013/2014. - 2017/2018

Chart 2 shows that during the period the largest fluctuations are recorded at the sub-indices of competitiveness Macroeconomic Environment, Innovation and Health and primary education. Smallest oscillations were recorded at the sub-indices of competitiveness Infrastructure, Market size and Business sophistication.

4. EU funds in the Republic of Croatia for the period 2014 to 2017

In the period from 2014 to 2017, the Republic of Croatia used EU grants from two financial periods; program period 2017-2013 and the programming period 2014-2020. year. Thus, from 2014 to 2017, in the Republic of Croatia, a total of over EUR 4.82 billion of EU grant funds were contracted. In the same period, net worth some EUR 1.7 billion was paid out (Graph 3).

Chart 3: *Contracted and paid grants for program periods and operational programs in the Republic of Croatia for the period 2014 to 2017 (in million EUR)*



Source: Author's processing according to reports on the use of European Structural and Investment Funds and Pre-accession Assistance Programs of the European Union for the period from 01.01.2014. until 31.12.2017. years

Areas of investment from EU funds are defined priority axes of the operational programs, and are related to investments in: the competitiveness of SMEs, energy efficiency and use of renewable energy, municipal infrastructure, social infrastructure, strengthening institutions, research and development, innovation, education, environment protection, labor market development, social inclusion etc. Investments in these areas directly affect all relevant constituents of state and economy competitiveness and increase the overall level of quality of life of the population. If we consider at the 2007-2013 programming period years, grants are allocated through 8 programs. Thus, the funds from the IPA I (Transition Assistance and Institution Building) programs are geared towards sectoral areas - public administration reform, public finance and public procurement; justice, freedom and security; the internal market and the economy; agriculture, fisheries, food safety, veterinary, phytosanitary and sanitary supervision; cohesion policy and work; energy, transport and environmental protection. IPA II funds are concentrated on strengthening cross-border cooperation. Funds from OP Transfers are aimed at strengthening the transport infrastructure and technical assistance. Funds from the OP "Environmental Protection" focus on infrastructure for sustainable waste management, water supply and wastewater management system, and technical assistance. Funds from OP "Regional Competitiveness" are intended to strengthen business and entrepreneurial infrastructure, strengthen supportive entrepreneurial institutions and competitiveness of MSPs. Funds from the OP "Human Resources Development" focus on the efficiency of the human resources market, social inclusion, civil society organizations and technical assistance. IPA V funds are intended to strengthen the competitiveness of SMEs, tradesmen and family farming (OPG) in rural areas, and communal and social infrastructure in rural areas. Fishery OP funds to adapt the Croatian fishing fleet, competitiveness of the fisheries market and technical assistance. Table 2 shows the amounts paid out of the 2007-2013 financial year. according to the causalities with the sub indices of competitiveness.

Table 2: *Allocation of paid funds in the Republic of Croatia from the financial period 2007-2013*

Financial period 2007-2013											
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
2014	21,92	38,34	0	0	30,04	15,78	0	0	8,63	21,39	0
2015	25,82	87,75	0	0	43,37	13,00	0	0	8,55	29,65	0
2016	39,75	218,42	0	0	41,70	16,04	0	0	8,94	23,62	0
2017	8,82	19,05	0	0	4,32	9,34	0	0	7,37	4,35	0

Source: Author's calculation, Note: Institutions (P1), Infrastructure (P2), Macroeconomic environment (P3), Health and primary education (P4), Higher education and training (P5), Goods market efficiency (P6), Labor market efficiency (P7), Financial market development (P8), Technological readiness (P9), Market size (P10), Business sophistication (P11), Innovation (P12).

In accordance with the Cohesion Policies for the 2014-2020 programming period, Republic of Croatia has defined the areas of investment in the following operational programs:

- OP Competitiveness and Cohesion 2014-2020 - Areas of Investment by 10 Priority Axis (PO1 Enhancement of the Economy by Using Research and Innovation PO2 Use of Information and Communication Technology PO3 Business Competitiveness PO4 Promotion of Energy Efficiency and Renewable Energy Sources PO5 Climate Change and Risk Management PO6 Environmental Protection and Sustainability of Resources; PO7 Relationship and Mobility; PO8 Social Inclusion and Health; PO9 Education, Skills and Lifelong Learning; PO10 Technical Assistance). Total available until 31.12.2020. EUR 6.881 billion.
- OP Effective Human Resources 2014-2020 - Areas of Investment according to 5 Priority Axis (PO 1 High Employability and Mobility of Workforce; PO 2 Social Inclusion; PO 3 Education and Lifelong Learning; PO 4 Good Governance; PO 5 Technical Assistance). Total available until 31.12.2020. EUR 1.582 billion.
- Rural Development Program 2014-2020 - Investment areas according to 6 priorities and 16 measures (M1 Knowledge transfer and information activities, M2 Advisory services,

management and assistance services in agricultural holdings, M3 Quality systems for agricultural and food products, M4 Investments in physical assets, M5 Reconstruction of damaged agricultural production potential as a result of natural disasters and catastrophic events and the introduction of appropriate preventive activities M6 Development of agricultural holdings and businesses M7 Basic services and rural reconstruction in rural areas M8 Investments in the development of forest areas and increase of forest sustainability M9 Establishment of producer groups and organizations M10 Agriculture, Environment and Climate Conditions M11 Ecological Growth M13 Payments Related to Areas with Natural Restrictions or Other Special Restrictions M16 Collaboration M17 Risk Management M18 Financing Additional Direct Payments for Croatia M19 Leader Local Support Leader (CLLD - Community Lead Local Development); Technical assistance). Total available until 31.12.2020. EUR 2.026 billion.

- Maritime and Fisheries OP 2014-2020. - Investment areas according to 6 priorities (PU 1 Encouraging environmentally sustainable, resource efficient, innovative, competitive and knowledge-based fisheries, PU 2 Encouraging environmentally sustainable, resource efficient, innovative, competitive and knowledge-based aquaculture, PU 3 PU 4 Increasing Employment and Territorial Cohesion, PU 5 Promoting Placement on the Market and Processing; PU 6 Promoting Integrated Maritime Policy Implementation, Technical Assistance). Total available until 31.12.2020. EUR 252.6 million.

Table 3 shows the amounts paid grant in financial period 2014 to 2020 according to the causalities with the sub indices of competitiveness over the observed period.

***Table 3:** Pledged Grants for the Financial Period 2014-2020 due to the causal nature of the sub-indices of competitiveness over the observed period (in millions of euros)*

Financial period 2014-2020											
OP Competitiveness and Cohesion 2014-2020											
	P1	P2	P4	P5	P6	P7	P8	P9	P10	P11	P12
2014	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2015	0,24	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2016	9,45	2,60	6,71	36,90	30,85	5,75	4,59	0,00	0,31	19,35	1,28
2017	17,07	79,41	16,30	30,23	100,83	6,01	14,73	0,25	1,11	67,40	16,22
OP Effective Human Resources 2014-2020											
2014	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2015	0,00	0,00	0,00	0,48	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2016	0,00	0,00	0,00	2,09	0,95	12,46	0,00	0,00	0,00	0,00	0,00
2017	12,11	0,00	5,89	5,56	2,52	39,02	0,00	0,00	0,00	2,94	0,00
Rural Development Programme 2014-2020											
2014	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2015	0,66	0,00	0,00	0,00	36,92	0,00	0,00	0,00	27,34	0,00	0,00
2016	2,63	0,24	0,00	0,00	92,28	0,00	0,00	0,00	37,69	0,11	0,00
2017	6,51	1,25	0,00	0,00	125,97	0,00	0,00	0,00	29,78	0,21	0,00
OP for Maritime and Fisheries 2014-2020											
2014	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2015	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
2016	1,33	0,00	0,00	0,00	3,98	0,00	0,00	0,00	0,00	0,00	1,33
2017	2,74	0,00	0,00	0,00	8,21	0,00	0,00	0,00	0,00	0,00	2,74

Source: Author's calculation Note: Institutions (P1), Infrastructure (P2), Macroeconomic environment (P3), Health and primary education (P4), Higher education and training (P5), Goods market efficiency (P6), Labor market efficiency (P7), Financial market development (P8), Technological readiness (P9), Market size (P10), Business sophistication (P11), Innovation (P12).

5. Research results

The results of the research are presented in Table 4. Following values show the level of interaction between sub indexes of competitiveness (P1-P12).

Table 4: *Correlation analysis*

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
P1	**-0,55**											
P2		**0,94**										
P3			**0,99**									
P4				**0,84**								
P5					**-0,37**							
P6						**-0,37**						
P7							**-0,74**					
P8								**0,30**				
P9									**0,70**			
P10										**0,90**		
P11											**-0,51**	
P12												**-0,32**

Source: Author's calculation based on the allocation of value of investments to relevant sub-index of competitiveness and change of place of competitiveness index; Note: Institutions (P1), Infrastructure (P2), Macroeconomic environment (P3) , Health and primary education (P4), Higher education and training (P5), Goods market efficiency (P6), Labor market efficiency (P7), Financial market development (P8), Technological readiness (P9), Market size (P10), Business sophistication (P11), Innovation (P12).

According to the presented values of the correlation coefficients in Table 4 it is evident that positive and negative correlation between the dependent and independent variables is observed. Under the Macroeconomic environment there is an excellent and almost perfect positive correlation (r = 0.99). Then follows the sub index Infrastructure with the value of the coefficient r = 94, the sub index Business sophistication with the value of the coefficient r = 90 and the sub index Higher education and training with the value r = 84. A moderate positive correlation is recorded in the Technological readiness sub index (r = 70). A weak positive correlation is recorded under the index Financial market development (r = 0.30). According to the survey results, even at half of the tested variables, there is a negative correlation. Thus, the labor market efficiency index has a moderate negative correlation (r = -0.74), and the same case is found in the Institutions sub index (r = -0.55) and Business sophistication (r = -0.51). The weak negative correlation is recorded in the sub index Higher education and training (r = -0.37), under the index Goods of market efficiency (-0.37) and Innovation index (r = -0.32).

6. Conclusion

The authors investigated the impact of EU funds' reimbursement on competitiveness of the Republic of Croatia according to the 12 pillars of GCI competitiveness. The research results show that the funds paid out from EU funds had the greatest impact on changes in the value of the Sub-Index Macroeconomic Environment, Infrastructure, Higher Education and Training and Technological Readiness.

Given the Cohesion Policy goals that are specifically geared to boosting the economy's competitiveness, it is concerned that 40.64% of the total amount of PAs (EUR 690.96 million) in areas that are causal to the sub-indices of Goods Market Effectiveness and Business Sophistication have had no impact to change the value of the index. Also, with regard to the payment of grants related to the competitiveness of the institutions (8.76% of the total amount of funds disbursed) and labor market efficiency (6.90% of the total disbursed funds), there is no impact on the changes in the value of the relevant competitiveness sub indices.

If we look at competitiveness as the current state of society and the economy of a country, and as a prerequisite for increasing social welfare and quality of life, it is clear from the above that EU grants can only partially assist Croatia in addressing ten-year structural problems in all areas and at all levels of the economy, institutions and societies at all. To achieve the goal set by the Republic of Croatia in 2002, according to which it wishes to become one of the 40 most competitive countries in the world, much more than EU grants are needed. True rooted political, institutional and social changes are needed.

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RETURNING EMIGRANTS AS A POTENTIAL FACTOR FOR THE DEVELOPMENT OF THE REPUBLIC OF CROATIA

ABSTRACT

Recently, an increasing number of Croats, and members of all generations, left Croatia. Croatia is experiencing strong negative demographic trends. If negative trends continue, Croatia will remain without Croatian people and without their national values.

Due to the negative demographic trends in recent years, Croatia has started to work more on migration policy, especially on immigration policy. By encouraging immigration, Croatia can solve two key issues: repair a bad demographic image and start up the economy. What should be avoided is that Croatia does not became a new homeland for poor and unskilled labor from various parts of the world - in particular refugee migrants. For this reason, the most likely potential immigrants to Croatia could be Croatian emigrants.

According to various research, outside Croatia there are about 3 million emigrants and their descendants. In order to survive in a new country, emigrants have fought each other and established numerous cultural and social communities. These communities, institutions, and societies played an important part in their social and political life. A large number has achieved enviable results in the business world, sports and so on. Some of them have shown a good will to invest their experience, knowledge and capital in Croatia. Returning emigrants would be a great potential for Croatia's progress - particularly economic.

The aim of this paper is to show the attitudes of emigrants who returned to the Republic of Croatia after migration. The aim is to analyses returning emigrants, their motivations, expectations and problems they encountered after returning. In this study is included a survey on adults who left the Republic of Croatia after the Civil War, from 1996 until 2016. The survey results should show the main difficulties that returning emigrants face.

Key words: *Emigration, Returning emigrants, Croatia, Migration*

1. Introduction

Regardless of whether Croatia's emigration will continue or stop, Croatia's population is lacking. The data of the Central Bureau of Statistics show that there are very few foreigners currently living in Croatia as EU members, but an increasing inflow can be expected in the future. As potential immigrants to Croatia, they could be with Croats from Bosnia and Herzegovina and strangers from the farthest countries of the world, Croatian emigration. If the conditions for return were better, there would be a lot more Croatian emigrants. In this way, the uninhabited areas would be inhabited. Even returnees who have come back face many obstacles. Very often Croatians in emigration feel nostalgic and their desire to return. That is never questionable, but under conditions that they may live normally.

2. Migration Policy of the Republic of Croatia

The Republic of Croatia has had a different immigration policy. Croatian independence in 1991 advocated the return of Croatian emigrants. Croatia then "did not have any programs for accepting immigrants of low wealth and those who, due to inappropriate education or age, did not have to chance to find a job in Croatia."(Barbić, 2008) It was established the Ministry of Immigration, later renamed the Ministry of Returns and Immigration. The Civil War and a large number of refugees imposed on housing and integration of refugees, reconstruction of houses, flats and infrastructure in areas of special state concern. Then it was probably the most successful Croatian immigration policy. The National Program of Demographic Development of the Republic of Croatia was created on 13 December in 1995, which contained all segments of immigration policy. In year, 2000 there have been changes that make it difficult for the return of emigrants.

Migration policy is very similar to the policies of most European countries (selective and restrictive). The most important documents within the overall approach to migration policy of the Republic of Croatia are: Migration Policy (2013-2015), Law on Foreigners (2013), Asylum Low (2013), the Law on Croatian citizenship, The Law on the Croatian relations with the Croatians outside the Republic of Croatian (2012). The first migration policy in Croatia was adopted in 2007 and the new policy six years later, 2013 (for the period 2013-2015). The Law on Foreigners and the Asylum Low of 2013 and the Law on Citizenship of 2011 also adopted amendments to the legislation.

By joining the European Union, Croatia has taken over EU regulations and incorporated them into internal legislation. "The development of migration policy in Croatia is actually reduced to satisfying the requirements of the European Union and aligning its own legislation with international migration flows criteria and international solidarity towards refugees. The purpose to be achieved through the implementation of the Migration Policy is to ensure that migration trends in the Republic of Croatia are in favour of economic and social development of the state and society. "(Migracijska politika Republike Hrvatske, 2013,) However it should be noted that Croatia migration policy is still in the stage of immaturity. "Croatia has adopted most of the major international human rights treaties but has not signed the International Convention on the Protection of the Rights of All Migrant Workers and their Family Members, nor has it ratified the European Convention on Citizenship." (Gregurević, Župarić-Iljić, 2014)

3. The role of Croatian emigrants and returnees

The role of emigration has always had great significance for the country of origin, especially on the economic development of the country of origin. A large number of emigrants are highly educated people whose loss in their home countries further reduces the academic potential, which are very important for strengthening the competitiveness of the national economy and technological development. Yet a large part of the emigrant remains attached to his home country through engagement in various associations or societies, but also through specific assistance to family members who remain in the country.

The worst problem is how to attract Croatian emigrants? The Croatian Emigrant Congress has so far been the most serious and successful undertaking organized Croatian association outside the homeland for the benefit of the emigration and homeland of Croatia. The theme of the Croatian World Congress is "5 working committees. 1. Work Committee for Humanitarian Aid, 2. Works Committee for Investment and Renewal, 3. Work Committee for Returns, 4. Working Committee for Cultural Exchange, 5. Work Committee for Youth and Students." (Tomasović, 2009)

The Croatian World Congress addressed an open letter to former President of the Republic of Croatia Josipović in 2013 and suggests that it offers Croatian migration favourable conditions for returning to the homeland in order to improve the Croatian demographic situation. Some of the proposals are favourable tax rebates and giving repurchase at a cheap price. Favourable tax discounts would attract the capital of these same Croatians outside the Republic of Croatia to invest in the industrial and technological development of the country.

"Human capital together with technology is the most important capital for the development of production." (Duspara, 2016) For example, the manufacturing is one of the most important industries in the Republic of Croatia. According to research, "it appears that small businesses do not have enough financial resources to attract the best and the most educated human frame, and a lack of resources have tended function of human resource management. In the future, the aim is to stimulate the function of human resources in small businesses, in order to enable better stare and thus create better financial results." (Duspara, 2016) And that's where they could get involved Croatian emigrants. The Croatian Emigrant Congress says that Croatia does not need foreigners because the vast areas of Croatian plots and orchards are neglected and untreated and that this could only be offered to Croats outside the Republic of Croatia.

In Europe, there is also an example of a country that has been able to improve the image of the population. One such example is Ireland. Ireland and Croatia had approximately the same number of inhabitants in 2005, but Ireland is a positive example that any negative demographic trend may turn positive because Ireland has had a negative population growth for decades. Ireland has organized a special initiative to attract its numerous emigrants because of the economic crisis. "So it is in May in Dublin and other Irish cities, a month of socializing with diaspora has been organized through numerous cultural, scientific and business programs. One of the important goals of the initiative was the transfer of knowledge, good practice and experience in the Irish economy."(Kušen, 2013) After emigration, they started to come and other migrants, mostly for work, but also seek asylum. In addition to Ireland, there is an interesting example of Georgia where farmer from the eastern countries (India) comes and pay the land at a very favourable price. In such a way, huge landscaping of Croatian meadows and orchards would not be neglected and unprocessed.

There are many powerful investors in Croatian emigration who would be able to invest in numerous economic and social affairs. “The essential backbone of such an investment strategy would be based on the idea that the Croatian people are not only residents of today's Republic of Croatia but all its emigrants and their descendants living abroad, Croatian minorities in European countries and Croats in neighbouring Bosnia and Herzegovina. In that sense, Croats outside the Republic of Croatia should not be considered as foreigners.”(Anonymus, 2014) All these incentives would be needed for the economic, and therefore demographic, development of the Republic of Croatia. However, if immigrants feel that they are needed in Croatia just for the sake of money, if they do not pay attention to it, and in other areas of life, it may eventually become overheated, re-close, and isolate.

There are a number of problems that Croatian returnees can encounter. In order to facilitate access to and integration into the entire state system of the Republic of Croatia, a Welcome Office was established within the State Office, which should facilitate the return of Croatian emigrants and help them in the first steps of adapting to life in their homeland (all necessary information on how to obtain new documents, foreign diplomas etc.) In addition, the Welcome Office has provided mentors / counsellors to help resolve all the difficulties they face. However, the problems may be different. “In the case of a returnee family with children, of course the focus is on choosing a school, recognition of a certificate, and so on.

For young people, who were born and lived in emigration, who have come back the problem is an administration that slows them somewhat in the pursuit of their goals. Sometimes is too little knowledge of the language. Some returnees who have spent life in emigration and wanting to return to their homeland problem create double taxation on pensions. “(Dokoza, 2015) If the problems are not solved, there may be an additional obstacle to long-term survival in Croatia. Under the conditions for permanent residence permits, Croatian emigrants and refugees do not have to meet all conditions (maintenance, health insurance, Croatian language and Latin script, Croatian culture and social organization).

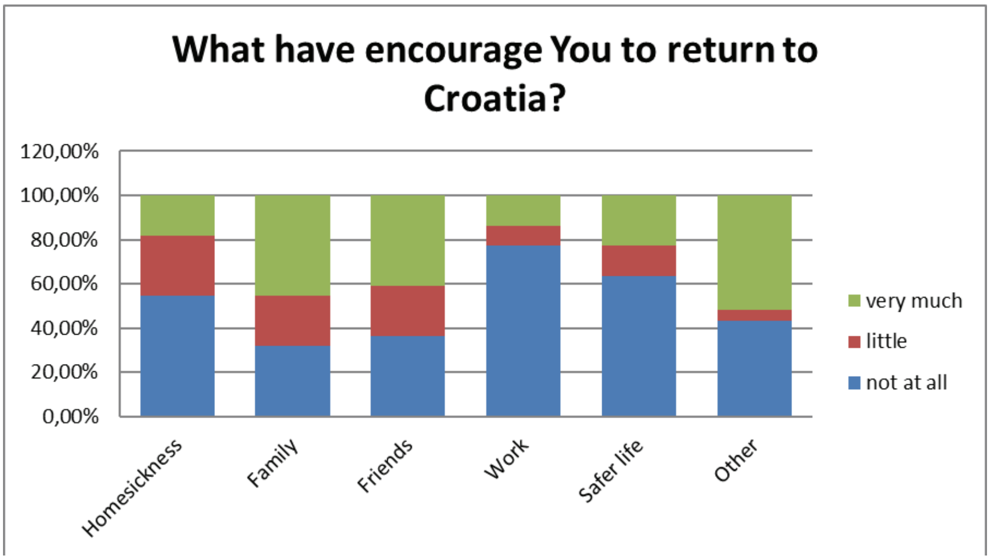
One of the biggest obstacles for returnee children, i.e. the second, third or x generation of immigrants is the ignorance of the language. There is a Croaticum program for learning Croatian language in the Republic of Croatia, which in addition to Zagreb is conducted in Split, Rijeka, Zadar, Pula and Osijek. “Croaticum participants State Office for Croatians outside the Republic of Croatia provide tuition fees, accommodation in student homes (under 30 years of age) and subsidized meals.”(Središnji Državni ured za Hrvate izvan Republike Hrvatske) Croatian language tuition fees are granted for two semesters and sometimes even more. One of the positive examples that should be included is the awarding of scholarships for the teaching of Croatian language. “The State Office for Croats outside the Republic of Croatia awarded 108 scholarships to members of Croatian people living in other Croatian language learning countries in their ancestral homeland in 2014. Learning candidates come from all over the world, but most of them are from South America. The aim of the project is to preserve, nurture and promote Croatian language and culture. This project also promotes the return of Croatian emigrants and their offspring and creates the preconditions for easier integration into the economic and social life of Croatia.”(According to HINA, 2014)

4. Analysis of perceptions of Croatian returning emigrants on impact of migration in the Republic of Croatia

Research results are based on the survey. The survey was conducted on a representative sample of respondents, i.e. adults who left the Republic of Croatia. An example of the entity consists of 353 Croatian emigrants who, after the Civil war between 1996 and 2016, emigrated to any country in the world. The sample consists of respondents who were older than 18 at the time of emigration, and except for the age limit and the time of emigration, there were no other restrictions on the entity selection. However, the sample size ensures satisfactory representability. The survey was conducted through an emigrant survey in order to collect data on respondents' views on migration.

The conducted survey consists of three parts: basic data, motivations and expectations of emigrants, and attitudes of emigrants who returned to the Republic of Croatia after migration. The emphasis is on the third part referring to the returning emigrants and their motives, expectations and problems they encountered after returning. In Croatia, only 5.7% of respondents returned. Below is a graph showing the importance of the motives of return to Croatia.

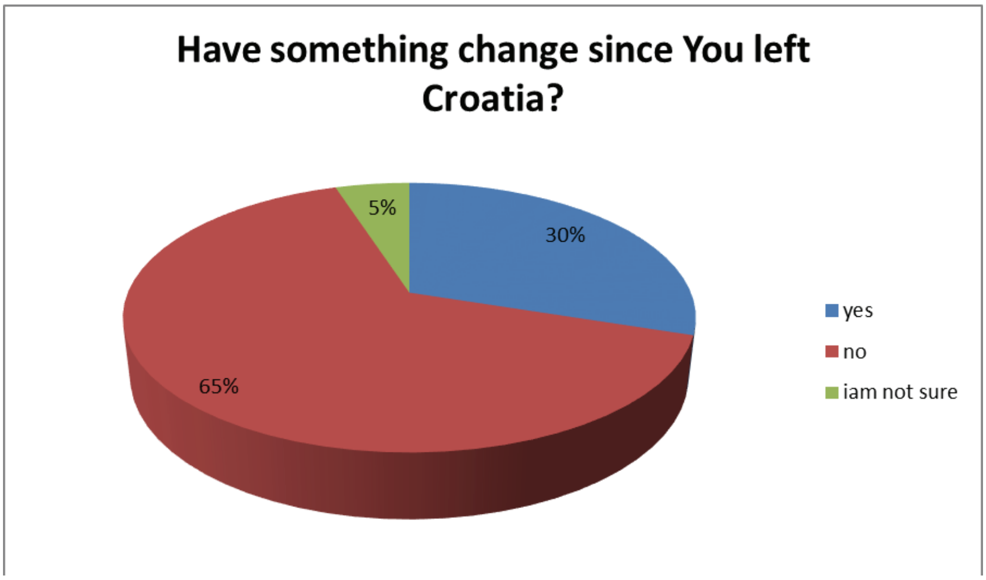
Chart 1: *Motives for return to the Republic of Croatia*



Source: made by author

The obtained results show the motives of return to Croatia. The most motivated reasons for return are the other (51.7%), the family (45.5%) and the friends (40.9%). On the other hand, the smallest motivation for return is a job (77.3%) and a safer life (63.6%). The chart below shows the opinion of the respondents about the situation in Croatia before leaving abroad and after returning to their homeland.

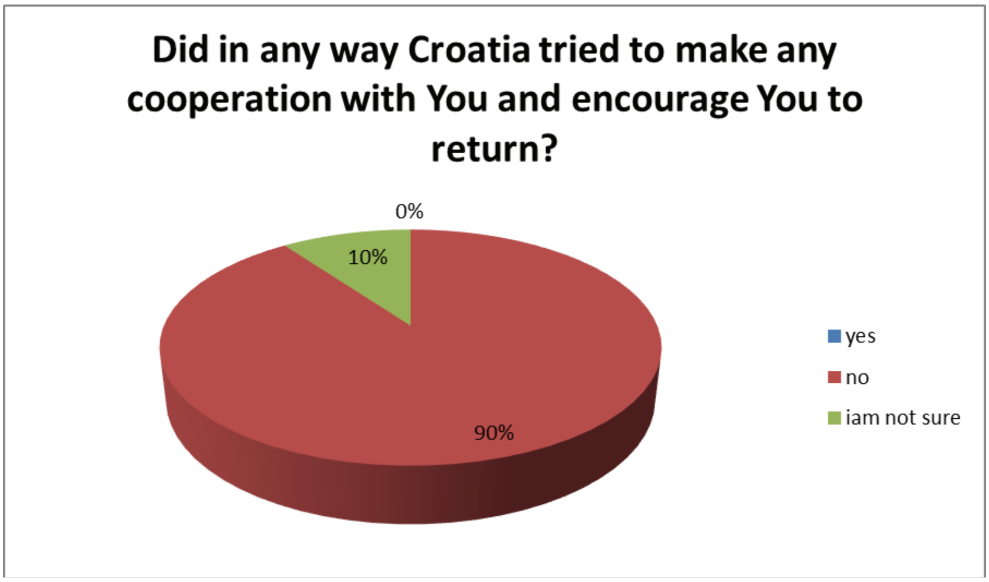
Chart 2: *Changes in Croatia before and after return*



Source: made by author

The obtained results shows the opinion of the respondents on whether something has changed since the time of leaving the homeland. The largest share (59%) of respondents believe that not, 36% of respondents believe that is and 5% is not sure. The chart below shows whether in any way Croatia tried to establish cooperation with emigrants and did the respondents have personal experience that Croatia encouraged them in return.

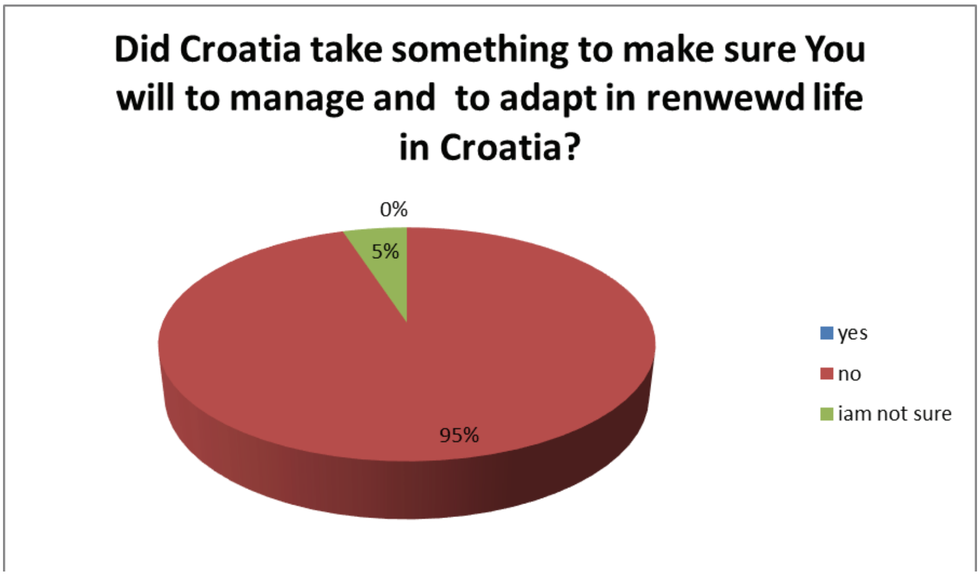
Chart 3: *Realization of cooperation and encouragement of return by the Republic of Croatia*



Source: made by author

The obtained results show defeated data that even 90% of respondents answered that the Republic of Croatia never tried to establish cooperation and encourage the return of emigrants. 10% of respondents are not sure and no respondent has given a verifiable answer. The chart below shows the respondents' response to whether Croatia has taken anything to make it easier to adapt to a new life in the homeland.

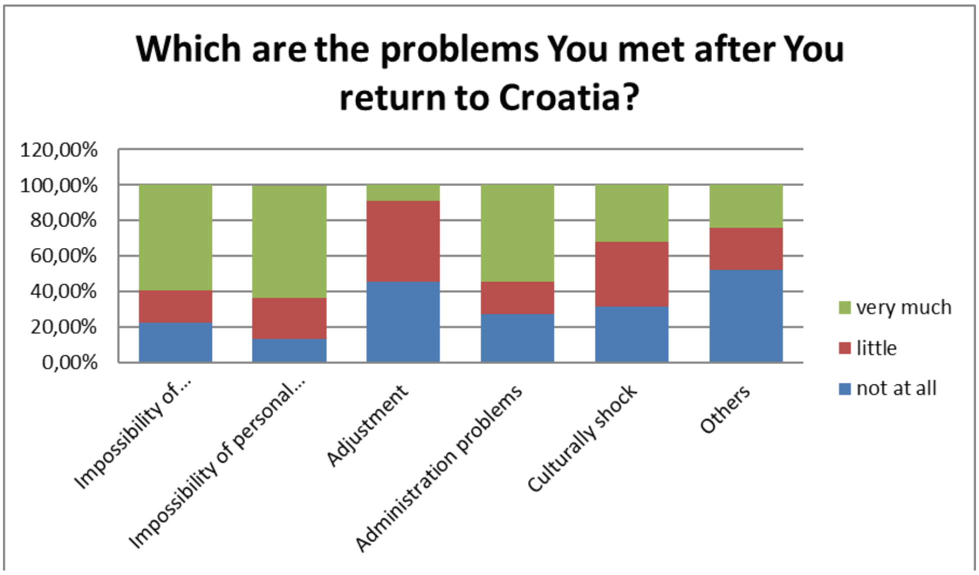
Chart 4: *Realization of easier and better adaptation to a new life in the homeland*



Source: made by author

The obtained results show the defeated data that even 95% of respondents answered that the Republic of Croatia has in no way helped the returnees to return to their homeland. 5% is unsafe, and no respondent has responded in the affirmative. The chart below shows the problems encountered by returnee respondents.

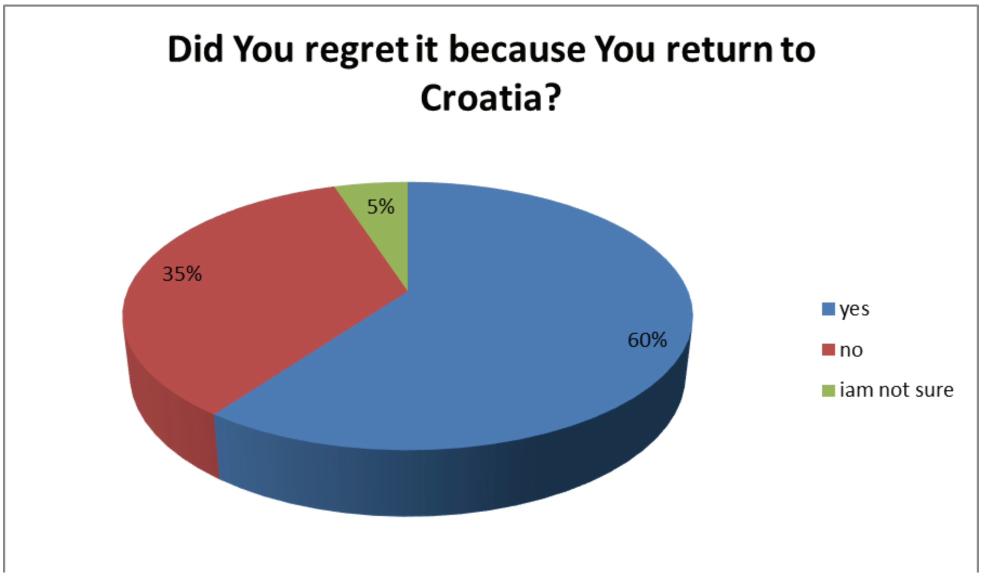
Chart 5: *Problems encountered by returnee*



Source: made by author

The obtained results show the problems faced by returning emigrants. The biggest problem is the impossibility of personal progress (63.6%), impossibility to work (59.1%) and administrative problems (54.5%). As a minimum, problems point to something else (52.4%) adjustment (45.5%) and cultural shock (31.8%). The chart below shows the respondents' opinion on their return to Croatia.

Chart 6: *Respondent's opinion on their return*



Source: made by author

The obtained results show the respondents' opinion on their return to Croatia. Even 60% of returnee respondents regretted returning to the Republic of Croatia, 35% of returnee respondents did not regret their decision, while 5% of returnee respondents were not sure.

Only 5.7% of the respondents returned to Croatia for whom they consider that nothing has changed since the time of their departure and re-arrival. The family is the most important reason for return. What is particularly disappointing is that the Croatia did not encourage them to return with any act, nor did anything to facilitate their return. Considering the many problems they encountered when returning, the vast majority has regretted ever returned. In view of the above, it can be concluded that the Republic of Croatia encourages the departure rather than the return of the emigrants and, in view of this, it is needed the better support of the country, as well as the greater interest of the media in promoting the initiative for the return of the emigrants.

5. Conclusion

The Republic of Croatia is not a promised country and there is no positive atmosphere that would welcome immigrants and returnees. Moreover, that is the main problem. If wants to survive, Croatia will have to become an immigrant country when it has already become exile. In order to turn the trends backwards, the state should try to attract those who are less interested in returning to their homeland, keep in touch with them, and offer them various business projects ... and so on. Unfortunately, the Republic of Croatia has so far not used the will of a large number of emigrants to have their experience, competences, capital, and knowledge available on building a better Croatia.

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INTERNATIONAL INTERTEMPORAL SOLVENCY: THE CASE OF THE REPUBLIC OF CROATIA

ABSTRACT

For many years, the Republic of Croatia was confronted with a current account deficit. The current account deficit was financed by going into debt abroad and sometimes by selling state-owned property. However, in the last few years, more precisely from 2013, the current account balance has been in surplus. In the main, this surplus is a result of the increase of the balance of services surplus.

The goal of this paper is to answer the question: Could the current account surplus, which is realized in the last few years, despite the long run deficit in the past, mean international intertemporal solvency of the Republic of Croatia?

In order to address the aforementioned question, a stationarity of the current account balance and the ratio of the current account balance to gross domestic product are tested. This is conducted by using several unit root tests, namely the ADF test, the KPSS test, the DF-GLS test and the HEGY test. Actually, the satisfaction of the international intertemporal solvency condition means that the change in the country's obligations to the rest of the world, that is, its current account balance, must be stationary. However, the research results do not support international intertemporal solvency of the Republic of Croatia. The unit root tests indicated that both the current account balance and the ratio of the current account balance to gross domestic product are nonstationary variables, which implies international intertemporal insolvency in the Republic of Croatia. Still, it could be expected that, if the surplus of the current account continues to increase, the Republic of Croatia should not have problems with international intertemporal insolvency.

Key words: *international intertemporal solvency, unit root tests, the current account, stationarity, the balance of payments.*

1. Introduction

The Republic of Croatia was confronted with a current account deficit for many years. The deficit was financed by funds borrowed from foreign creditors and, sometimes by state-owned property. This was the one of the main reasons of the rise of external debt. However, from 2013 the current account balance has been in surplus. The main cause of the surplus is the balance of services surplus. Soon after the current account surplus has increased, external debt has started to decline.

The goal of this paper is to answer the question whether the current account surplus from the last few years may mean international intertemporal solvency of the Republic of Croatia. Formally, the country is internationally intertemporally solvent if it satisfies its international intertemporal budget constraint. In other words, the country is solvent if the present discounted value of current and future trade surpluses equals its current stock of foreign debt. Trehan and Walsh (1991) have shown that the sufficient condition for the intertemporal budget constraint to be met is a stationarity of the current account balance. Based on Trehan and Walsh (1991), Taylor (2002) has demonstrated that in the case of positive economic growth, the sufficient condition for the intertemporal budget constraint to be satisfied is the stationarity of the ratio of the current account balance to gross domestic product. Due to this reason, in order to answer the aforementioned issue, a stationarity of the current account balance and the ratio of the current account balance to gross domestic product are tested by using a battery of unit root tests. These tests are: the ADF test, the KPSS test, the DF-GLS test and, taking into account a large seasonal variation of the time series, the HEGY test. In the paper, the very strong evidence against international intertemporal solvency of the Republic of Croatia is provided.

Testing a stationarity of the current account balance in order to explore the country's international intertemporal solvency is an approach that is applied by many researchers in the past. Some of them are: Trehan and Walsh (1991), Liu and Tanner (1996), Taylor (2002), Holmes (2004), Kalyoncu (2006), Christopoulos and Léon-Ledesma (2010), Cunado, Gil-Alana and de Gracia (2010), Hassan (2013).

The structure of the paper is as follows. After the introduction, in the second section there is a formal definition of the concept of international intertemporal solvency. The econometric methodology, more precisely, the unit root tests applied in the paper are described in the third section. In the fourth section, an analysis of stationarity of observed variables is conducted. Finally, the fifth section concludes the paper.

2. Theoretical background

According to Milesi-Ferretti and Razin (1996, p. 8) intertemporal solvency is "the circumstance in which the country as a whole and each economic unit within the country, including the government, obeys its respective intertemporal budget constraint". In an international context, it means that the country is solvent if the present discounted value of current and future trade surpluses equals its current outstanding stock of foreign debt.

For the concept of international intertemporal solvency, the current account has a crucial role because it measures the flow of the net-foreign asset position of the country. In other words,

$$CA_t = B_t - B_{t-1} = KA_{t,} \tag{1}$$

where CA_t is the current account, B_t is the stock of net-foreign assets, KA_t is the capital and financial account. Furthermore,

$$CA_t = NX_t - r_t B_{t-1}, \tag{2}$$

where r_t is the world interest rate, NX_t is net exports of goods and services. From (1) and (2) we get:

$$B_t = (1 + r_t)B_{t-1} + NX_t. \tag{3}$$

Following Trehan and Walsh (1991, p. 209) and iterating (3) forward in time, we get:

$$B_{t-1} = -\sum_{j=0}^{\infty} R^{-(j+1)} E\left(NX_{t+j} \middle| I_{t-1}\right) + \lim_{j=\infty} R^{-(j+1)} E\left(B_{t+j} \middle| I_{t-1}\right), \tag{4}$$

where $R = E(R_t + i|I_{t-1})$ and $R_t = 1 + r_t$ for all t and $i \geq 0$[1]. I_t is the information set of private agents.

Under the hypothesis of international intertemporal solvency, the last term in (4) must equal zero:

$$\lim_{j=\infty} R^{-(j+1)} E\left(B_{t+j} \middle| I_{t-1}\right) = 0. \tag{5}$$

The expression (5) is called the transversality condition[2] and simply means that the present discounted value of future stock of debt converges to zero when time tends to infinity. If this condition is satisfied, equation (4) then implies that the current stock of outstanding foreign debt equals the present discounted value of current and future net export surpluses. In other words, the country is internationally intertemporally solvent.

Trehan and Walsh (1991) have shown that the sufficient condition for (5) to hold is the stationarity of the current account. Based on their paper, Taylor (2002, p. 729) has demonstrated that, in the circumstances of positive rate of growth of output, the sufficient condition for international intertemporal solvency is the stationarity of the ratio of the current account to gross domestic product.

3. Econometric methodology

Testing the stationarity of time series is performed by applying a battery of unit root tests. These tests are: the augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979; Dickey and Fuller, 1981), the KPSS test (Kwiatkowski et al., 1992), the DF-GLS test (Elliot, Rothenberg, Stock, 1996) and the HEGY test (Hylleberg et al., 1990).

The ADF test is based on the following regression:

$$\Delta y_t = \gamma y_{t-1} + \sum_{i=1}^{p-1} \gamma_i \Delta y_{t-i} + \mu + \gamma t + u_t \qquad u_t \sim IID(0, \sigma^2) \tag{6}$$

[1] For a model with a variable interest rate, see Christopoulos and Léon-Ledesma (2010, p. 445).
[2] An excellent discussion on the transversality condition can be found in Obstfeld and Rogoff (1996, p. 64-65).

The null hypothesis is:

$$H_0: \gamma = 0, \tag{7}$$

against the alternative:

$$H_0: \gamma < 0. \tag{8}$$

If $\gamma = 0$, the series y_t contains a unit root, that is, it is stationary. The test statistic is the t-test. However, under nonstationarity, the t-test does not follow a standard t-distribution, but a DF distribution.

Furthermore, if the errors are autocorelated, it is necessary to include a certain number of lagged first differences of the dependent variable in the regression. Otherwise, the use of the DF distribution is inappropriate.

In this paper, the critical values for the ADF test are taken from Davidson and McKinnon (1993) and the number of lagged first differences of the dependent variable is calculated by using AIC, HQ and Schwarz criterion.

The KPSS test is one of the unit root tests that have, as a null hypothesis, the stationarity of the time series being tested. The test uses the following structural model:

$$y_t = d_t + \mu_t + \varepsilon_t \qquad \varepsilon_t \sim IIDN(0, \sigma_\varepsilon^2) \tag{9}$$
$$\mu_t = \mu_{t-1} + u_t \qquad u_t \sim IIDN(0, \sigma_u^2) \tag{10}$$

where d_t is deterministic parts of the model, that is, it contains constant or constant and deterministic trend and μ_t is a pure random walk with variance σ_u^2.

The null hypothesis that y_t is stationary is tested as:

$$H_0: \sigma_\mu^2 = 0, \tag{11}$$

against the alternative:

$$H_0: \sigma_\mu^2 > 0, \tag{12}$$

which implies that if $\sigma_\mu^2 = 0$, y_t is stationary.

The test statistic is based on Lagrange multiplier and is given by:

$$\eta = T^{-2} \sum_{t=1}^{T} \hat{S}_t^2 / \hat{s}_l^2 \tag{13}$$

where $\hat{S}_t^2 = \sum_{j=1}^{t} \hat{\varepsilon}_j$, and $\hat{s}_l^2$ is a consistent estimate of the long run variance of the series using l lags of the series.

The critical values used are from Kwiatkowsky et al. (1992) and the number of lags is determined in a way proposed by Schwert (1989).

The DF-GLS test is a modification of the ADF test in a way that the time series is transformed (demeaned or detrended) by generalized least squares (GLS) regression before conducting the test. In other words, the DF-GLS test is conducted in the same way as the ADF test but on GLS demeaned or detrended data[3].

Under the null hypothesis of the test, the series has a random walk trend possibly with drift and under the alternative there are two possibilities: The series is stationary around linear time trend or the series is stationary with mean that might be nonzero but without a time trend.

In their paper, Elliot, Rothenberg and Stock (1996) have shown that the test has substantially higher power than the ADF test. A more powerful test will more likely reject the null hypothesis against the alternative when the alternative is true. The critical values for the DF-GLS test are given in Elliot, Rothenberg and Stock (1996) and are used in the paper and the number of lags is estimated by using the modified AIC by Ng and Perron (2001).

The HEGY test has been proposed by Hylleberg et al. (1990). The test is used to check for seasonal unit roots in quarterly time series and is founded on the following regression:

$$\Delta_4 y_t = \Pi_1 Z_1 y_{t-1} + \Pi_2 Z_2 y_{t-1} + \Pi_3 Z_3 y_{t-2} + \Pi_4 Z_3 y_{t-1} + \sum_{i=1}^{p-1} \psi_i \Delta_4 y_{t-i} + u_t$$

$$u_t \sim IID(0, \sigma^2), \tag{14}$$

where $Z1 = (1 + L + L2 + L3)$, $Z2 = -(1 - L + L2 - L3)$, $Z3 = -(1 - L2)$, L is a lag operator such that for any value of y_t, $L^i y_t \equiv y_{t-i}$.

There are several hypotheses in the test:

$$H_0: \Pi_1 = 0, \tag{15}$$
$$H_0: \Pi_2 = 0, \tag{16}$$
$$H_0: \Pi_3 = \Pi_4 = 0, \tag{17}$$

If $\Pi_1 = 0$, the series has a nonseasonal unit root, $\Pi_2 = 0$ means that the series has a seasonal unit root with semiannual frequency and if $\Pi_3 = \Pi_4 = 0$ the series has seasonal unit root at the annual frequency. The test statistics are the t-test and F-test. Likewise, the F-test may be used to test the joint hypotheses:

$$H_0: \Pi_2 = \Pi_3 = \Pi_4 = 0, \tag{18}$$
$$H_0: \Pi_1 = \Pi_2 = \Pi_3 = \Pi_4 = 0. \tag{19}$$

The regression (14) may be modified by including constant, deterministic trend or deterministic seasonal dummies.

The critical values for the HEGY test are taken from Franses and Hobijn (1997) and the number of the lag seasonal differences is determined by using AIC, HQ and Schwarz criterion.

[3] See for details Stock and Watson (2010).

4. Empirical results

In order to test international intertemporal solvency of the Republic of Croatia, the data on its current account and gross domestic product are collected. More precisely, the data used in this paper are nominal, annual and quarterly, seasonally unadjusted flows of the current account balance and its components. Likewise, the data on nominal, quarterly gross domestic product are also collected. All data are taken from the Eurostat database. The data are for a period of 2000Q1 to 2018Q3 at the quarterly level, and from 2000 to 2017 at the annual level.

Table 1 reports the data on the current account balance and its components over the period from 2000 to 2017. These data are plotted in Figure 1. The data indicates the current account deficit from 2000 to 2012. From 2013, the current account of the Republic of Croatia has been in surplus. That surplus is a consequence of the rise of the balance of services surplus, which is clear from Table 1.

Table 1: *The current account balance and its components*

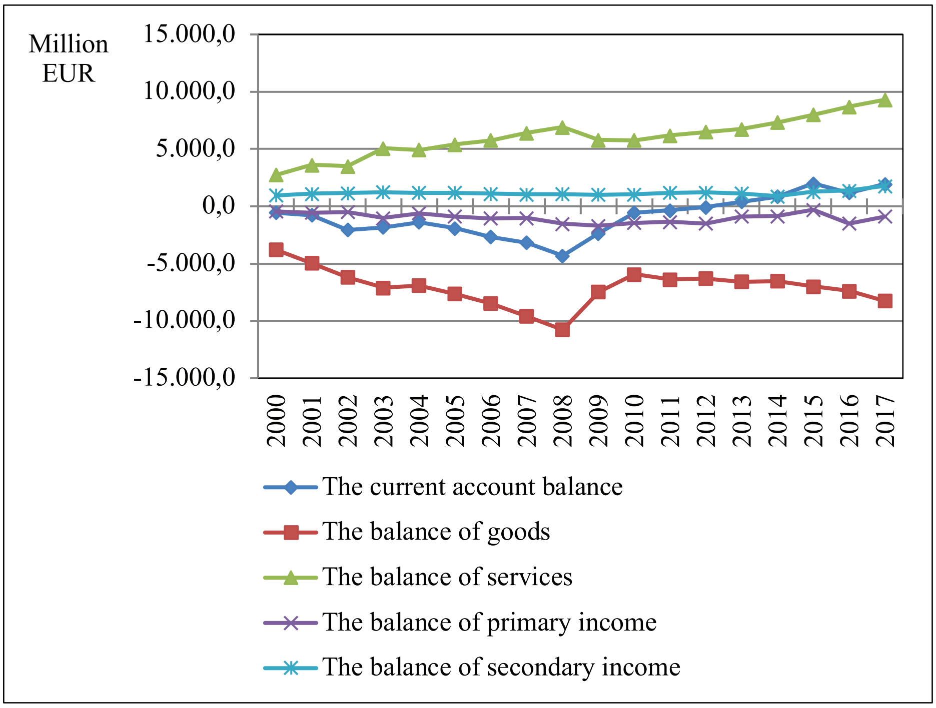
Million EUR

Year	The current account balance	The balance of goods	The balance of services	The balance of primary income	The balance of secondary income
2000	-537.5	-3,790.3	2,734.0	-439.2	957.9
2001	-777.4	-4,950.0	3,621.7	-545.4	1,096.2
2002	-2,039.8	-6,191.2	3,495.7	-495.5	1,151.0
2003	-1,831.6	-7,106.4	5,058.4	-1,027.1	1,243.8
2004	-1,380.4	-6,899.1	4,917.5	-589.6	1,190.9
2005	-1,926.8	-7,642.9	5,402.5	-869.8	1,183.2
2006	-2,662.1	-8,480.5	5,761.1	-1,050.2	1,107.4
2007	-3,182.6	-9,593.6	6,397.9	-1,029.7	1,042.9
2008	-4,305.7	-10,772.8	6,917.5	-1,520.3	1,070.3
2009	-2,361.3	-7,454.3	5,780.5	-1,691.7	1,004.6
2010	-532.0	-5,923.1	5,764.0	-1,431.0	1,057.9
2011	-360.8	-6,378.4	6,185.8	-1,352.5	1,184.7
2012	-82.5	-6,293.9	6,492.6	-1,497.0	1,215.1
2013	411.8	-6,573.5	6,738.6	-889.3	1,135.7
2014	851.0	-6,510.3	7,329.4	-858.7	890.6
2015	2,003.7	-6,979.1	7,997.2	-292.6	1,278.0
2016	1,197.0	-7,384.9	8,703.8	-1,490.2	1,368.5
2017	1,945.4	-8,251.4	9,302.5	-891.0	1,784.9

Source: The Eurostat database, available at: https://ec.europa.eu/eurostat/data/database (accessed 10 March 2019).

An important question is whether the surplus of the current account means international solvency for the Republic of Croatia in spite of the deficit in the past. In order to address this question, a battery of unit root tests is performed. The tests are performed on the quarterly data on the current account balance and the ratio of the current account balance to gross domestic product.

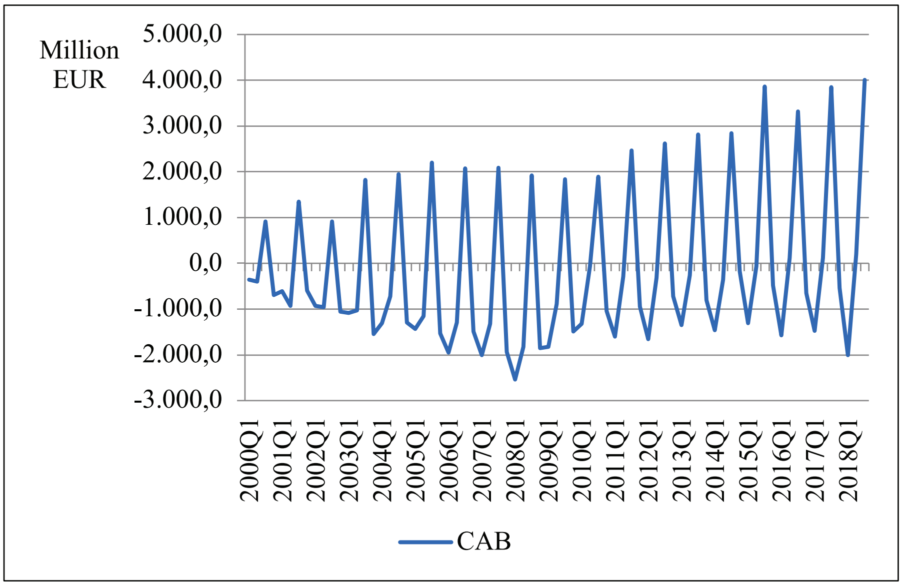
***Figure 1:** The current account balance and its components*



Source: Author's drawing

These data are depicted in Figures 2 and 3. It is notable from Figures 2 and 3 that neither the current account nor the ratio of the current account to gross domestic product shows deterministic trend but both series exhibit a clear seasonal pattern.

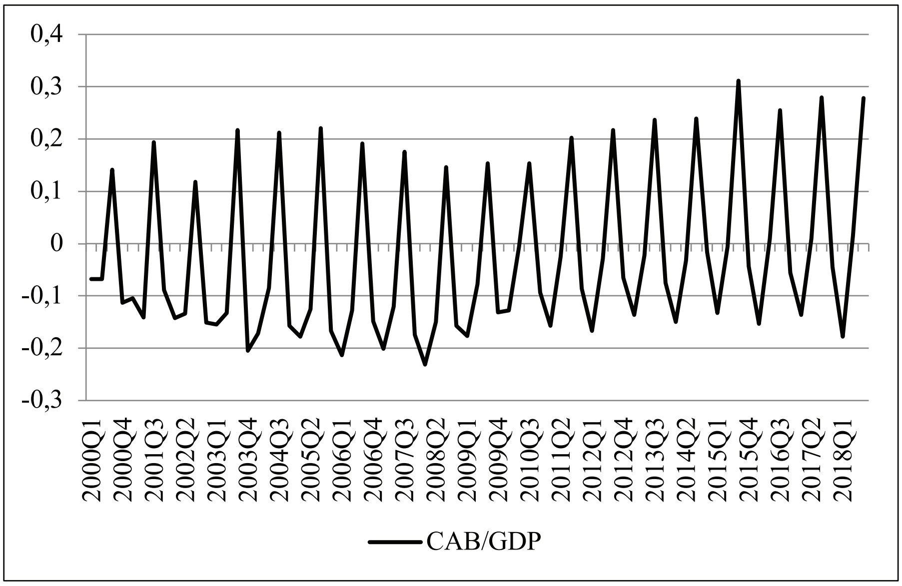
***Figure 2:** The current account balance – quarterly data*



Source: Author's drawing

Besides common unit root tests, namely the ADF test, the KPSS test and the DF-GLS test, the HEGY test is applied to test for the seasonal unit root at the semiannual and annual frequency. All tests are conducted by using a constant term and a constant and a deterministic trend.

Figure 3: *The ratio of the current account balance to gross domestic product – quarterly data*



Source: Author's drawing

The results of the unit root tests are evident from Table 2. The ADF test, the DF-GLS test and the HEGY test cannot reject the null hypothesis of unit root in the series at any level of significance. The HEGY test suggests that the series have regular unit root and seasonal unit roots at the semiannual and annual frequency. For the ratio of the current account balance to gross domestic product and for the current account balance, if in the test a constant and a deterministic trend are included, the KPSS test rejects the null hypotheses of stationarity at the 10% and 5% levels, respectively.

Taken as a whole, these results indicate the nonstationarity of the series, which implies that the Republic of Croatia violates its intertemporal budget constraint. In other words, the Republic of Croatia is internationally intertemporally insolvent. In this situation, there are two solutions. A bankruptcy on one side and an unexpected correction mechanism on the other. Each of them would bring the current account back to equilibrium (Christopoulos and Léon-Ledesma, 2010, p. 445). Still, in the case of the Republic of Croatia the unexpected correction, possibly in the form of income adjustment is a more likely event. However, if the surplus of the current of account continues to increase, the Republic of Croatia will become internationally intertemporally solvent without unexpected correction.

Table 2 Tests of unit roots

Variable (lag lenght)	**ADF**	**KPSS**	**DF-GLS**	**HEGY**				
				$\prod_1$	$\prod_2$	$\prod_2 \cap \prod_3$	$\prod_2 \cap \prod_3 \cap \prod_4$	$\prod_1 \cap \prod_2 \cap \prod_3 \cap \prod_4$
Constant and trend in regression								
CAB	-2.02929	0.1833**	-0.5316	-1.9741	-0.3992	0.9375	0.6812	1.5299
(lag lenght)	4	4	3					0
CAB/GDP	-2.5252	0.1415*	-1.251	-2.5252	-0.892	0.0796	0.3195	1.8913
(lag lenght)	3	4	3					0
Constant only in regression								
CAB	-0.5741	0.7319	-0.7828	-0.3019	-0.4271	0.9806	0.7182	0.5629
(lag lenght)	4	4	3					0
CAB/GDP	-0.4893	0.8136	-0.46824	-0.4893	-0.953	0.1128	0.3799	0.3466
(lag lenght)	3	4	3					0

Notes: For the critical values and specification of the lag length see text. * Significant at the 10% level. ** Significant at the 5% level.

Source: Author's calculations.

5. Conclusion

For a long time the Republic of Croatia was confronted with the current account deficit. However, since 2013, the current account balance has been positive. So, the following question is posed: Might the current account surplus from the last few years mean international intertemporal solvency of the Republic of Croatia?

The goal of the paper is to explore international intertemporal solvency of the Republic of Croatia. In order to be internationally intertemporally solvent, the country has to satisfy its intertemporal budget constraint. The sufficient condition for the intertemporal budget constraint to be satisfied is a stationarity of the current account balance or a stationarity of the ratio of the current account balance to gross domestic product (in the case of positive economic growth). In the paper, stationarity of both variables is tested by using a battery of unit root tests, namely the ADF test, the KPSS test, the DF-GLS test and, taking into account the fact that both variables exhibit a clear seasonal pattern, the HEGY test. Taken as a whole, the results of the tests indicate the nonstationarity of both variables, which implies that the Republic of Croatia violates its intertemporal budget constraint. Put another way, the country is not internationally intertemporally solvent. Still, considering the rise of the current account surplus and if it continues to increase, the Republic of Croatia will likely become solvent without an unexpected correction in the form of income adjustment.

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THE INFLUENCE OF MARKET CONCENTRATION ON THE PROFITABILITY OF INSURANCE COMPANIES IN THE REPUBLIC OF CROATIA

ABSTRACT

The financial sector in the Republic of Croatia in the last two decades has been significantly impacted by deep, unprecedented changes. Multiple system transformations and the high level of financial innovation has reflected on the changes of the market structure – by ensuring higher value for shares held by larger companies, thereby ensuring higher profits, which is based on the so-called SCP paradigm. The main goal of this study is to investigate the connection between the degree of industrial concentration and the profitability of insurance companies quoted at the financial market in the Republic of Croatia. In other words, the goal is to determine the level to which the degree of industrial concentration affects the profitability of life and non-life insurance companies, for which purpose a nine-year period was analysed, from 2009 to 2017. The results of the study indicate a moderate degree of concentration, which continues the years-long trend of consolidation on the insurance market.

Key words*: market concentration, profitability, insurance companies*

JEL Classification: L10

1. Introduction

Insurance companies are an important market shareholder on the financial market, and they have an important role in its development. The recent trends toward restructuring and deregulation of the financial system have contributed to the development of the insurance market. In the last two decades, about twenty insurance companies have been quoted on the insurance market, the number which has stagnated year after year, where only a few larger and economically stronger insurance companies hold significant market shares. Market concentration is the basic metric for market power, the basis of which rests on the so-called SCP paradigm that postulates a linear connection between concentration and profitability (Bain, 1951), according to which a high level of concentration carries with it high profits, especially on markets with high entry barriers. Therefore, the goal of the study is to test the connection between concentration and profitability. I.e. determine if the degree of industrial concentration affects the performance of life and non-life insurance companies quoted at the Croatian market during the nine-year period between 2009 and 2017. The concentration analysis was implemented by applying the concentration ratios of four, six, and eight largest companies. As well as the Herfindahl-Hirschman (HHI) index, while the return on assets (ROA) and the net profit margin were used as performance indicators, the values of which were measured based on total assets and insurance premiums as relevant indicators of market power. The first part of the study analyses the condition and the trend dynamics on the Croatian insurance market in the observed period. The degree of concentration in the insurance industry is analysed in the second part, while the third part investigates the performance success of insurance companies in the observed period. Methodologically, the descriptive method and the analysis method were used, where the analysed secondary sources of information were gathered from the available reports by the competent financial services monitoring agency.

2. Trend Dynamics at the Croatian Insurance Market

In the last two decades, the financial sector in most of the developed and transition countries has been growing much faster than the national economies themselves (Freedman, 2000). Banks, as dominant market shareholders, took more than 60% of the share, so their role in creating the system that we see today was extremely important. However, the structural changes in the financial sector, the late effects of liberalisation, and the increase in the financial flows have resulted in an accelerated growth of non-bank institutions, particularly insurance companies and investment funds. Their relevance is particularly significant for increasing efficiency and maximising competitiveness at the global level. Apart from that, insurance companies "take on" the risks that they manage in their own way for the purpose of maintaining social and national stability. The relevance of such institutions for transition economies is very significant, especially due to the poorly developed and high-risk financial system, and significant possibilities for further growth and development.

Insurance companies, i.e. the entire insurance industry, are one of the catalysts for economic growth and they have an important role in financial mediation, which contributes to the financial and economic development (Karim and Jhantansana, 2005). The Croatian insurance company market currently employs over 8,000 people and contributes to the gross national product (GDP) with 2.6%, i.e. 0.03% of the world insurance premium, which puts the Republic of Croatia in the 66th place among all the countries in the world according to the amount and the share of the premium in the world economy for 2017. (Croatian Insurance Bureau, 2017).

In the observed nine-year (2009-2017) period, the trend of market consolidation that has been going on for many years has continued, which resulted in the reduced number of insurance companies, more precisely there were nine less operators. In the total structure, the largest drop was in the life insurance segment, where the number has reduced by three, while all other segments (reinsurance, life, and complex insurance) had equal shares in the reduction of the number of companies, as shown in Table 1. In addition, the same period saw the reduction in the number of employees by 2,300 (20%), and the drop in the gross premium was 500 million Croatian kunas (HRK). The largest number of companies were active during 2009 and 2010, 29 companies, and the structure was dominated by complex insurance companies (10 companies) which generated the profit of HRK 290 million according to the Croatian Financial Services Supervisory Agency (HANFA) report, which caused the reduction in the liquidated damages of reinsurance companies. Furthermore, the realised gross premium in the same period has further reduced by 1,8%, the drop to which non-life insurance companies particularly contributed. The late effects of the financial crisis, which were felt somewhat later in the Croatian financial system when compared to the western part of Europe, have left their mark on the insurance market. In the same year, the number of insurance companies reduced by 2, which also reduced the total premium of the insurance companies by 1.1 %.

Table 1: Number of insurance companies active from 2009 to 2017 according to structure

Year	Number of Insurance companies			Number of reinsurance companies	Total number of companies
	Life	Non-life	Complex		
2009	8	9	10	2	29
2010	8	9	10	2	29
2011	6	10	10	1	27
2012	7	10	10	1	28
2013	7	10	9	1	27
2014	7	10	8	2	27
2015	6	9	8	1	24
2016	5	8	8	1	22
2017	5	7	8	0	20

Source: Croatian Financial Services Supervisory Agency (HANFA) report (2009), (2010), (2011), (2012), (2013), (2014), (2015), (2016), (2017)

The stagnation trend, particularly for life and non-life insurance companies, has continued until the middle of 2014, when there were 27 active insurance companies on the market, which is also the lowest drop in the observed period. Within the total structure of the companies, non-life insurance companies where dominant, there were 10 of them. The same group of companies contributed most to the total losses in the same period, with HRK 283 million, which was HRK 136 million at the end of the year, according to the HANFA report. Those negative trends were affected by the changes in the regulatory framework related to the harmonisation of the Croatian legislative framework with the European Union legislation, pursuant to the Directive of the European Parliament (EC 2009/138) on the activities of insurance and reinsurance.

***Table 2**: Value trends of the realised premiums and assets insurance companies in the 2009-2017 period in billions kuna*

Year	Life-Insurance companies		Non-Life Insurance companies		Insurance companies	
	Premium	Asset	Premium	Asset	Premium	Asset
2009	2.49	13.3	6.92	14.6	9.41	27.9
2010	2.42	14.8	6.77	15.31	9.19	30.11
2011	2.43	15.78	6.71	16.14	9.14	31.92
2012	2.46	17.35	6.57	16.7	9.03	34.05
2013	2.5	18.19	6.5	16.36	9	34.55
2014	2.53	19.81	5.78	16.84	8.31	36.65
2015	2.92	20.9	5.73	16.97	8.65	37.87
2016	2.9	22.38	5.77	17	8.67	39.38
2017	2.94	23	5.96	17.84	8.9	40.84

Source: Croatian Financial Services Supervisory Agency (HANFA) report (2009), (2010), (2011), (2012), (2013), (2014), (2015), (2016), (2017)

As it is visible from the (Table 2), the total amount of premiums of the insurance companies in the observed period decreased around 500 million kuna. The assets of non-life insurance companies decreased by one billion kuna while the assets of life insurance companies increased by 500 million kuna. The biggest drop in premiums happened in 2014 and it was conditioned by the premium car liability. In this period, the assets of all market segments increased by 13 billion kuna. By the end of 2017, total assets of the insurance companies amounted to 40.84 billion HRK, which is 3.7% higher compared to the previous year. Assets of life insurance companies accounted for 56.3% of total assets, which had (compared to 2016) increased by 2.7%. In the non-life insurance segment, assets increased by 423.7 million kuna or 2.4%. In the life insurance companies segment the most important share in assets were investments with the share of 89.7%. The investment account and risk had a share of 7.5%. To conclude, the movement of the total premium over the last nine years was influenced by the economic crisis, the liberalization of the insurance market and the market dynamism which was under the influence of cost efficiency and privatization processes.

Accordingly, in the beginning of 2016, the changes to regulations came into effect, along with the mandatory application of the so-called Solvency II – new regulatory framework, which was, pursuant to the Insurance Act (Official Gazette of the Republic of Croatia 30/15, 112/18), implemented into the standing regulations, and the goal of the implementation of these regulations was to ensure greater market transparency and a better overview of the changes significant to the insurance companies. The additional requirements and new regulations were reflected in the reduced number of insurance companies, the number of which was reduced by 4 operators during the last two periods. At the end of 2017, 20 companies were active and complex companies were prevalent among them. The calculated gross premium for 2017 was increased by 3.4%, to which a particular contribution was made by non-life insurance companies, as shown in the table.

3. Industry concentration

Coefficient of concentration is generally measured for four largest enterprises (CR4) within the industry, although it can be calculated for four, six, eight and more largest enterprises. The calculation procedure of the coefficient of concentration is based on the sum of individual market shares of four largest enterprises within the industry:

$$CR_n = \sum_{i=1}^{n} s_i \qquad (1)$$

where the s_i is percentage share of firm i in the total value of the industry. In the case of perfect competition, the coefficient is lower as the number of enterprises is higher, respectively as the lower the coefficient is, the concentration is weaker. The biggest disadvantage of this benchmark is that it ignores the impact of small business in the industry because it places the emphasis on the shares of the largest companies. The concentration coefficient value ranges between 0 and 100. By using the coefficient of concentration, we can distinguish four basic market structures:

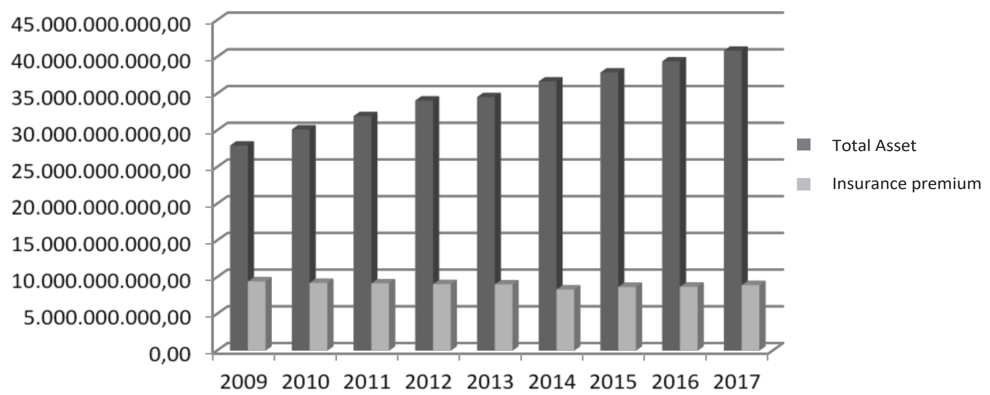
- perfect competition, CR4 ≈ 0
- monopolistic competition, CR4 < 50
- oligopoly, CR4 > 50
- monopoly, CR4 ≈ 100

Herfindahl index (Herfindahl-Hirschman-Index-HHI) measures concentration rate on the market by adding squares of market shares of all enterprises present on the market. Its advantage among other concentration indicators is in the fact that it takes into consideration market shares of all enterprises in the industry and it is highly sensitive regarding differences in their individual market shares, i.e. it gives larger ponder to shares of larger enterprises and quadrates their market shares (either in the form of percentage or coefficients). As larger differences in size among enterprises are, the higher is the Index value. Maximal value of the index is 10.000 if we take percentage as a measure for market share. It is assumed that the market with Herfindahl-Index value lower than 1.000 is unconcentrated, market with the Index value between 1.000 – 1.800 is moderately concentrated, while the market with the Index value higher than 1.800 is highly concentrated (Call &Holahan,1983, 314-315)

4. Concentration indicators in the Insurance industry

Concentration is a very important economic variable and it can be used to define the market organisation. Therefore, in this section, the authors have focused on the investigation into the "status" or the degree of concentration in the observed period, which can then be used as the basis for the definition of the organisational form of the market. The concentration analysis within this study has been measured on the basis of the information on the total gross premium and the total value of the insurance companies' assets shown in Graph 1, the values of which have been taken from the annual financial reports by the Croatian Financial Services Supervisory Agency (HANFA). The information is from nine consecutive years, from 2009 to 2017, and their application has yielded the values of the specific concentration indicators, which are used further in the study for the analysis of the limitations and inequality on the insurance market. Bain (1956) defined concentration as the function of the number of companies and their individual shares in the total production realised on the market within the set time period. The investigation into the level of concentration and the limitations on the insurance market in Croatia has been done by applying several concentration indicators, which are: Concentration ratios of the four (CR4), six (CR6), and eight (CR8) largest companies, and the Herfindahl-Hirschman index. Accordingly, Tirole (1988) defined concentration ratios as economic tools used to reflect the degree of concentration on the market, or in the industry. That is why in the rest of this section the authors have attempted to define the degree of concentration on the insurance market based on the selected indicators.

Graph 1: *Insurance premium and total asset trends in the period from 2009 to 2017*



Source: Croatian Financial Services Supervisory Agency (HANFA) report (2009), (2010), (2011), (2012), (2013), (2014), (2015), (2016), (2017)

In the last several years, the insurance market is characterised by an oligopoly, where several larger companies hold the majority market share. The most commonly used concentration ratios that consider the market shares of individual insurance companies indicate that the Croatian insurance market is dominated by four insurance companies that take up more than 50% of the market. The concentration ratio (CR4), that expresses the market share of the four largest companies, has been trending above 40% of the total share in the observed period. The value of this indicator in the observed period was between 51 and 54%, where the highest value (54.57%) was realised in 2009, and the lowest (51.51%) in 2012. The remaining two concentration ratios, CR6 and CR8, show a very similar intensity. The ratio of the six largest companies (CR6) has reached its maximum value of 70.77% in late 2014, while the CR8 reached its highest value in 2015, when it was 82.44%, measured on the basis of realised assets. The concentration ratios measured on the basis of the total premium have very similar trend dynamics. Namely, the indicator CR4 reached its highest value in the year of the maximum total insurance premium, 2009 (60.81%), while it reached its minimum in 2016. The concentration ratio CR6 trended between 68 and 70% in the observed period, where it reached its highest value at the same time as the ratio of the eight largest companies, in 2014, which is shown in Table 3.

Table 3: *Share indicators of the largest insurance companies in the period from 2009 to 2017*

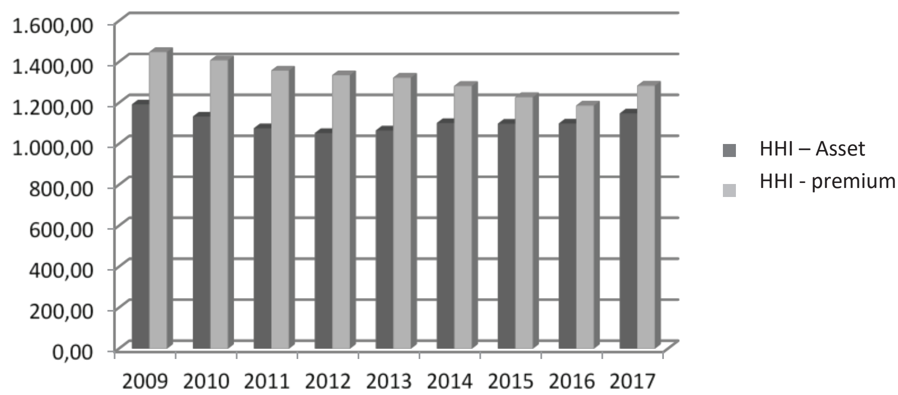
Year	**Share indicator for assets**			**Share indicator for Insurance premium**		
	CR – 4 (%)	**CR – 6** (%)	**CR – 8** (%)	**CR – 4** (%)	**CR – 6** (%)	**CR – 8** (%)
2009	54,57	67,31	78,71	60,81	70,99	79,19
2010	53,31	66,57	78,03	60,06	70,06	78,81
2011	52,03	65,46	77,27	59,70	69,11	77,74
2012	51,51	64,91	76,55	59,78	68,81	77,00
2013	52,43	67,50	79,25	60,00	69,77	78,20
2014	54,48	70,77	82,35	59,36	70,91	80,28
2015	54,25	70,64	82,44	57,64	69,98	80,11
2016	53,73	70,30	82,32	55,40	68,41	78,59
2017	54,35	70,30	82,36	57,49	70,53	81,46

Source: Authors calculation

In the first four years, all the concentration ratios have had a falling tendency, after which they began to rise. The period from 2009 to 2012 is the time of galloping changes and a deep economic crisis, which, all things considered, has not spared the insurance industry. Apart from that, the largest losses in the four-year period were suffered by the largest companies, which lost over 6% of the market share. Croatia osiguranje, as the largest leader domestically, also lost the largest market share of 4%. The reduction in total spending, currency exchange changes, but also the reduction in investments definitely contributed to this. The same period is also the period in which largest damages were paid, the value of which rose by 24%, i.e. 20.65% for life insurance. Smaller insurance companies, which had had less than 2% of the market share, doubtlessly profited in that crisis period. In late 2013 and early 2014, the strong effects of liberalisation were primarily reflected in the reduction of the number of companies, but also in the inflow of foreign capital, which consequently affected the increase in the market share by Wiener osiguranje, which took over two smaller insurance companies and thereby joined the CR3 group, i.e. the group of the three largest companies. In late 2017, the insurance market had 20 active insurance companies, the reduction in number to which new legislative regulations that came into effect in early 2016 definitely contributed. Therefore, an assumption can be made that the strong effects of mergers and acquisitions, and the enormous losses during the financial crisis, had an effect on the fluctuation of the concentration ratios in the observed period.

Apart from the mentioned indicators for examining industry concentration, the Herfindahl-Hirschman (HHI) index was also used, which treats all the companies equally and is therefore most commonly used as the best measure of concentration. In the nine-year period, the HHI index has oscillated between 1050 and 1192 in relation to the value of the assets, i.e. 1200 and 1450 in relation to the realised insurance premium, it can therefore be concluded that the insurance industry was moderately concentrated in the observed period and that its values do not go over 1800, which is the limit for high concentration. Furthermore, in the first part and all the way through to 2013, the HHI had a falling tendency, after which it was gradually rising, which can be attributed to international acquisitions completed in early 2013, but also to the mergers of some insurance companies.

***Graph 2**: HHI index trends in the period from 2009 to 2017*

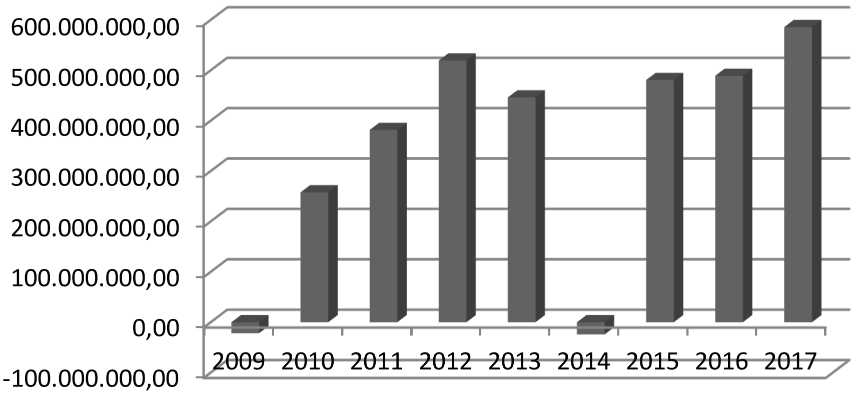


Source: Authors calculation

5. Performance Indicators in the Insurance Industry

The modern economic approaches for investigating the correlation relationships between concentration and peak efficiency are significantly different than the so-called Mason theory, which was idealised in the 1920s – the so-called SCP hypothesis which postulates the connection between the degree of industry concentration and peak efficiency. That is, it assumes that there is a coordinated connection between the degree of concentration and peak efficiency, especially if there is a high degree of industry concentration or a high degree of entry barriers. In this section, the authors have investigated the profitability of the insurance industry in the observed period. The indicators used for examining business performance are the return on assets (ROA) and the net profit margin (NM).

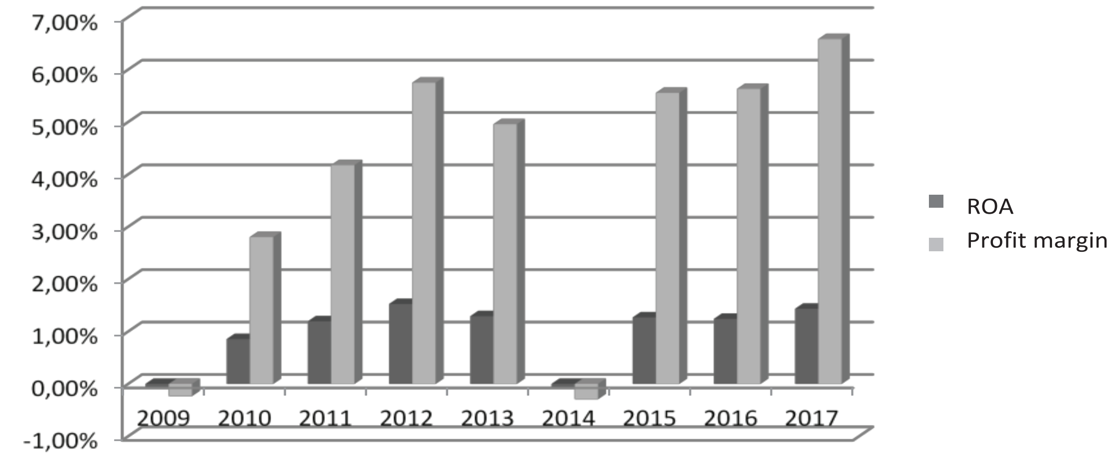
Graph 3: *Business results of the insurance industry in the period from 2009 to 2017*



Source: Authors calculation

In the previous nine-year period, the insurance industry has recorded oscillating financial results. Namely, in the period from 2009 to 2017, there was an increase in the total industry profits, the value of which was HRK 545.9 million at the end of 2012, which is an increase of over HRK 500 million compared to 2009, when a loss of little over HRK 21 million was recorded (Graph 3). The best financial results were in 2017, while in 2014 and in 2009 the industry's business activities recorded losses.

Graph 4*: Profitability indicators in the period from 2009 to 2017*



Source: Authors calculation

The performance indicators used in this analysis show a growth tendency until 2013, after which they began dropping. The return on assets (ROA) in the observed period has increased for 1.35 percentage points, from -0.08% at the end of 2009 to 1.43% at the end of 2017. The highest value of this indicator was in 2017, when the value of the assets was also at maximum. The net profit margin (NM) as the most common indicator of the profits has the same growth tendency as the previous indicator. The value of the net margin in the observed period has increased for a little over 6 percentage points. Its value for the first year was -0.23% and it was negative when the financial results were also negative. The maximum margin value was achieved in the last year and it was 6.58%, at the same time as the maximum profits.

6. Concentration vs performance

The analysis of concentration impact on performance of insurance firms is based on the model which Salinger (1990) applied in his work. Regression models based on postulates from the classical economic theory (SCP theory) often use the profitability (efficiency) for the dependent variable, and some form of concentration is used for the independent variable. So, some models that want to test the Cournot model oligopoly, or equilibrium, use the following equation:

$$\boldsymbol{L = {HHI}/{\delta}} \tag{2}$$

where: L is *Lerner index*[1], H is *Herfindahl-Hirschman index*, and δ is *Price elasticity of demand*. If we assume that the price-cost margin (PCM) is approximate to the Lerner index[2], and the Herfindahl-Hirschman index (HHI) as a concentration measure is replaced by another concentration measure, for, example Concentration coefficient of the four largest companies (CR4) then the equation (2) can be written as follows:

$$\mathbf{In\ PCM = \alpha_0 + \alpha_1\ In\ CR4 + \alpha_2\ In\ \delta + \varepsilon_1} \tag{3}$$

where ε is a stochastic variable representing unsystematic impacts on the dependent variables. By applying the third equation we can reject the Cournot oligopoly by rejecting a common hypothesis where it is $\alpha_0 = 0$, $\alpha_1 = 1/k$, $\alpha_2 = 1$. In the case of not knowing the elasticity of demand Salinger (1990) states that we can use the following statement:

$$\mathbf{In\ PCM = \beta_0 + \beta_1\ In\ CR4 + \varepsilon_2} \tag{4}$$

where β_1 is an average value of 1 / kδ, while PCM is the average margin in insurance industry. In our research we use this equation to measure the impact of concentration on insurance company efficiency. Using the previous statements made by Salinger for research purposes, we have constructed the following model:

$$\mathbf{In\ PCM_{i,t} = \beta_0 + \beta_1\ In\ MS_{i,t} + \varepsilon_{i,t}} \tag{5}$$

where $PCM_{i,t}$ is insurance company margin *i* in year *t*; $MSI_{i,t}$ is company share *i* in year *t*. The model represented by the equation five (5) was computed using the computer using the econometric program STATA. For the calculation of the model, we used a linear model of fixed effects. The results are shown in the table 4.

[1] The Lerner index measures the relative margin which is an indicator of total power. It is defined by the expression L = (P - MC) / P, where P - is the price of the product and the MC - the marginal cost.

[2] For the long-term Lerner index, this approximation is based on the implication of the assumption that the average cost is equal to the marginal cost, within a short time that the marginal cost equals the average variable cost.

***Table 4**: Results for linear regression model by efficiency and market share*

```
Fixed-effects (within) regression               Number of obs      =       144
Group variable: name1                           Number of groups   =        23

R-sq:                                           Obs per group:
     within  = 0.1923                                          min =         1
     between = 0.0000                                          avg =       6.3
     overall = 0.0097                                          max =         9

                                                F(1,120)           =     28.57
corr(u_i, Xb)  = -0.8808                        Prob > F           =    0.0000

------------------------------------------------------------------------------
      lMarza |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        L_AR |   1.593517    .298149     5.34   0.000     1.003203    2.183832
       _cons |   1.124541   .4569989     2.46   0.015     .2197149    2.029367
-------------+----------------------------------------------------------------
     sigma_u |  1.1185307
     sigma_e |  .31122923
         rho |  .92814135   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(22, 120) = 13.87                    Prob > F = 0.0000
```

Source: Authors calculation

The equation five was applied to our panel data which entails 144 observations in total, divided in 23 groups. The results of the research indicate a strong correlation between the dependent and independent variable. The coefficient β_1 is 1,594 which leads to the conclusion that every increase of the market share of one percent influences the growth of margin for 1,593%. Using the p-value we have tested the hypothesis that the coefficient is different than zero. Since its value is less than 0,05 we can conclude that the mentioned hypothesis is rejected on the level of significance of 5%. Furthermore, we have conducted a t-test which tested the hypothesis that the achieved result of the coefficient is different than zero. Since its value is greater than 1,96 (the interval of reliability is 95%) we can also reject the previous hypothesis.
The value of the constant β_0 is 1,125 and we have tested the hypothesis that its value is different than zero by using p-value and t-test. P-value is 0,015, while the value of the t-test is 2.46. Thus, both tests confirm the statistical significance of gotten results for both coefficient β_1 and β_0.

7. Conclusion

In the last ten years, the number of active insurance companies on the market was reducing, and their market shares were increasing year after year. Even though the number of insurance companies has reduced in the observed period, there have not been any significant upsets or changes in the so far consistently moderate concentration level, which is specifically indicated by the HH index. The insurance industry is characterised by the misbalance between the distribution of market shares, which is indicated by the concentration ratios. Accordingly, it can be classified as an oligopoly market, dominated by only a few larger companies. The period from 2009 to 2013 is the period of financial crisis, in which the dominant insurance companies have reported losses, which is reflected in the reduced performance.
The performance analysis of insurance companies shows us a very dynamic period through which this industry has passed. The industry is profitable in almost all years of observation except in 2009 and 2014.

In this paper we have analysed the link between profitability and concentration. The analysis of the results suggests that there is a link between the growth of the concentration and the profitability growth, which is in line with the generally accepted economic theory. The results of this paper confirm the previous research carried out on this or similar issue.

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COMMODITY EXPORT FROM BOSNIA AND HERZEGOVINA INTO THE EUROPEAN UNION AND COMPARATIVE ADVANTAGE

ABSTRACT

By signing the Stabilization and Association Agreement (SAA), the Western Balkan countries liberalized their trade cooperation with the European Union (EU) thus creating the free trade zone. Some more than others were more successful in using the advantages of trade liberalization. When it comes to Bosnia and Herzegovina (BiH), it should be emphasized that the EU is one of the most important trade partners of BiH with the highest share in BiH import/export. For this reason, the primary goal of this paper is to define the groups of BiH products exported to the European common market in the context of comparative advantage. The paper seeks to determine if the products where comparative advantage was discovered are dominant in BiH export to the EU. Furthermore, the paper addresses sector specialization and country's competitiveness compared to EU/28 in the period 2011 to 2017. For the purpose of researching the subject matter, the Balassa index (the Revealed Comparative Adventage - RCA) was used, which explains the ability or potential of a country to use its export products in competing the same type of products in the world. Negative value of RCA value means that the country does not have comparative advantage in exporting the product. RCA in this paper is calculated as the logarithmic value of relative coverage of import by export in certain sectors or products. The analysis of the collected data was based on the two-stage Standard International Trade Classification (SITC), with 63 product groups considered, excluding the products from the ninth sector.

Key words: *comparative advantage, the Balassa index, commodity export, Bosnia and Herzegovina, European Union*

1. Introduction

Studying and analyzing the causes of trade exchange between the countries dates back long into the past, ever since the famous work by Adam Smith in 1776 which states that countries export the products with absolute comparative advantage in their production, whereby the absolute advantage is seen as the potential to manufacture a product with the lowest labor costs when compared to another country, potential trade partner. Several decades later the issue was raised about the countries with no absolute advantage in manufacturing any product in the context of their inclusion in trade flows. The answer was offered by David Ricardo in 1817 with his theory of comparative advantage which significantly affected the theory and policy of international trade and has been current ever since. The basic principle of his theory is the difference in productivity among countries, expressed in the differences in labor cost per product unit. This was followed by the appearance of the Heckscher-Ohlin model, the basic model in the traditional theory of international trade. It revises and further develops the Ricardo model of relative comparative advantage introducing the hypothesis on the importance of factors so as to clarify the differences in cost and prices among countries as well as the causes of international trade. The most important conclusion of the Heckscher-Ohlin model is that country needs to export the products manufactured solely by using its cheap and abundant factors of production while it needs to import the products manufactured by using relatively eccentric and scarce manufacturing factors [Wang Qi, Xiang Xiao, 2007, 33]. The latest theories of foreign trade also emphasize that countries mainly specialize and become net exporters of commodities which provide comparative advantage, whereby this advantage is seen as a dynamic category.

Nowadays, in order to manufacture more quality and innovative products, new technologies are found as well as better ways to satisfy the needs of domestic markets and to increase one's share in foreign markets. By recognizing and utilizing comparative advantage, a country increases its production and export specializing in the sectors where that comparative advantage is outstanding and in such a way it becomes more competitive in foreign markets.

The theoretical background for determining commodities and fields in which a country has comparative advantage is the result of the observation of differences between autarchy and free relative prices. However, some difficulties emerged while defining autarchy prices. They were resolved through post-trade available data and the analysis of specific samples of a country by using Revealed Comparative Advantage (RCA). The main aim of the paper is to analyze the structure of commodity export from Bosnia and Herzegovina (BiH) into the European Union (EU) in the context of comparative advantage.

Porter Michael (1990) states that labor costs, interest rates, exchange rates and economy of scale are most important determinants for establishing a country's competitiveness in the world market. If the national competitiveness of BiH is observed compared to the countries in the region, it is evident that in 2017 it was placed 103rd, with the score of 3.87 while in 2016 it was placed 107th, with the score 3.78, which shows that the ranking of BiH improved by four places.

2. Literature review

Brkić S. and Balić S. (2014) studied the comparative advantage of BiH over its main EU partners in the period 2009-2012. In order to measure bilateral comparative advantage, various trade indicators were applied on the data classified by customs tariffs. The results showed that BiH has comparative advantage in a small number of product groups in its trade with all three main partners, primarily in resource based and labor intensive industries while comparative disadvantage was evident in agriculture, food industry, and technology intensive industries. In the observed period, no changes were registered in the patterns of comparative advantage in BiH trade with the selected EU partners.

Kersan-Škabić I. (1999) investigated the comparative advantage of the Croatian export to the EU as its most significant foreign trade partner. As the analysis was primarily focused on export, three methods were used for measuring comparative advantage: 1. export commodity structure which links the export of specific commodity group to the total export; 2. relative import-export ratio calculated by the comparison of import-export ration of a specific commodity group with the total import-export ratio of a country; and 3. relative foreign trade balance is calculated as the ratio of net export of a specific commodity group and the total foreign trade exchange of that particular group. The ranking of the relative import-export ratio in a descending order reveals the products (group of products) that have comparative advantage as their import-export ratio is higher than the total import-export ratio.

In the paper titled *Izvoz zemalja Zapadnog Balkana u Evropsku uniju – glavni problemi i preporuke* (The exports from the Western Balkan countries to the EU: the main problems and recommendations) Ćulahović B. (2006) explores export potential of the Western Balkan countries after these countries were approved certain autonomous trade preferences/benefits by the EU. He states that the potential is rather lower than the expected level for all the examined countries and mentions the main reasons for such a situation. In addition, the paper analyzes the share of certain industries in the total export of every individual country in the period 1997-2001, showing that labor intensive products that do not require skilled labor force are dominant as they cover some 60% of the total export.

Hailay G. B. (2014) in her study investigated the RCA of Sub-Saharan Africa (SSA) and Latin America and the Caribbean (LAC) in the export of five commodity subsectors in the period 1995-2010, by using the World Bank collection of development indicators. Despite improvements, the trade share and economic integration of SSA and LAC are rather low. LAC have a higher RCA than SSA in the export of food products but the difference in their competitiveness is not that high. The SSA region has a higher RCA in the export of agricultural raw materials, fuel, ore and metal than LAC. Both regions revealed comparative disadvantage in the export of finished products although this disadvantage is lower in LAC.

Kowalski P. (2011) showed that political and institutional segments are important determinants of comparative advantage. These segments include the accumulation of physical and human capital (particularly secondary and tertiary education), financial development, business climate, as well as a large number of labor market institutions. The results point to the fact that comparative advantage has (and will likely continue to be) been relatively more important for the north-south and south-south trade. These results emphasize the importance of a comprehensive approach to designing economic development policies, which requires the consistency between trade and other political goals.

In his paper, Brkić L. (1994) analyzed the factors affecting the competitive position of national economies. The factors rated as crucial include company's ability for innovations, availability of quality production factors such as skilled labor force and infrastructure, level of competitiveness on domestic markets, and cultural factors that require intensive usage of knowledge. In this research, the size of domestic market was not rated as a decisive factor.

Bernhofen D. and Brown J. (2004) used sudden and full opening of Japan to international trade in 1860 so as to test the empirical validity of one of the oldest and most basic postulates in economics – the comparative advantage theory. Historical evidence shows that the characteristics of Japanese economy of that time were compatible to the key assumption of the neoclassical model of trade. Using detailed data on specific products with autarchy prices and trade flows, the authors established that autarchy prices of Japanese trade were negative for each year in the period 1868-1875.

3. Research methodology

In the paper, the measurement of comparative advantage was made by the indicators of revealed comparative advantage – the RCA index. This index was formulated by B. Balassa in 1965 and it points to the ability of a country to offer export products that would be competitive to the same type of products in the world. The Balassa index was used, which is a logarithmic value of the relative import-export ratio for individual sectors or products, according to the total ratio on the level of the entire economy. It is calculated as follows:

$$RCA=\ln\left[\frac{X_i}{M_i}\right]\times\left[\frac{\sum_{i=1}^{n} X_i}{\sum_{i=1}^{n} M_i}\right]\times 100$$

Where:

RCA –revealed comparative advantage in year*t*

X_i - export of products *i* to *j* countries in year *t*

M_i - import of products *i* to *j* countries in year *t*

$\sum_{i=1}^{n} X_i$–total export of all products of *j* country in year *t*

$\sum_{i=1}^{n} M_i$–total import of all products of *j* country in year *t*

In the above formula, X stands for the value of export while M is the symbol for the value of import. Different products of BiH economy are marked by the index *i*. If the obtained RCA values for individual products are positive, it shows that the country has comparative advantage in the trade of that particular export product. If the RCA value is negative, this means that the country does not have comparative advantage in exporting the product. A higher RCA index shows higher comparative advantage of a specific product. A two-level *Standard International Trade Classification* – SITC was used with 63 groups of product, without the inclusion of the products in section 9 (*Commodities and transactions not classified elsewhere in the SITC*). The analysis covered the seven-year period from 2011 to 2017 and it included BiH import from and export to EU/28 countries.

4. Results and discussion

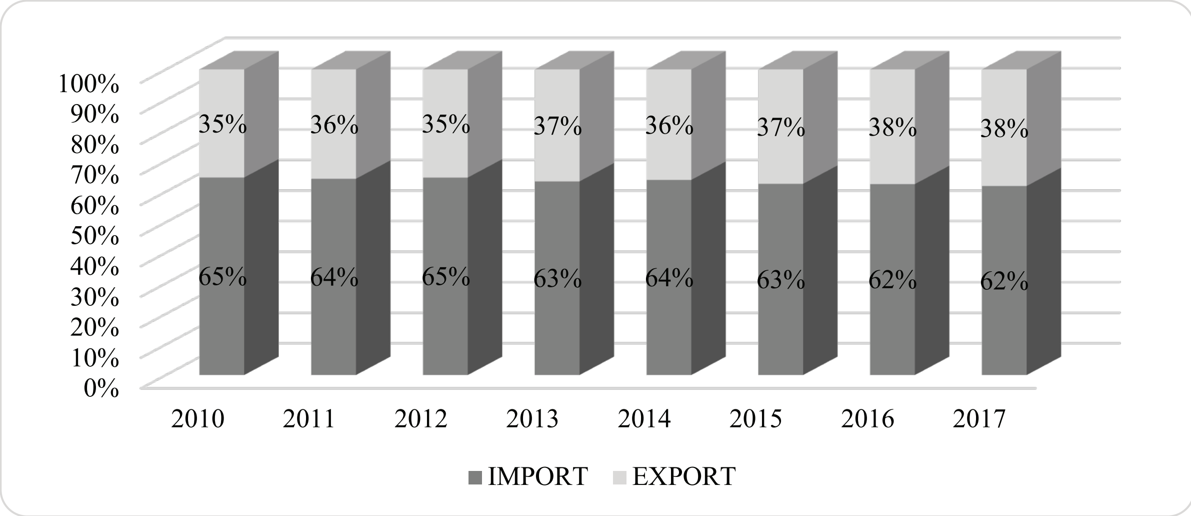
BiH foreign trade is characterized by a constant deficit in balance of trade (BOT) which in the last seven years amounted to the sum of over KM 6 billion or over 54%. This actually means that in 2017 one BAM of imported goods was covered by BAM 0.70 of exported goods. This disproportion comes as the result of the difference in marginal measures – export and import growth rate in the observed period. The very framework of production and trade applied in transition countries after the liberalization process was partly influenced by prices and the availability of production inputs while it is also largely influenced by economy of scale and historical background [Škuflić, Vlahinić-Dizdarević, 2004, 727].

Table 1: *BiH export and import in the period 2010-2017*

Year	IMPORT Value (BAM)	EXPORT Value (BAM)	VOLUME	BALANCE	Export/Import
2010	13,329,449,515	7,293,816,190	20,623,265,705	-6,035,633,325	54.72%
2011	15,125,998,276	8,430,404,889	23,556,403,164	-6,695,593,387	55.73%
2012	14,938,376,905	8,184,491,320	23,122,868,224	-6,753,885,585	54.79%
2013	14,854,121,775	8,596,234,684	23,450,356,459	-6,257,887,091	57.87%
2014	15,789,140,137	8,939,844,544	24,728,984,682	-6,849,295,593	56.62%
2015	15,401,936,848	9,215,982,867	24,617,919,715	-6,185,953,981	59.84%
2016	16,261,247,925	9,769,023,197	26,030,271,123	-6,492,224,728	60.08%
2017	18,447,340,042	11,384,774,382	29,832,114,424	-7,062,565,660	61.71%
TOTAL	**124,147,611,423**	**71,814,572,073**	**195,962,183,496**	**-52,333,039,350**	**57.67%**

Adapted from:
http://komorabih.ba/wp-content/uploads/2013/05/pregled_uvoza_izvoza_BiH_2010_2016.pdf, April 2018.; and http://komorabih.ba/vanjskotrgovinska-razmjena/?drzava=Bosna+i+Hercegovina&godina1=2016&po_drzavi=PRIKAŽI, April 2018.

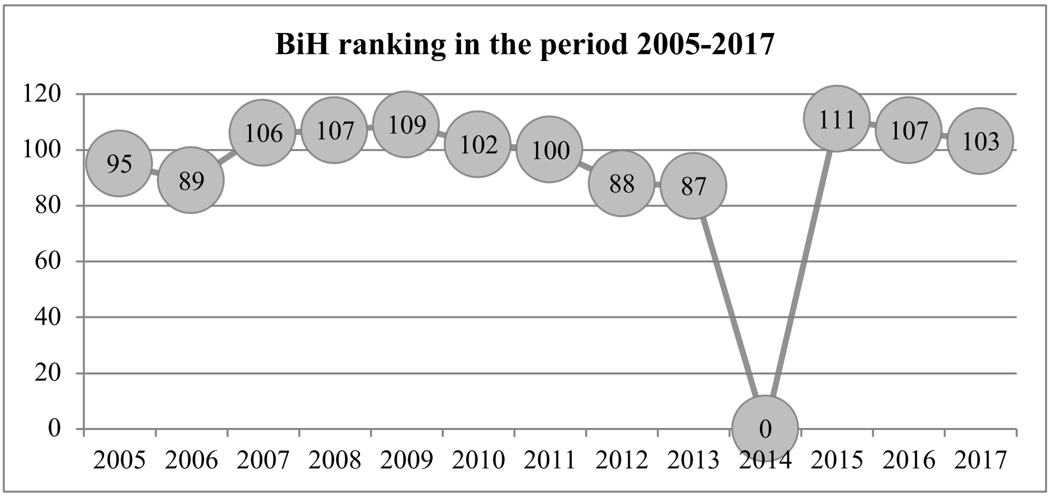
Graph 1: *Percentage of BiH import and export in the period 2010-2017*



Adapted from:
http://komorabih.ba/vanjskotrgovinska-
razmjena/?drzava=Bosna+i+Hercegovina&godina1=2016&po_drzavi=PRIKAŽI, April 2018.

Practice has showed that increased export is influenced by productivity and cost-effectiveness in production, choice of market and product quality, offer that includes a set of products in demand, price competitiveness, delivery dynamics and continuity, health safety of certified products, agro-economic policy and business profitability [Ignjatijević, Babović, Đorđević, 2012, 1785]. In the observed period, BOT in BiH was constantly negative and the deficit was always over BAM 6 bilion. The negative balance weakens the competitiveness of BiH, which has been ranked the worst of all region countries. Bearing in mind that BiH is a small economy with rather liberalized trade conditions, orientation towards using comparative advantage and consequently towards increasing export competitiveness as well as reducing negative foreign trade balance becomes an imperative for BiH.

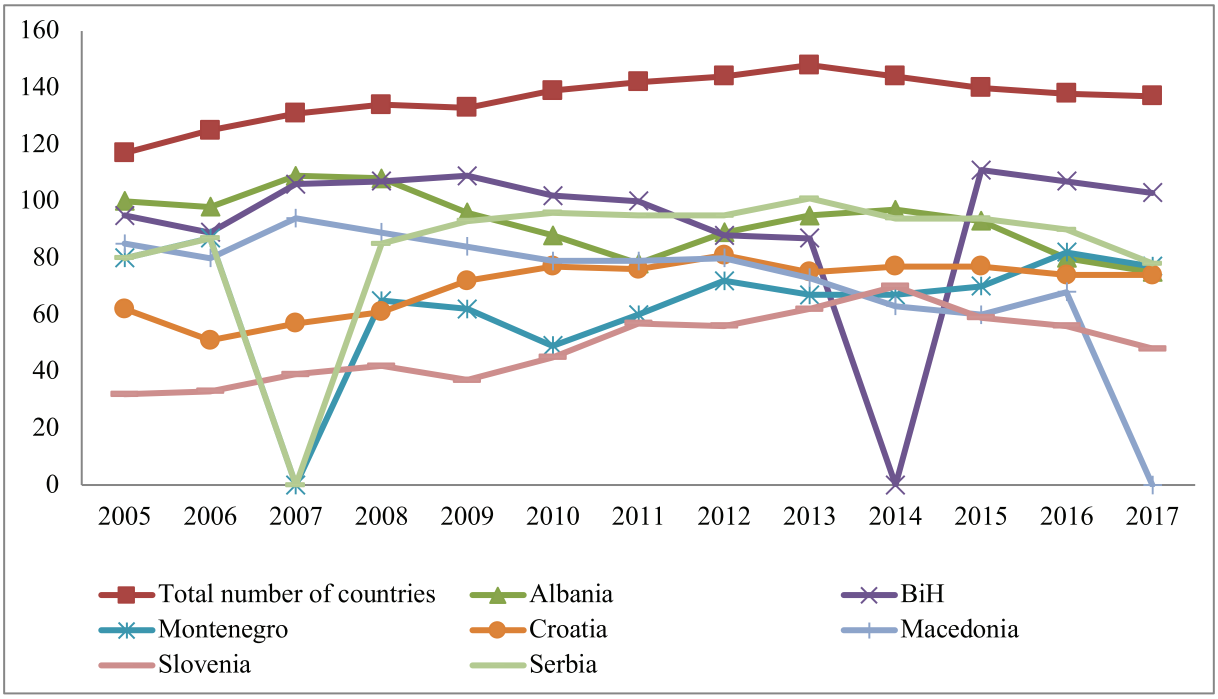
Graph 2: *BiH competitiveness ranking*



Source: Adapted from Federal Institute for Development Programming, Competitiveness 2016-2017 Bosnia and Herzegovina, November 2017, p. 20.

Compared to 2015, when BiH was placed 111th, in 2016 its competitiveness ranking slightly improved as it was placed 107th out of 138 countries, while in 2017 it was ranked 103rd out of 137 countries. This indicates that BiH ranking improves year after year, but the improvement is rather small. When compared to other region countries in the last three years, BiH had the lowest competitiveness ranking. Before that, Albania occasionally had a lower ranking while Serbia was ranked lower in the two observed years.

***Graph 3:** Competitiveness ranking of BiH and the region countries*



Source: Authors based on the data by the Federal Institute for Development Programming, Competitiveness 2016-2017 Bosnia and Herzegovina, November 2017, p. 20

According to the data announced by the Federal Institute for Development Programming, in 2016 BiH made progress in respect to 2015. The biggest advancement was registered in the field of macroeconomic environment, development of financial market, business sophistication, infrastructure, higher education, labor market efficiency and technological competence. The field that did not change in respect to 2015 is commodity market efficiency while the most significant drop was registered in the field of innovativeness (mainly due to low rating of state procurement of advanced technology products) and the field of healthcare and elementary education [Federal Institute for Development Programming, 2017, 24].

In 2017, BiH made slight progress when compared to its Competitiveness 2016-2017. The highest advancement was registered in the field of macroeconomic environment (from place 76 to 64), technological competence (from 76 to 69) and infrastructure (from 105 to 100). Even though some progress was made, it eventually did not lead towards a significant change of the final evaluation as other pillars such as healthcare and elementary education dropped by six places and development of financial market, which registered a positive trend, faced a setback. One additional reason for a slight change in the ranking is also the fact that other countries made faster improvements than BiH.

By using a two-level *Standard International Trade Classification* – SITC, we established the sections of products with the highest share in BiH import and export. Table 2 shows the sections which contributed most to the total BiH export into the EU countries in the period 2011-2017.

Table 2: *BiH export to EU/28 countries, 2011-2017*

	2011	2012	2013	2014	2015	2016	2017
0 Food and live animals	3.80%	3.70%	3.28%	2.69%	2.80%	2.97%	3.05%
1 Beverages and tobacco	0.64%	0.63%	0.56%	0.48%	0.42%	0.50%	0.61%
2 Crude materials, inedible, except fuels	12.65%	12.08%	11.47%	11.73%	10.91%	10.12%	8.65%
3 Mineral fuels, lubricants and related materials	4.79%	4.95%	7.07%	5.30%	5.89%	6.26%	7.32%
4 Animal and vegetable oils and fats	0.91%	1.11%	0.87%	0.42%	0.25%	0.14%	0.16%
5 Chemicals	5.25%	5.37%	5.54%	6.43%	6.57%	6.81%	7.11%
6 Manufactured goods classified chiefly by material	27.94%	27.29%	25.13%	22.89%	22.93%	22.46%	23.68%
7 Machinery and transport equipment	15.91%	16.64%	16.57%	17.88%	17.90%	17.77%	17.60%
8 Miscellaneous manufactured articles	28.10%	28.23%	29.50%	32.17%	32.34%	32.97%	31.83%

Source: Authors' calculation

Table 3 shows the categories of products with the highest share in BiH import from EU/28 countries.

Table 3: *BiH import from EU/28, 2011-2017*

	2011	2012	2013	2014	2015	2016	2017
0 Food and live animals	11.62%	12.18%	12.10%	11.73%	12.21%	11.67%	11.00%
1 Beverages and tobacco	2.85%	2.83%	2.67%	2.46%	2.47%	2.15%	1.97%
2 Crude materials, inedible, except fuels	3.88%	3.75%	3.52%	3.04%	2.82%	2.76%	2.49%
3 Mineral fuels, lubricants and related materials	13.00%	14.26%	12.20%	10.77%	8.60%	7.61%	11.00%
4 Animal and vegetable oils and fats	0.88%	0.88%	0.92%	0.80%	0.66%	0.53%	0.52%
5 Chemicals	13.46%	14.03%	14.17%	14.27%	14.82%	14.82%	13.90%
6 Manufactured goods classified chiefly by material	22.56%	21.66%	23.03%	23.98%	25.61%	26.15%	26.00%
7 Machinery and transport equipment	22.73%	21.33%	21.69%	23.07%	23.18%	24.33%	24.05%
8 Miscellaneous manufactured articles	9.01%	9.08%	9.69%	9.89%	9.62%	9.97%	9.07%

Source: Authors' calculation

The analysis of the products exported from BiH in the period 2011-2017, revealed comparative advantage for 20 groups of products (see Table 4): hides, skins and fur skins, raw; crude fertilizers; metalliferous ores and metal scrap; coal, coke and briquettes; electric current; animal and vegetable fats and oils; inorganic chemicals; cork and wood manufactures; iron and steel; non-ferrous metals; manufactures of metals; power generating machinery and equipment;

general industrial machinery and equipment; other transport equipment; prefabricated buildings; furniture and parts thereof; articles of apparel and clothing accessories; footwear; and miscellaneous manufactured articles. The results also showed the link between the RCA value and the share of export for these groups of products in the total export. This actually means that the groups of products with significant comparative advantage are generally the largest export sectors of BiH. The groups of products with comparative advantage have a 68% share in the total export in the observed period from 2011 to 2017.

Table 4: *Comparative advantage of BiH in relation to EU/28 by product divisions, 2011-2017*

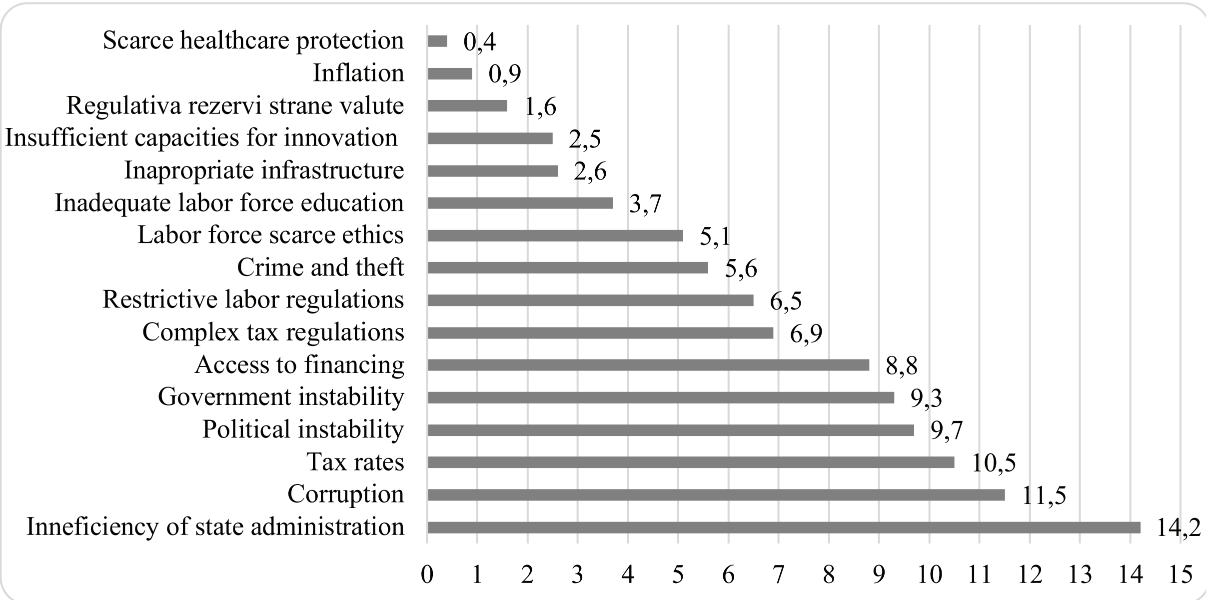
		2011	2012	2013	2014	2015	2016	2017
21	Hides, skins and fur skins, raw	22	23	28	46	68	89	-135
24	Cork and wood	140	147	165	156	147	138	140
27	Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones)	39	36	46	18	43	41	36
28	Metalliferous ores and metal scrap	64	68	59	75	76	79	75
32	Coal, coke and briquettes	-65	-124	-36	28	-28	-58	-202
35	Electric current	50	-34	52	13	71	98	7
43	Animal and vegetable fats and oils, processed; waxes of animal or vegetable origin; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.	-64	-70	-120	-107	-58	22	50
52	Inorganic chemicals	92	109	124	117	109	136	124
63	Cork and wood manufactures (excluding furniture)	5	13	19	15	19	29	29
67	Iron and steel	-11	7	-9	-21	-34	-55	-57
68	Non-ferrous metals	85	68	82	58	46	54	40
69	Manufactures of metals, n.e.s.	4	-1	-2	-5	-2	4	9
71	Power-generating machinery and equipment	-11	-19	10	7	4	13	-13
74	General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.	12	-1	4	-1	0	-7	-7
79	Other transport equipment	-226	-1	-38	-22	38	17	48
81	Prefabricated buildings; sanitary plumbing, heating and lighting fixtures and fittings, n.e.s.	-4	4	8	13	31	23	48
82	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	136	131	158	140	151	150	155
84	Articles of apparel and clothing accessories	36	24	32	45	62	60	69
85	Footwear	57	56	60	65	67	77	79
89	Miscellaneous manufactured articles, n.e.s.	-37	-22	-17	-12	-3	7	13

Source: Authors' calculation based on the SITC data (https://comtrade.un.org/data, March 2018.)

Literature on international trade and policy offers a range of reasons why a country can have advantage in exporting its commodities to other country. Some of these reasons include [Dev Gupta Satya, January 2015, p. 10]: (1) technological superiority, (2) resources, (3) demand scheme, and (4) commercial policies. The results indicate that BiH's comparative advantage has been reached primarily in primary goods and some industrial products (capital and labor intensive products that do not demand high skill levels), which is in accordance with the level of economic development, availability of natural resources, and the price of basic production factors, primarily labor. Such export structure of products is not a viable long term solution due to fluctuation in prices of primary products, over usage of natural resources and the climate change as comparative advantage based on such products may be easily lost. What is also evident is that our country, which up to recent times exported country to most neighboring countries, has become a large importer, which is why millions are spent nowadays on importing electric current.

Graph 4 presents the basic factors obstructing business in BiH that make our country less efficient that it would be provided that these factors are fully removed or reduced to a reasonable level.

Graph 4: *Factors obstructing business in BiH (in percentage)*



Source: Authors' calculation based on the data by the Federal Institute for Development Programming, *Competitiveness 2017-2018 Bosnia and Herzegovina*, Bosnia and Herzegovina Federation, November 2017, p. 16

The main problems in BiH resulting in limited export of certain product groups can be linked to inefficient state administration, corruption, tax rates, political and other types of instability, tax regulations, etc. As BiH is a small open economy, importance of foreign trade policy must remain in focus as it can significantly influence the improvement of trade conditions and reduction of foreign trade deficit.

5. Recommendations and suggestions

BiH is one of small open economies with a significant level of market liberalization. The best way for the country to include in world trade flows and international labor division is to specialize in manufacturing the products with significant comparative advantage. This is also the way to improve country's competitiveness foreign markets. BiH has the potentials for manufacturing and processing many products, primarily by using the available resources as well as building up new capacities. By improving management and marketing in business practice, the country can increase its competitiveness of the existing products and the placement of new products in foreign markets. Low production costs of BiH export products along with cheap labor and numerous workers are the main reasons for increasing international exchange of BiH.

Based on the research results, comparative advantage in export to the EU was registered in the group of primary and few industrial products of low technology, which is consistent with the level of economic, technological, and innovative development. Past structure of export products, based on primary and few industrial products is not satisfactory and cannot be a long term solution. The results indicate that compared to the previous period, there was no significant improvement in using export potentials and increasing export or in the change of export product structure. The structure of BiH's export capacities is way behind its competitors. That is why in the future period more intensive effort should be invested in creating the conditions necessary to include the products with potential advantage in export and to harmonize supply with the EU demand. In addition, some of the main obstacles should be removed, which hamper business practice in BiH so as to provide lower labor costs for employers and higher productivity and consequently the assumptions for increasing the competitiveness of BiH economy.

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THE SIGNIFICANCE OF ENERGY POVERTY FOR THE FUTURE DEVELOPMENT OF CROATIAN ECONOMY

ABSTRACT

Energy poverty in developed countries is a consequence of the abolition of government intervention in energy prices as well as high energy prices. The aim of this paper is to research quality of measures to combat energy poverty. The implemented methodology included an analysis of measures to combat energy poverty in European countries and analysis and quality of Croatian measures to combat energy poverty. The combat energy poverty can only be carried out with high quality measures while bad measures send the wrong image to customers. While access to energy is one of the ways to combat poverty, high energy price affects a lot of people who cannot pay for it. Furthermore, incentive measures aimed at developing renewable energy sources and energy efficiency requirements increase the energy price. High-income households can invest in renewable energy sources and energy efficiency, but low-income households cannot replace the appliances with high energy consumption with those that have lower consumption. Hence, their energy consumption (that is higher than the average) has a significant impact on their economic status and social inclusion. The first research on poverty in the Republic of Croatia was carried out by the World Bank and the Croatian Central Bureau of Statistics in 1998, when 4% very poor households were detected. Newer research resulted with a higher percentage of those who are not able to ensure adequate heating in the coldest months. The results of this research point out that Croatia does not have good measures to combat energy poverty because the measures included a significantly smaller number of households with extremely large funds.

Key words: *energy poverty, renewable energy sources, energy efficiency, development*

1. Introduction

Energy access is the basis of the fight against poverty. In the last 25 years, almost 2 billion people have got access to electricity and 1 billion people have come out of poverty. In 2010, 1.2 billion people did not have access to electricity, and in 2017 this number dropped to less than 1 billion people. In the period from 2013 to 2015, the number of extremely poor dropped from 11% to 10%. Due to the expansion of energy infrastructure and economic growth, there was a rise in energy demand. The result is higher energy prices and increased dependence on energy imports. Higher requirements for the preservation of the planet result in requirements for reducing carbon emissions. Therefore, developed countries aim to increase production from

renewable energy sources as well as increase energy efficiency. Such objectives are achieved through subsidies financed from the cost of consumed energy. Higher energy consumption, loaded with various fees and fiscal levies, raises the energy price of end-users, which, together with the abolition of covert energy subsidies, increases the number of those who cannot afford energy.Furthermore, residential buildings built twenty years ago have been built without good isolation, which causes large amounts of facility consumption. Many of them do not even have ways to measure energy (more than 50,000 households in Croatia do not even have allocators for reallocation consumption), so energy consumption is 50% above what is really needed. Therefore, a great number of households in Croatia may be at risk of energy poverty.
Households can use different types of energy sources and each has its own advantages and disadvantages. Some energy forms are cheaper, some more expensive. Some are simpler to use, others require more effort and offer less comfort. Some are more harmful to health, others are less harmful. According to the World Health Organization, 2 million deaths per year are caused by open indoor smoke from traditional inefficient wood stoves. The risk factor in such type of heating exceeds risk factors caused by poor water and sanitary conditions.The risk factoris also greater than for contracting malaria, tuberculosis, or HIV. Except for health, recent research suggests that poverty impedes cognitive function, so the cause of poverty may also be in poverty itself. Furthermore, financial worries can cause the IQ to drop by up to 13 points, which is equivalent to a drop in intellectual abilities after a sleepless night or in those suffering from chronic alcoholism, which is why the poor may make bad decisions that further aggravate their financial problems.

The term fuel poverty means inability of a household to afford heating and is far wider than the term energy poverty, which implies the inability to settle the costs of natural gas and electricity. Directives 2009/72/EC and 2009/73/EC of the European Parliament and of the Council have stipulated that Member States should make action plans or other appropriate frameworks for the prevention of energy poverty in their countries, with an aim to reduce the number of affected people. Many Member States have adopted measures to combat energy poverty. Setting clear criteria is very important, because too many of the collected funds can burden consumers with new levies that can increase a number of the energy-poor households.

According to Thomson et al. (2017), statistical indicators of energy poverty are an important and necessary part of research and policy landscape. Also, there is no data on energy consumption and energy efficiency andresearchers are mainly reliant on consensual data concerning the consequences of energy poverty, such as arrears on utility bills and the presence of damp in the home.

According to Zametica et al. (2011), pensioners, disabled individuals and young children are a particularly sensitive group because they stay at home for longer periods of time and are more susceptible to disease. Therefore the mitigation of energy poverty requires targeted measures that address its causes.

It should also be emphasised that energy poverty is not the same as poverty in general, since the two are closely related. The concept of energy poverty is related to the inability to pay for energy due to the rising energy prices, while poverty is related to the general situation of the household. Regarding energy poverty, it should be seen whether countries have identified an energy cart (the minimum amount of energy needed for one household) and the sensitivity to changes in energy prices, as according to Bačeković, 2017, reduction of energy poverty can have a positive impact on health, the environment, and economic growth.

2. Energy poverty in the EU

According to Eurostat, in 2016, over 117 million people in the EU lived in households at risk of poverty or social exclusion, while 7.5% of people in the EU were severely materially deprived, which means they were unable to pay their bills, appropriately heat their homes or go on holiday for one week. The number of energy-poor households is estimated to be different and there is no common understanding of energy poverty throughout the EU: most countries do not make a clear distinction between energy-poor households and poor households. For example, France and Germany have different approaches to solving energy poverty. France has developed a broader set of measures to combat energy poverty than Germany, but has maintained strong control over the electricity and natural gas sectors and could apply social tariffs, while strong social support for poor households in Germany could result in ignoring new measures. In Germany, the approach is bottom-up, while in France the government has strong intervention powers.

According to Dr. Harriet Thomson's research, three key indicators were used to determine energy poverty:

- Ability to afford to keep your home warm.
- Runny roof, moisture, and/or deterioration of the house.
- Difficulty in paying utility bills in the last 12 months.

When looking at all three criteria, Greece, Bulgaria, Cyprus, Lithuania, and Portugal have high risk rates in all three indicators, while Luxembourg, the Czech Republic, and Finland have low risk rates in all three cases.

Thomson divided the countries at risk of energy poverty into two groups:

- Mediterranean countries, including Malta, Spain, Italy, Greece, Portugal, and Cyprus. In these countries increased risk cause high levels of energy imports, increased electricity consumption for cooling, low energy efficiencyof buildings,
- Central and Eastern Europe, including Poland, Hungary, Slovenia, Bulgaria, and Romania. The reasons for the risks are a rapid transition to the market economy, which has led to large income inequalities, poor quality of the housing stock, and the liberalization of the energy market, which led to the removal of subsidies.

According to the 2016 questionnaire, all member states except Finland, Malta, Norway, Sweden, and the Netherlands are affected by energy poverty. The number of energy-poor households is alarming in some countries. Lithuania estimates that around 20% of the population live in energy poverty, while Croatia estimates that around 30% of its population live in energy poverty, which causes important implications of a social nature, such as children who are struggling to write the homework in a cold home. If we take into account that 30% of children are struggling with having to do their homework in cold rooms, we must ask: what kind of workforce will we have in the future?

Energy-poor households in the United Kingdom as well as in Ireland were those who spent more than 10% of total revenues for energy. In 2013, England revised the criteria and adopted a "new low income high cost“ (LIHC) indicator that states that households in energy poverty are those with:

- income below the poverty line (taking into account energy costs),
- energy costs that higher than what is typical for their type of household.

According to this criteria, in 2016 the number of energy-poor households poverty in England was estimated at 2.55 million, which is approximately 11.1% of all English households, and research has shown that:

- 21.5% of all households with the lowest energy ratings (E, F or G) are fuel poor – they make up 39.7% of all fuel-poor households. This is compared to only 2.7% of households with the highest energy ratings (A, B or C) – they make up just 7.2% of all fuel-poor households.
- 19.4% of households in the private rented sector are fuel poor – they make up 35.4% of all fuel-poor households. Among social tenants 13.8% of households are fuel poor, while 7.7% of owner occupiers are fuel poor.
- 82.1% of all fuel-poor households are considered vulnerable, meaning they contain children, the elderly, or someone with a long-term illness or disability.
- The family types with the highest rates of fuel poverty are: single parents (26.4%); multi-person households (15.2%); and couples with dependent children (14.7%).
- Only 30.1% of all fuel-poor households are eligible for the government’s leading fuel poverty programme ECO Affordable Warmth (ECO-AW), while only 30.2% of all ECO-AW eligible households are fuel poor (as of 2016).

Basic data related to energy poverty in the UK are shown in Table 1.

***Table 1:** Number of households in fuel poverty in the UK.*

Country	Year	Number	Persentage
Wales	2016	291,000	23
Scotland	2017	613,000	24,9
Northern Ireland	2016	160,000	22
England	2016	2,550,000	11,1

Scotland and Wales have their own way of defining and combating energy poverty.
It is estimated that in the UK there are about 4 million fuel-poor households which is about 16% of the total number of households.

Dr. Lucie Middlemiss from the University of Leeds criticized the new definition of fuel poverty in England, claiming that the new criteria (LIHC), compared to the criterion of 10% of total revenues, halved the number of fuel-poor households and that the new criterion delayed the eradication of energy poverty, which had been planned by 2016.Dr. Middlemiss indicatedthree reasons as problematic:

- The households are seen to be fuel-poor only if they have an energy inefficient building, or if they were spending too much, but this ignores households that have effective buildings but cannot afford energy services.
- Focusing on the most vulnerable means that fuel poverty cannot be eradicated.
- Ignoring the impact of the market (the poor usually have pre-paid meters or often can not change supplier because of debt).

In Italy, the problem of energy poverty is not yet fully defined, although prices of electricity and natural gas are higher than the average prices in the euro zone. The number of people in absolute poverty in Italy has risen from 1.7 million in 2007 to 4.5 million in 2015, which may be an indicator of energy poverty. In 2013, 1.8 million households received notification of disconnection of electricity. Electricity and heating costs from 2014 to 2016 were relatively stable and amounted to about 4.5% of monthly income.
According to studies conducted by the Bank of Italy (energy consumption above the threshold, total expenditure below the relative poverty threshold, zero heating costs for households with total expenditure below average), in Italy is 8% of the total population, or 2.1 million households, lives in energy poverty. According to the AEEGSI 2017 Annual Report in 2016, 680,407 households received compensation for energy poverty in the amount of 80-150 euros for electricity and 448,707 households in the amount of 30-260 euros for natural gas. In the period from 2014 to 2016, at least once a year, about 2.7 million households received compensation for electricity and 1.54 million households for natural gas.

France defined fuel poverty in 2009. According to this definition, a person is considered fuel poor if he/she encounters particular difficulties in his/her accommodation in terms of energy supply related to the satisfaction of elementary needs, due to the inadequacy of financial resources or housing conditions. In Slovakia, energy poverty was defined in 2015,and according to this definition, a household is energetically poorwhen average monthly expenditures on consumption of electricity, gas, heating and hot water production represent a substantial share of its average monthly income. Ireland has defined energy poverty in 2016, and an Irish household is considered energy poor when it spends more than 10% of income on energy. In Cyprus, under the energy poverty definition introduced in 2012, it is considered the customers that can be in a difficult position if their low income (as indicated by their tax statements in conjunction with their professional status, marital status and specific health conditions) makes them unable to respond to the costs for reasonable needs for electricity supply, as these costs represent a significant proportion of their disposable income.

3. Energy poverty in Croatia

According to a preliminary study for energy poverty for the Eastern and Adriatic regions of Croatia,"the average household in Eastern Croatia would belong to the category of energy-poor household (provided that there is one employed person per householdwith an average annualincome), but this is not the case with a comparable average household in the Adriatic region" (Pudić et al., 2014). The criterion that energy-poor households are those which consume at least 10% of their disposable incomes to cover the costs of energy was implementedin the aforementioned study.

In Croatia, end-consumers from the household category who meet the conditions of poverty have the right to a social minimum of energy consumption determined by the conditions of supply in the flat / house they live in, the number of family members, the health status of family members, and the economic status of the family. The Energy Ministry, in cooperation with the Social Welfare Ministry, proposes to the government the establishment of criteria for obtaining the status of vulnerable customer, determined by regulation. According to the Energy Law (NN 120/2012), the competent body responsible for social welfare in the administrative procedure determines the status of the vulnerable customer by individual act and determines the level of social support for the endangered customer, for examplethe type and scope of the rights that belong to it in respect of the established status, participation in the payment of the minimum social cost of energy consumption, and others. The law itself established that the status of the vulnerable customer could be a household in which the persons who have been identified by the competent body for social welfare as having endangered social status or in which the persons with disabilities, special needs or damaged health status live, which uses a universal service and / or mandatory public service for gas supply and / or for heat supply tariff customers.It is clear from the law that the concept of vulnerability refers to gas and thermal energy, but only the better connoisseurs of Croatian energy terms will know that universal service is also related to electricity and that it is a very broad term because "damaged health status" is not strictly defined. The law does not therefore include households that are heated by wood, oil, or propane butane gas.On the other hand, the social welfare authority is obliged to plan and provide funds for the payment of the delivered electricity to the vulnerable customeror to pay the electricity to the universal service supplier, in case the vulnerable buyer does not pay the electricity supplierfor the service.In September 2015, the government adopted the Regulation on the criteria for acquisition the status of an vulnerable energy customer from networked systems and a way of raising funds to help through social support to reduce energypoverty endangered customers.

The solidarity fee is part of the electricity price paid by all electricity users to the supplier. The amount of energy poverty compensation is 0.03 HRK/kWh (0,004 €/kWh) and the supplierspay it into the state budget. Since the average household consumes 3,000 kWh, the expenditure of each household for energy poverty amounts to HRK 90 per year(12€), or for those who use electricity for heating this amount exceeds HRK 200 per year (25€) (predominantly in the Adriatic region).

The Regulation predicts that the endangered buyer has the right to choose their supplier.The endangered customer status may be applied to those end-buyers who:

- are beneficiaries of the guaranteed minimum fee,
- are belong to a household with a beneficiary of the minimum fee,
- have a personal disability,
- live in a household with a person with disabilities.

Under the Regulation on the monthly fee for the vulnerable energy customer on how to participate in paying the energy costs and actions of competent social welfare centers, based on the established status of a vulnerable customer, the user has the right to receive a monthly fee for electricity costs of up to 200 HRK (25€). The average household with costs of 3,000 HRK/year (400€) will receive a fee, which will cover up to 80% of their annual electricity costs. In such cases we cannot talk about energy poverty, but about general poverty. Another indicator of bad criteria and planning is that out of 15 million HRK (2 million €) collected per month for energy poverty, about 10.5 million HRK (1,5 million €) is spent on helping vulnerable customers.The conclusion of the competent social welfare body is that it has enough resources to broaden the criteria for acquisition of the status of vulnerable customer.On average, in the observed period (October 2015-March 2016), the number of vulnerable households was 55,000.

The Regulation has not predicted a solidarity fee for consumers of gas and heat, although heating costs are higher than electricity costs (therefore, customers have more difficulty paying their heating costs). An average consumerspends 15,000 kWh per year of heating energy and 3,000 kWh per year of electricity. Hence, it is important to come up with the criteria for energy poverty for natural gas and heat energy.

It is also necessary to provide compensation to assist vulnerable customers as well as to collect a fee by suppliers of all natural gas consumers. Since there are no criteria or fees for vulnerable customers, the price of gas for public service is below market (in one moment almost 20% below market). At the same time, the supplier in the public service obligation has losses in providing that service, while all gas consumershave subsidies on their expenses. This measure lead to energy efficiency. Large fluctuations in gas prices in the wholesale market, which in the heating season 2018/2019 ranged from17 to 30 Euros/MWh, are another reason why it is especially important to take urgent measures to mitigate energy poverty because they have a significant impact on household costs.

Although energy poverty for heating is not solved in the case of natural gas heating, it is solved in wood heating through the Social Welfare Act (NN157/13).A single person or household heated with firewoodhas the right to receive 3m³ of wood or equal amount of money, and it is determined by the unit of local government or the City of Zagreb. According to the decision on minimum financial standards, criteria and metrics for financing the material and financial expenditures of social welfare centers and the costs of firewood for wood-burning users in 2018 this amount is 950 HRK (126€) per user (NN 7/2018). The number of households that are heated by wood in Croatia is the largest, and amounts to 41% of all households (according to a survey conducted in 2014).

4. Conclusion

The research results of the energy poverty for the future development of the Croatian economy show that Croatia has partially solved the problem of energy poverty in the power sector.

From the analysis of the funds collected and used to mitigate energy poverty, it can be seen that a small number of households use energy poverty compensation (below 4% of the total number of households in Croatia). At the same time, only 2/3 of the funds collected are spent. Funds raised annually amount to more than 50 million HRK (6,6 million €). Energy poverty for wood-heating consumers is solved through the Social Welfare Act in a way that they can get compensation in the amount of 950 HRK (126€) or 3m³ of wood per year. Energy poverty for vulnerable customers that use natural gas and hot water for heating home is not yet solved.There are no criteria or fees, and full gas market liberalization without it will not be possible because it will affect a significant number of gas consumers. Suppliers in the public service obligation will continue to report losses on the differences in price. Nowadays, low gas prices subsidize more than 80% of those gas consumers who do not need a subsidy at all. Actually, all taxpayers fund that, even those who use wood or fuel oil for heating.

This research indicates that measures aimed at combating energy poverty in the Croatian electricity sector should be implemented to many more households, but with a lower amount of funds per household.

Future research should be focused on defining new criteria to expand the number of households that need help at combat energy poverty, as well as oriented towards the socioeconomic situation in households that suffer from energy poverty and a negative impact of such situations translated into serious health problems and social isolation.

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INTERCONNECTION OF THE STRUCTURE AND VOLUME OF MIGRATION FROM CROATIA WITH ECONOMIC DEVELOPMENT

ABSTRACT

The paper presents the volume and characteristics of the newer wave of emigration from Croatia in the period from EU accession, 2013 to 2017, with the causes and consequences of demographic and economic development in the country.

Data on volume, dynamics and directions of foreign migration and the total migration flows are estimated using different databases, primarily national statistical offices of the EU member states which are the main recipients of Croatian emigrants. Based on this, a relatively high share of the Slavonian counties is estimated in the total number of emigrated persons.

It is estimated that about 345 thousand inhabitants left Croatia, mostly to developed countries of Europe, in this short period, where emigration coefficient is 2.3 times higher on the basis of data from foreign national statistics than by the Croatian national statistics. Even though immigration reduced the demographic losses of emigration and replaced nearly half of the total number of emigrated, the net migration balance was negative, total around 190 thousand population in their most productive age with multiple negative demographic, economic and social consequences.

The paper also gives the main structural features of emigrants with already obvious unfavourable effects on the labour market, especially in labour intensive activities, and concludes with the urgent need to mitigate push and pull factors of contemporary migration flows and tries to stop the emigration of the workforce, attracting the returnees, but also quality foreign labour force. Moreover, the current exclusive orientation to the measures of pronatality and family policy, cannot compensate for such losses from emigration.

Key words*: migration, emigration, immigration, structural characteristics of emigrants, economy, labour market, Republic of Croatia.*

1. Introduction

Over the past decade Croatia was one of top five European Union countries in terms of population decline. Further to the relevant demographic indicators, the population of Croatia is experiencing a negative natural population growth (natural depopulation), declining fertility, negative migration balance, accelerated ageing process, and overall depopulation. Such movements are the result of long-term demographic trends, especially intensified in the last decade.

One of the many long-term demographic factors, which is visibly related to economic and political factors and has varying intensity in different periods, was the migration, i.e., emigration of the population as a negative element of the overall population change. A prominent Croatian demographer, in his examination of two hundred years of demographic development in Croatia, concludes: “There are very few areas and countries in the world that experienced such a significant loss in population as the result of unfavourable migration flows.”[1]

In the more recent period, migrations from Croatia, especially as of Croatia’s admission to the EU, which was accompanied by very intensive increases in the emigration flow, once again have a dominant effect on total depopulation, causing already visible short-term and long-term negative demographic consequences and problems in the labour market, which is expected in other important state systems for a longer period of time.

Migration is a complex demographic, and social and economic phenomenon. As a significant component of the overall movement of the population, migrations have great impact on: the total number of inhabitants and their physical distribution, the elements of natural movement and the composition of the population (demographic, economic, social, educational, cultural and other).[2]

The impact on demographic processes depends on the quantitative and qualitative characteristics of the emigration contingent.

Millions of migrants moved towards the countries of the EU over the past five years, both continental, between individual countries within the EU, and intercontinental.

Croatian emigrants in this mass of migrants moved voluntarily, in search of better economic circumstances. This was something to be expected in view of the freedom of movement of goods, services, capital, and employment in the European Union as an additional stimulus for migration from less developed countries to more developed ones. Migration is a “rational response to interregional differences in the level of economic development, which include differences in employment opportunities, salary, better living and working conditions”[3].

There are relatively few papers in Croatia which give data on volume and structure of emigrants in a recent migration wave, according to the data on the population from immigrant countries, and together with the immigratory flows, give total balance of migration. Finally, besides the non-economic factors, it is important to emphasize the economic drivers of emigration in the country, as well as the economic consequences of this negative emigration process.

The purpose of the paper is to consider the magnitude and dynamics of the recent migration wave, its main causes and consequences, in order to contribute to the formation of an adequate migration policy through changes in economic development policy, associated with measures to stop emigration of younger and more educated workforce from the country as one of the fundamental factors of every smart economic and social development.

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[1] J. Gelo, *Demografske promjene u Hrvatskoj od 1780. do 1981.g*, Globus, Zagreb, 1987, p.198
[2] A.Wertheimer-Baletić, *Stanovništvo i razvoj*, Mate, Zagreb 1999, p.280
[3] A. Wertheimer-Baletić,.*Stanovništvo i razvoj*, Mate, Zagreb 1999, p.282

2. Methodological Remarks

Researchers in many countries have difficulties with the quality of statistical data on migration. In Croatia, this poses a special problem, because there is no population register, and such a register ought to be the most precise source of data on migration. The Croatian Bureau of Statistics publishes data on external migrations based on police records, but their data on emigrants are not completely reliable, because departure abroad does not entail the obligation to de-register one's permanent residence before departure.

Records on emigrants in external migrations are actually a significant problem all over the world, although there is great interest of the profession and politics in this form of physical mobility. In a situation where people in modern states today move freely, any adult may choose to travel outside his or her home state without registering the departure. In Croatia, only a minority registers before moving out, although "temporary" departure, whether of shorter or longer duration, often turns into a permanent or lifelong one.

In view of the absence of reliable, administrative data on migration, at least in Croatia, researchers use assessments based on various sources in the case of quantifying migration flows, primarily in terms of the number of emigrants for the years between two censuses. After the results of the census are obtained, on expiration of the ten-year period, in the absence of exact data on the number of emigrants and immigrants, demographers calculate the migration balance based on the vital statistics method of migration research, which is used to calculate net migration balance as the difference between the number of immigrants and emigrants.[4] That method was also used in this paper for the past longer term period (1900–2011), while for the more recent period (2013–2017), which is the focus of this analysis, the paper gives an assessment of the migration balance by direct method, using current national sources of statistics from EU countries where Croats emigrate to.

It should be said that a large part of the emigrated population has not been registered by official Croatian statistics because Croatia does not have a regulated population register, which means researchers must use indirect sources and their own estimates. The paper uses the results of some recent secondary field studies.

Without realistic and methodologically consistent migration monitoring in all countries and keeping population registers, we will not have reliable migration data in the future either.

3. Emigration from Croatia and migration balance in the period 2013-2017

In migration flows monitoring in each country the process of emigration from the demographic point of view should be considered together with the opposite migration flow, immigration.

Demographic flows in Croatia, especially as it regards the impact of emigration on demographic development, from the time before the economic crisis are all the more unfavourable, especially since joining the EU. Emigration has been intensified towards more developed European countries, Central, Western and Northern Europe. This exacerbates the growing volume of negative migration balance, which, in addition to natural depopulation, significantly affects the depopulation of the total population, and consequently the problems in

[4] A. Wertheimer-Baletić, *Stanovništvo i razvoj*, Mate, 1999, Zagreb, pp. 297–299

the workforce, education system, health, pension, social and finally in the financial system of the country.

Thus, even according to the relatively unreliable data from Croatian migration statistics, there is a continuous decline of the total population since 2013. Decrease in the total number of inhabitants, more or less in all counties, with the slight increase of population in Zagreb and Istrian county. The decline of the Slavonia counties population is much deeper than the average. The process of reducing the Croatian and Slavonian population, in addition to aging and the natural decline of an exceptionally high share, contributes to an increased negative migration balance.

Croatia is traditionally among the few immigrant populations, as evidenced by secondary historical demographic studies[5], where Nejašmić research results (2014) and other authors[6] estimates give for the period 1900-2001.

Akrap, studying the post-war changes in the spatial distribution of the Croatian population in the period from 1961 to 2011, in most of the Slavonian counties (4), except Osječko-Baranjska, Vukovarsko-Srijemska and Brodsko-Posavska, notes the long-term depopulation processes "rooted in the ubiquitous long-term economic issues ".[7] Analysis of state statistics on population movements by counties shows that since 2001, Osječko-Baranjska and Vukovarsko-Srijemska counties have been affected by depopulation processes, followed by an increasingly negative migration wave, which culminated after 2013.

Balance sheet items of migration trends from Croatia after the EU accession (Table 1) show that, after the long-term period of tumultuous migration of Croats and the decline of the negative migration balance over the period 2001-2011, the emigration intensifies since 2013 seen both in volume and on average annually, exceeds the emigration in the period 1961- 1991 of the last century.

In an effort to, by investigating state of national statistical databases of immigration countries, so-called core member states of the EU (11), as realistically as possible assess emigration after joining, with emigration to other countries in the world according to the Croatian state statistics, it is estimated that the number of emigrants is about 345,000, which is 2,3 times more than according to data from Croatian Bureau of Statistics. At the same time, according to the same sources, the total number of immigrants was over 155 000, with the immigration coefficient even higher and was amounting to 2.5. The reasons for this are listed under methodological indications.

On average, in these five years, the population of a middle-sized population of about 70,000 inhabitants has emigrated.

When the migration balance was calculated as the difference between the number of immigrated and emigrated people, net migration according to the immigration registers in immigration countries amounted to a loss of over 189,000 people.

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[5]Nejašmić, I.: Iseljavanje iz Hrvatske od 1900.- 2001.: demografske posljedice stoljetnog procesa, Migracijske i etničke teme, broj 30 (2014), 3, 405- 435

[6] Somewhat bigger estimates of migratory flows than Nejašmić for the same period were obtained by Gelo investigating historical demographic changes (Demografske promjene u Hrvatskoj od 1780. do 1981.godine., Gelo, Akrap, Ćipin, 2005) using the definition of a resident or permanently resident population in the country, which means that in the period from 1971 to 1991, foreign migrants on "temporary stay" were treated as emigrants and did not include them in the total population of the country, although only a part of that contingent turned into constant emigrants.

[7] Akrap, A., Promjene broja i prostornog razmještaja stanovništva Hrvatske i županija 1961.-2011-, in the book „Migracije i razvoj Hrvatske“- podloga za hrvatsku migracijsku politiku, HGK, Zagreb, 2014, str. 25-71

Germany was evidently the most common destination for Croatian emigrants. Just to Germany from 2013 until the end of 2017 a total of 237 378 Croats left. At the same time, around 100,734 Croatian citizens moved out of this country so that Croatia had a negative balance of over 103,000 inhabitants with Germany.

Table 1: *Total migration flows of the Republic of Croatia in the period 2013.-2017., an estimate based on a combination of different database*

Migration from and to Croatia since EU accession	2013.	2014.	2015.	2016.	2017.	2013.-2017.
EMIGRATED						
1. To EU* countries, national statistics	31.655	53.666	72.528	71.314	65.389	294.552
2. Rest of the world, by CBS	11.220	9.049	11.116	9.238	9.988	50.611
3. Total emigrants (1+2)	**42.875**	**62.715**	**83.644**	**80.552**	**75.377**	**345.163**
4. Total emigrants by CBS	15.262	20.858	29.651	36.436	47.352	149.559
5. Emigration coefficient (3:4)	**2,8**	**3,0**	**2,8**	**2,2**	**1,6**	**2,3**
IMMIGRATED						
6. From EU* countries, by national statistics	14.164	19.346	23.261	23.422	29.228	109.421
7. Rest of the world, by CBS	8.676	8.540	8.512	9.705	10.886	46.319
8. Total immigrants (6+7)	**22.840**	**27.886**	**31.779**	**33.127**	**40.114**	**155.740**
9. Total immigrants by CBS	10.378	10.638	11.706	13.985	15.553	62.260
10. Immigration coefficient (8:9)	**2,2**	**2,6**	**2,7**	**2,4**	**2,6**	**2,5**
MIGRATION BALANCE						
11. Net migration by foreign countries registers (8-3)	**-20.035**	**-34.829**	**-51.865**	**-47.425**	**-35.263**	**-189.423**
12. Net migration by CBS (9-4)	-4.884	-10.220	-17.945	-22.451	-31.799	-87.299
13. Net migration coefficient (11:12)	4,1	3,4	2,9	2,1	1,1	2,2

Source: CBS and national statistics of 11 selected EU member states*

*It relies on 11 EU member states: Austria, Belgium, Denmark, Finland, Germany, Ireland, Italy, Luxembourg, the Netherlands, Sweden and the United Kingdom

Moved to Germany in this period make up 68.7% of total emigrants. The drastic leap of emigration to Germany happened after 2013 when movement to this country a year is six times more than before.

Table 2: *Immigration, Emigration and Migration Balance of Croats in Germany, 2013.-2017.*

YEAR	Immigrated to GER	Emigrated from GER	Balance of migration
2013.	25.200	12.753	+12.447
2014.	44.240	17.327	+26.913
2015.	57.412	20.685	+36.727
2016.	57.476	25.741	+31.735
2017.	53.050	24.228	+ 28.822
UKUPNO	237. 378	100. 734	+136. 644

Source: Nacional statistics of Germany, https://www.destatis.de/DE/Startseite.html

The second country per volume of immigration of Croats is Ireland, where now more than 20,000 Croats are settled in the accession period until 2018, and their number has risen tenfold since 2013. According to the volume of immigration of Croats, the following countries are next: Austria, although it still has transitional limits for the reception of Croatian labour force, then Sweden, Slovenia and Canada, Australia and the United States, while emigration to other countries is of lesser significance.

Croatia still has positive balance of migration with BiH, Macedonia, Montenegro, Kosovo, Romania and some other smaller European countries.

Although data on migration for 2018 has not yet been published according to national statistics or national statistics of foster countries, there are indications that the wave of emigration from Croatia is however slowing down.

In Croatia, all counties, except the City of Zagreb, recorded a decline in the population. Research conducted for Fridrich Ebert Stiftung by Župarić-Iljić [8], although based on CBS data, viewed by region show that the most emigration happened from Slavonia, Baranja and Srijem as well as Sisačko-Moslavačka and Ličko-Senjska counties.

Since the negative natural decline of the population in Croatia in the same observed period was -89.109, with the estimated negative migration balance, total number of population decline by 2017 is estimated to be around -278,532, with a negative natural increase making 28,6% and a negative migration balance representing 71.4%. This difference of demographic loss through migration cannot be compensated through any measures of pronatality policy.

As compared to the last 2011 Census, this is a loss of 6.5% of the population or the total depopulation due to both natural and migratory depopulation. It should be said that all counties in Croatia have a negative balance of foreign migration in this period, while the majority also have negative balance of internal migration, including all Slavonian counties.

According to the data presented here by the direct method of migration research and data on natural movement, the total number of Croatian population at the end of 2017 is estimated at

[8] Župarić-Iljić, D., Iseljavanje iz Republike Hrvatske nakon ulaska u Europsku uniju, Zagreb, 2016.

about 4,011 thousand, while according to further developments for 2019, this figure fell below 4 million.

4. Structural features of the last emigrant wave from Croatia

The demographic and socio-economic analysis of the population involved in migration is interesting not only from the demographic but also from the socio-economic and sociological point of view, both for the country of emigration and for the countries of immigration.

"There is an immanent process of self-selection in migration (so-called selectivity) according to a number of demographic and socio-economic characteristics"[9]: sex, age, marital status, education, activity, occupation, income and other characteristics.

These characteristics are due to differences primarily in the labour market between the place of origin and the place of destination for migration, as the main reasons for moving are pursuit of better jobs or education, including the younger population, more educated, ready for new and better life experiences and challenges.

It is therefore important to know the selectivity of migration and to influence the changes of individual demographic and economic-social structures of the population.

The structural qualitative features of the newer emigrant contingent from Croatia are given here according to the results of certain secondary studies conducted in Croatia in 2017 among Croatian emigrants in Germany[10] on a nonprobabilistic convenience sample via an online questionnaire distributed over social networks[11]. Here are the basic structures of emigrants gained by this research conducted at the Croatian Catholic University in Zagreb as it relates to the coverage of expatriate Croats of a recent period in several EU countries and beyond. This study confirmed the following features of the recent emigration of young people from Croatia:

- most respondents emigrated in the last six years, 2012-2017 (93%);
- there are 55.2% women, 44.8% men;
- Germany (43.8%) and Ireland (20.3%) are dominant immigration countries;
- almost the same number of single people, as there are whole families;
- most emigrants are 25-39 years old, who make up 79.2%, in Germany 55.3% of the total emigrants are in the ages of 25-29;
- according to education, 52% of respondents have a medium level of education and 47% one of the higher education levels;
- most of the emigrants said they were satisfied with life and wages, but were less satisfied with accommodation that largely determined their quality of life

Novelty is that more families are leaving (60.1%) than single people (26.1%). It is also indicative that more than half (55.3%) of those emigrated were employed before leaving,

[9] Alica Wertheimer-Baletić, Stanovništvo i razvoj, op. cit., str.306

[10] Jurić, T., Iseljavanje Hrvata u Njemačku - gubimo li Hrvatsku?, Školska knjiga, Zagreb, 2018.

[11] The research carried out by the Croatian Catholic University in Zagreb in cooperation with the Konrad Adenauer Stiftung Foundation in 2017 (two separate surveys were conducted: Neka obilježja posljednjeg emigrantskog vala mladih iz Republike Hrvatske (D.Miloš, T.Pranić, 2017) and the Iseljavanje Hrvata u Njemačku (T.Jurić, 2017) Data for the first survey were collected online through facebook groups: Croats in Germany, Croats in Austria, Croats in Ireland, etc. Although the scope of research is limited to active social network users, or a sample of 580 respondents of an average age of 32.2 years, may be considered relevant.

indicating a correlation with dissatisfaction with salaries, most of them are aged 25-44 (60%) with uncertain status at work or working conditions.

Differences in the pattern of migration of individual migration countries need to be considered. Thus in Ireland there are more men (61%) than women, those aged 15-24 are 23%, while children younger than 15 years are 11% of all immigrants.

Among the causes of the emigration of Croats, the following motives are expressed as important: unemployment and insecurity of employment in the country, existential insecurity of young people, low wages for a better quality of life and family support, the inability of workers and trade unions to change their state of affairs, difficulties in advancement in the profession but also corruption and nepotism in the state and local administration, the failure of state institutions, and the like.

Research also confirms that 27.2% emigrants were from Slavonian counties, which is more than their share in the population of Croatia according to the latest 2011 census (24.3%).

Thus, according to the criterion of the main cause of economic migration, this wave of emigration is "a result of the social-political circumstances and the economic difficulties experienced by the Croatian population over a century and a half ".[12]

5. The consequences of emigration to the labour market and economic development in Croatia

Migration with its consequences has the greatest demographic and economic significance and it is precisely the consequences of migration that should be dealt with by demography (Wertheimer-Baletić, 1982).

In addition to the dual effects of migration, in places of emigration and places of immigration, each permanent moving of the population has two-time effects: immediate and postponed (long-term, indirect) effect.
Since Croatia is traditionally predominantly an emigration area with reinvigorated migration flows, the aim is to focus on the current and delayed consequences of emigration, finally on the labour market and economic development in the country. These effects depend on the quantitative and qualitative features of the emigration contingent.
The consequences of a newer emigration wave from Croatia are mostly negative, already have their visible, current effects, and in the medium and long term could have strong economic and social consequences.

Potential economic consequences of emigration to the country / area of immigrants origin are predominantly negative, such as:

- loss of human capital / labour force
- loss of educational potential / investment
- loss of knowledge and innovation potential of the economy and society
- loss of expected financial capital dispersed
- reduction of aggregate demand

[12] Akrap, A., Strmota, M., Ivanda, K., Iseljavanje iz Hrvatske od početka 21. stoljeća: uzroci i posljedice, Zbornik 2. hrvatskog iseljeničkog kongresa, Hrvatska izvan domovine II, str. 544

- lower total employment
- a smaller number of insured and payers of state and local funds and budgets
- lower wages and total wages
- less current and expected number of entrepreneurs
- less competitiveness, productivity etc.

There is also some more or less positive effects such as: reduced unemployment rate in the profiles of emigrant occupations who were unemployed, gradual increase in salaries in emigrants' professions, financial transfers from abroad, which are estimated to be less pronounced share of young families[13], as well as potential future returnees' professional and financial capital.

There are also some *dubious*, socially and economically highly controversial effects of emigration, such as: greater participation in the labour market of a less educated and non-inventive part of the population, less participation in the labour market of emigrant family members who receive remittances but also easier future emigration due to family ties.

It is well known that the more developed countries in which the Croat population is emigrating also enjoy benefits from the freedom of movement of workers, while south-eastern Europe, which includes Croatia, has far-reaching demographic and economic losses, and the emigrated population primarily fills the shortcomings of certain professions in the labour market of immigration countries, working on jobs that are significantly less complex than those for which they have been studying in Croatia.

According to the IMF it is estimated that because of emigration in the countries of South East Europe the labour force is reduced by 10-20 %[14] or it would be bigger by that amount if there was no emigration.

In Croatia, currently visible negative effects of emigration are manifested in the lack of skilled labour in labour intensive activities such as: construction, tourism and catering, transport and communications, IT sector, health. Missing masonry and other qualified masters in civil engineering and construction, chefs, waiters, drivers, doctors and nurses, not only in cities but also in many smaller places of Slavonia, Lika and Dalmatinska zagora remain without the necessary qualified masters required of every household who moved abroad. Because of the shortage of workforce, there is a slowdown in economic growth.

With the lightly accepted so-called quotas of labour force imports by the Government of the Republic of Croatia, proposed by employers' representatives, which refers to cheap labour, mainly in construction, manufacturing and tourism, does not actually protect the interests of domicile labour force on the labour market. By not raising wages and other working conditions, domestic skilled and highly educated workers are still encouraged to emigrate.

If we need to import a special profile workers as part of our workforce, we should try to bring the most capable in order to be able to plan integration and development in the long term because the import of uneducated workers is not in the interest of neither the state nor the employer.

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[13] More about the impact of remittances from work abroad: Jurčić, Lj.; Barišić, A., Ekonomski efekti emigracije u Hrvatskoj, Zbornik radova / Migracije i identitet: kultura, ekonomija i država / , ur. Marina Perić Kaselj, Institut za migracije i narodnosti, Zagreb, 2018.

[14] Atoyan i sur., 2016, Emigration and Its Economics Impact on Eastern Europe, Staff Discussion Notes, IMF, No.16/7.

Developed countries increasingly choose more educated workforce, especially those from a nearby environment that can be integrated with minimal costs and in the short term, aware that the human factor is the cornerstone of the development and success of every enterprise and, ultimately, every economy and country.

In addition, the immediate consequences of emigration are reflected in reduced spending, declining budget revenues and health insurance beneficiaries, drop in the number of pupils in elementary schools and kindergartens in places of stronger emigration, and the possibility of GDP growth slowing down.[15]

In the forthcoming period, the impact of emigration on the pension, education and financial system will be strengthened. The rate of return in the countries of south-east Europe is smaller than 5 % (Atoyan i sur., 2016), and the return of emigrants is higher for countries with approximately the same levels of development.

6. Conclusions and proposals

According to the indirect foreign statistics of the immigration countries of Croatian emigrants from Croatia, only in the period 2013-2017, about 345,000 young, the most resilient and predominantly educated population migrated. Taking into account the opposite migration flow or migration of around 155,000, the total migration balance in this period or the balance deficit was negative, amounting to around -190,000.

The knowledge and understanding of the causes of emigration and their consequences for economic, and thus the overall, social development and the timely taking of measures with the aim of halting the excessive volume of this process, must be the goal of each state, local and regional community.

The results of this empirical analysis indicate that economic causes, alongside the non-economic, relevant, are in fact significantly more relevant when deciding on migration. At state level, politics poorly perceives results of emigration as seen by the weak, almost insignificant steps taken to stop negative demographic trends.

The government, employers and unions in Croatia need to take far more powerful measures to overcome the causes of workforce and the young educated population emigration, along with the adoption of a long-term migration policy as well as the wider population policy measures. The inherited campaign and short-term problem solving of the labour shortage through annual quota for the import of foreign labour from underdeveloped countries to existing low wages and without the plan of long-term integration of such workers into the new environment is irresponsible to development and the future of Croatia.

In all developed countries, the interests of the domicile population are protected, but with the established average salaries through collective bargaining for certain industries, without discrimination of workers on the labour market, and the minimum wage set should be increased.

If the causes and consequences of emigration are not monitored, insufficiently quantified, do not foresee short-term and delayed effects of emigration, do not induce longitudinal and other

[15] Some research shows that in the 2008-2016 period, the level of new EU member states, without emigration, the real GDP growth rate could be 7 percentage points higher (Atoyan i sur., 2016).

demographic and economic studies related to the consequences of migration, there is no political will to take adequate long-term measures to overcome the causes of excessive the emigration of their own population, and the attention of scientists and the results of research does not pay attention, the question is whether the ruling policy is in general to halt these processes.

The reasons given for a newer emigration wave from Croatia need to be taken seriously because they are producing the guidelines that should be followed by appropriate migration measures and related economic and other development policies. Because if there is no significant increase in the rate of economic growth in Croatia and the related strengthening of attractive factors for the retention of young people, the new immigration and the return of emigrated population, the consequences of emigration with time will be multiplied to all important systems in the country, which will significantly slow down development.

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DEMOGRAPHIC AND ECONOMIC EFFECTS OF EMIGRATION – RECENT EXPERIENCES FROM EASTERN CROATIA

ABSTRACT

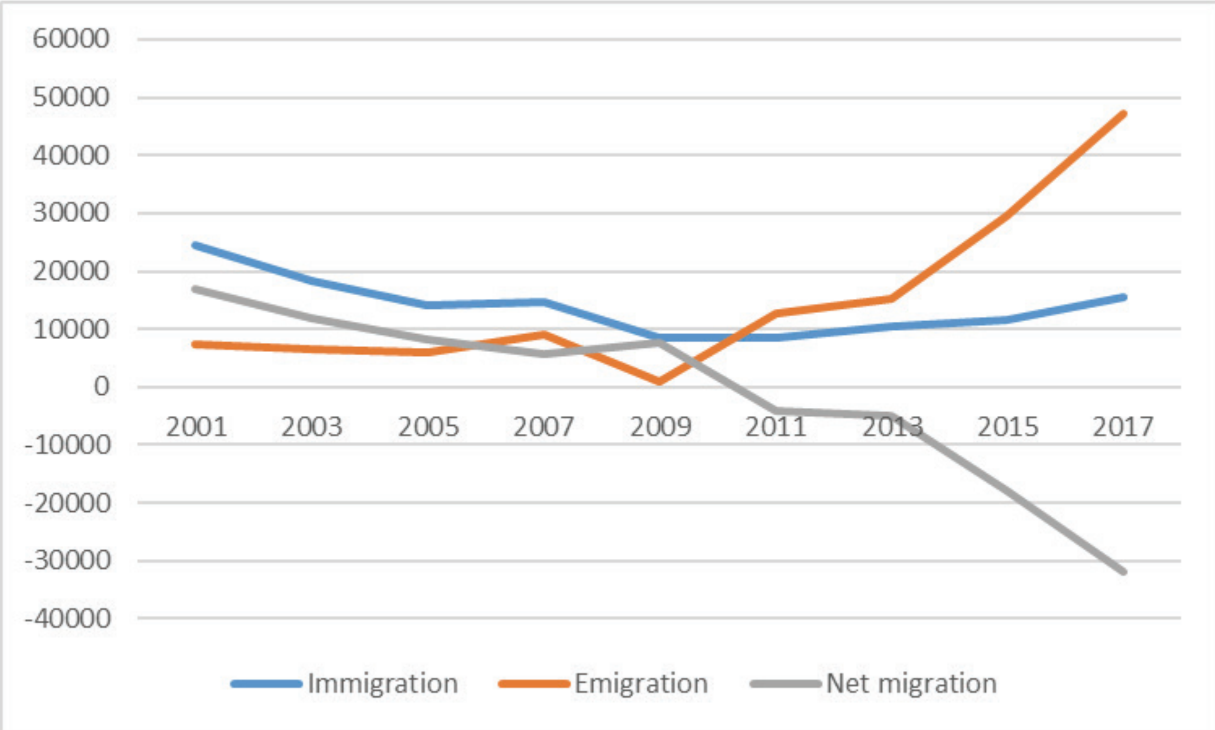
In the past few years, the Croatian economy has faced numerous problems such as unemployment, low income, high tax burden, indebtedness, political instability, falling birth rates etc. Since migration of people reflects the economic, social and political reality of any country, in the same way in Croatia, a share of citizens decided to emigrate to another country of which they consider to be able to provide them with better quality of life. Emigration causes different economic, demographic and social consequences that are reflected in the economy in general. It is therefore of particular importance for the country's authorities to identify the key causes of the contemporary emigration of its citizens so it could adopt and implement appropriate policies in due time. The paper breaks down the concept and types of migration, and gives an overview of the economic situation in Croatia in order to better understand incentives for emigration. From the empirical point of view, the paper focuses on the problem of the modern emigration of the population from the Republic of Croatia, with a special emphasis on the emigration of young people from Požega-Slavonia County, critically considering the economic and demographic consequences of emigration. Authors carry out a primary research aimed at identifying the key reasons for the emigration of young people from Požega and Pleternica to Germany and then assessing their satisfaction with the quality of life in Germany. For the purposes of qualitative research, a semi-structured in-depth interview method was used. The results indicated a number of factors that motivate young people to leave, part of which can be classified in the category of wishing to live in a safe and well-regulated social system, and the other part in the category of economic reasons that would solve the financial difficulties associated with life in Croatia.

Key words: *emigration, personal remittances, quality of life, Eastern Croatia*

1. Introduction

Migration flows can be observed anywhere in the world. However, levels and dynamics of migration will strongly depend on many factors, pertaining to inherent characteristics of a country of emigration, as well as a country of immigration. During the last decade net migration of Croatia is not only negative (meaning that number of emigrants exceeds number of immigrants), but also extremely high taking into account size of Croatian population. In addition, increasing trend doesn't seem to be slowing down (Figure 1).

Figure 1: *Migration flows in Croatia for the period of 2001-2017*



Source: Croatian Bureau of Statistics, www.dzs.hr

It is evident from the figure 1 that throughout last 20 years emigration has never been so high. According to theory (Jurčić and Barišić, 2018, 124), causes of migration are primarily economic ones and they're directed towards centres of industry and trade. During the last decade, economic environment hasn't been very stable in Croatia. Economy has faced numerous problems such as high rates of unemployment, low income, high tax burden, relatively high levels of indebtedness, political instability, falling birth rates etc. Since migration of people reflects the economic, social and political reality of any country, a share of citizens decided to emigrate to another country of which they consider to be able to provide them with better quality of life.

This paper thus focuses on the problem of the modern emigration of the population from the Republic of Croatia, with a special emphasis on the emigration of young people from Požega-Slavonia County. In order to be able to better understand true reasons behind emigrational waves, a series of semi-structured in-depth interviews had been carried out. Authors carry out a qualitative research aimed at identifying the key reasons for the emigration of young people from Požega and Pleternica to Germany and then assessing their satisfaction with the quality of life in Germany.

2. Concept and types of migration

Migration is broadly defined as spatial mobility of the population, while in the narrow sense this term refers to a more permanent change of residence of individuals or social groups (Lexicographic Institute Miroslav Krleža, 2018). Mesarić Žabčić (2014, 77) defines migration as any change in the place of residence of an individual or of smaller and larger groups of people.

Initially, migration theories neglected the cultural and social aspects of the migration process and relied only on economic aspect. Neoclassical economic theory of migratory behavior speaks of migratory movements of small distances, which is increased by the development of the industry. The migration process is often seen as a result of attractive or positive and oppressive or negative factors (Abercrombie et al., 2008, 209).

Individuals decide on migration to maximize their income (Penava, 2011, 338). Migration where workers from low-income economies go to higher income economies is called rational and voluntary migration, which we can relate with migration of Croatian workers to Germany. On the other hand, Marxist theory studies migration through the mobilization of cheap labor that serves capitalists in the accumulation of their capital (Abercrombie et al., 2008, 209). The new economy of migration speaks of group migration, family migration or migration of households, which is more and more present, and the dual labor market theory emphasize the importance of demand for lower educated workforce (Penava, 2011, 338). Also, globalization has had an impact on the nature of migration as it has resulted in the possibility of human trafficking and immigration of refugees (Abercrombie et al., 2008, 209).

There are several types of migration: permanent or temporary, daily or weekly, external or internal, organized or unorganized, voluntary or forced (Zlatković Winter, 2004, 165). According to the sociological dictionary, we can distinguish several types of migrants. Economic and voluntary migrants are migrants who have voluntarily migrated for work. Political and involuntary migrants have been forced to migrate, and this can be seen in the example of Jewish migration to Israel. Economic and involuntary migrants migrated because of ecological catastrophe or famine. Political and voluntary migrants are those who migrated because of political disagreement (Abercrombie et al., 2008, 210). According to this typology, young people from Požega and Pleternica who emigrated to Germany belong to the type of economic and voluntary migrants.

Rogić and Čizmić indicated in their paper several types of emigrants (Rogić and Čizmić, 2011, 15). The first type is emigration of the victims of a group of people displaced by violence and threats. The second type refers to imperial, reign, emigration which is not induced by difficult, unbearable lifestyles, but simply by the distinct type of the imperial conquest. The third type of emigration refers to the work emigration which is induced by the search for work and earnings (Rogić and Čizmić, 2011, 16). This type of emigration defines the topic of this paper. The merchant emigration represents the fourth type of emigration, and is defined by the groups that have followed the trade routes and expansion. The fifth type of emigration is political and is closely related to the first type because it is most common in totalitarian rule and due to a failure of providing political rights. The sixth and last type of emigration according to Rogić and Čizmić refers to cultural and scientific emigration. Cultural emigration is largely reflected in the relocation of religious communities, for example the Protestant movement in America, and scientific emigration can be associated, for example, with Croatia where scientists emigrate to other countries due to a more simple scientific system (Rogić and Čizmić, 2011, 17).

3. Economic consequences of emigration

Apart from defining the regular causes of emigration, one of the reasons for this research was the fact that at the end of 2017, Croatia was the most dependent economy relating to international remittances in the European Union. Measured by the share of personal remittances in the country's GDP, Croatia reached 4.5% of GDP only by the inbound personal remittances. Next two countries with the highest share were Latvia (4.1% of GDP) and Bulgaria (3.8% of GDP) while the EU average was only 0.7% of EU GDP (Eurostat, 2018).

There is no clear consensus whether personal remittances have predominantly positive or negative impacts on the domestic market, but there are several facts to support the growth of personal remittances. First of all, regular receive of personal remittances boosts disposable income of households which consequently stimulate consumption which later affects the labor market etc. Two main approaches are considered as a consequence of personal remittances from abroad: first of them consider remittances as an additional source for consumption which actually boost demand side of the economy and the second way of thinking consider remittances as a source for new investments in home country which strengthens the supply side (OECD, 2006). Both of these approaches have relatively significant impact on the development of the domestic economy.

Comparing the results during the recent recession, remittances continued to grow further even in the period of slowdown of the economy. Some authors suggest that remittances have primarily countercyclical character for the home country's economy and have procyclical impact for the host country (Frankel, J. (2009) and Bettin et al. (2014)). Namely, during the crisis, remittances tends to be higher from abroad while emigrants try to contribute more to their families at home country and this could be helpful to stimulate consumption and boost economic activity.

However, despite the fact that generous remittances from abroad can stimulate domestic consumption, Croatia is in a situation of losing its human capital. In 2017, the natural increase rate was negative at -4.1 and those negative results were recorded in all counties. For example, in Požega-Slavonia county in 2017 the number of deaths (1.005) exceeded the number of births (611) so it was a negative natural increase of -394. There are several factors which affect biological (natural) depopulation and some authors consider that at the top is emigration (Nejašmić, 2014). In addition to declining birth rates, actual demographic problem in Croatia is recognized through intensified mechanical drain which is primarily caused by emigration. In that sense, economic consequences of emigration can be observed as a threat for development of human capital in the future.

Although in Croatia in last five years is identified evident surplus in the current account of the balance of payments, remittances from abroad are a significant contributor for covering the current account deficit in some countries. Due to the significant income from tourism, which was also observed through the improvement in the foreign trade balance of services, and in addition, due to the positive balance in the secondary income account, current account was in surplus and remained stable during the period since 2013. However, there were some EU countries (e.g. Belgium, Latvia and Lithuania) whose personal remittances provided current account surpluses which would be turned to current account deficits if there was not enough contribution of personal remittances. Since remittances could have a significant impact on the balance of payments, current situation of remittances sent to Croatia will be in detail explained through the components of current account.

4. Effects of personal remittances from abroad

Since personal remittances for several years exceed even the amount of foreign direct investments, which are another component part of balance of payments as well, it is obvious that remittances have an important influence on the balance of payments which actually represent the value of transactions between Croatia and abroad. In the narrow sense, remittances refer to personal transfers which are recorded in the current account, in the sub-account secondary income. In a broader concept of remittances, pensions could be classified as personal remittances as well and pensions are recorded as a component of secondary income. Third part of personal remittances is related to compensation of employees which refers to income of residents employed abroad as temporary workers or working somewhere across the border. Compensation of employees is a component of the primary income in the balance of payments. Through the analysis of a broader concept of remittances will be defined the relative importance of all three elements and through the dynamic overview over last seven years will be defined their impact on the Croatian economy.

The most important part of remittances is related to personal transfers (the narrowest explanation) which have recorded strong growth over last three years (26.5% growth rate in period from 2014 to 2017) and reached 1.3 bn EUR. Compensation of employees is the second most important contributor and their relative growth in last three years was even higher (48.6% of growth) while the revenues have reached 1.1 bn EUR at the end of 2017. Third part of remittances is related to the revenues of pensions which have reached 0.7 bn EUR and had a steady growth over time. Overall, personal remittances (including: personal transfers, compensation of employees and pensions) have reached 3.1 bn EUR at the end of 2017 whereby can be noticed significant growth over the past three years (2014-2017). This trend of growth has continued throughout 2018 as well.

Figure 2: *Personal remittances during 2011-2018 (in bn EUR)*

Source: Croatian National Bank

Since primary research is related to the emigration to Germany, special attention is paid to remittances from Germany, but there will also be mentioned other countries which are the most important contributor to total remittances. As opposed to total remittances from all countries where personal transfers are the most important contributor, in remittances from Germany dominate revenues from pensions. At the end of 2017, 388 m EUR was recorded as revenues from pensions and this amount was relatively stable over time. Much more significant growth was recorded by the personal transfers which were at the level of 258 m EUR at the end of 2017 and compensation of employees were round 101 m EUR. This kind of distribution with pensions accounting for over half of total remittances from Germany has its historical reasons considering the impact of our emigrants there for many years.

Figure 3: *Personal remittances from Germany (in m EUR)*

Source: Croatian National Bank

Revenues from Germany dominate almost in all categories of remittances, while only in compensation of employees there are some other countries as dominant. Income of residents employed abroad dominantly come from Great Britain, USA and then from Germany. More than one third (36%) of all revenues from compensation of employees is related to these three countries. Remittances in the narrow sense are dominated by the revenues from Germany. Namely, one fifth of all personal transfers comes from Germany and much less after Germany, personal transfers are related to revenues from Switzerland and USA. Considering historical reasons, revenues from pensions are extremely dominated by the pensions from Germany. 58% of total pensions from abroad are sent from German pension system and much less is sent from Switzerland (9% of total pensions from abroad) and from Slovenia (8%).

During the observed period it is evident that the amount of personal transfers has its steady growth (i.e. 8% in 2017) and that there is a slightly expended list of countries from which emigrants have sent remittances to their home countries. However, Germany has remained dominant from the aspect of personal transfers as well as from the aspect of pension revenues. Personal remittances were, and as it is obvious, it will remain a substantial factor of financial help to families on the micro level and remittances have a significant impact for the development of the national economy at the macro level. This is why the need for further research is necessary and hence the qualitative research of the experiences of young individuals who continued their life in Germany will be extremely valuable.

5. Research Methodology

The general aim of this research is to identify the process of emigration of young people from two small cities in Požega-Slavonia County (in eastern Croatia) to Germany and to determine their quality of life in Germany. For the purposes of qualitative research, a semi-structured in-depth interview method was used that could provide deeper insights into the phenomenon investigated, as well as the flexibility in asking questions. With the aim of precisely emphasizing the experiences of individuals and revealing the essence of the observed phenomenon, phenomenological approach has been used. A total of 12 participants aged between 20 and 32 (Table 1) were interviewed. The interviews lasted for 30 minutes on average and were carried out during December 2017 and January 2018. Interviews were recorded, about which participants were notified and signed the consent form. For the purpose of analysis, full transcripts of the interviews were used in order to avoid overlooking some key issues.

Table 1: *Number of interview participants by characteristics (N = 12)*

The characteristics of the participants	Number of participants	The characteristics of the participants	Number of participants
City		**Education degree**	
Požega	6	High School diploma	9
Pleternica	6	Bachelor's or Master's degree	3
Sex		**Marital status**	
Male	6	Single	6
Female	6	Formal or informal married	6
Age		**Children**	
20-26 years	7	Have no children	10
27-32 years	5	Have children	2

The total number of participants was determined upon the occurrence of saturation of the response. This figure was also contributed by the fact that Požega and Pleternica are small towns, so the number of young people who emigrated to Germany from the mentioned cities is somewhat lower. Germany was selected for several reasons: 1. According to official statistics, Germany is the most often selected country as the destination of emigration by Croats, which is also linked to the historical emigration points of Croats; 2. Apart from emigration, Croats are also economically oriented towards Germany and its market, since Germany is the most important foreign trade partner of Croatia; 3. The largest share of remittances from abroad to Croatia is related to the remittances from Germany.

6. Research Findings

The results are related to a number of qualitative factors that motivate young people to leave, part of which can be classified in the category of wishing to live in a safe and well-regulated social system, and the other part in the category of economic reasons that would solve the financial difficulties associated with life in Croatia.

Wishing to live in a safe and well-regulated social system

Participants of this research point out several issues of Croatia, in this case related to the cities of Požega and Pleternica:

"*Politics first. And networking. That you can't find a job without somebody's connection, literally. What can you do here?! There are no factories or other places where you can start* *new business. I mean now they wanted to open that one, what was that, the mall right there, the same thing, people would just go and spend their money there, and there's no production, you have nothing to do here" (Iris*[1]*, 23 years old).*

"I feel happier in Germany because no one cares how you look like, there is no nationalism, your skin color doesn't matter, no one cares who and what you are" (Filip, 27 years old).

"I didn't see myself in the future here in Pleternica. I would like to have a family and in Germany it is easier to realize. I've been doing two jobs in Croatia, in the sports and in a private company. There was a presence of corruption in both jobs. I don't see the future in Croatia" (Tomislav, 26 years old).

The prospect of Croatia as a country that 'cannot afford its inhabitants a better future' derives from the distrust of the people towards the political authorities that should lead Croatia, its counties and cities to the benefit of its citizens and not to their own benefit. Corruption has led to the employment opportunities in Požega-Slavonia County not related on the basis of their knowledge and skills, but on personal connections and networking. In addition, agriculture sector and factories have been systematically destroyed, resulting in loss of jobs and higher unemployment.

The second most common reason for emigration, especially among female participants, is the family gathering. Although in this modern emigration process often happens that the entire family emigrates immediately, few continue to practice the traditional way of emigrating: *"And when he (a boyfriend, ID) settled here a little bit, within a year, then we agreed I should come, as well" (Anamarija, 22 years old).*

Health is an important feature for assessing the quality of life. Comparing health insurance systems of Germany and Croatia, the participants emphasize the positive and negative sides:

"Health insurance system in Germany has a big minus, because it doesn't cover a lot, and if you work, you pay 200-300 euros for it. It doesn't cover much when you go to a doctor, need a medicament etc. Compared with Croatia, our health insurance system is still good" (Filip, 27 years old).

"The dentist is paid extra. It depends on what kind of service you need. For example, tooth extraction is not paid. And there is no waiting in line anywhere. You are waiting a couple of minutes maybe, and that's almost nothing compared to the situation in Croatia. Also, a lot of documentation management (medical diagnostic tests, recipes…) is sent by e-mail, so again, there are no queues" (Mirela, 28 years old).

The two main advantages of Croatia, compared with Germany, are social life and security.

"Social life in Germany is poor, almost non-existent. There are plenty of people from this region (ex-Yugoslavia). Here in Frankfurt, we really have the whole bunch of our people here, but social life mostly depends on people related to the company and possibly on the family that is here (his uncle, I.D.). We are hanging out here and there, but not much. Our friends, A. and M. came here on Monday for the New Year, so we hanged out. But otherwise, social life here is poor" (Nikola, 24 years old).

"Well, in big cities, I don't really feel safe, because there is always some fear present, while in smaller places (like ours in Croatia) there is no such fear. We don't usually go out in the evening, and if we do, we are never alone, but with others" (Filip, 27 years old).

[1] Due to anonymity, all the names of the participants have been changed.

It can be concluded that participants want life in a well-regulated social system with a low level of corruption and bureaucracy. Important factors are also the social life and security, which, unfortunately, have not been found enough in Germany. Apart from this, economic security is also important for the participants, which will be discussed in the next chapter.

Economic reasons that would solve the financial difficulties associated with life in Croatia

As one of the main reasons for emigration, the participants of this qualitative research refer to the financial difficulties and the issues of unemployment. These reasons are quite expected since the economic situation in Požega and Pleternica is currently inconvenient. Tena (20 years old) describes the process and her reasons for emigration:

"My parents decided to go to Germany because of financial reasons because we had more expenditures than the company could produce income. The main reason for choosing Germany is that we all speak the language, and my parents have lived there before, so they are familiar with this way of life."

Similarly, Marina (26 years old) states: *"I went because of the financial reasons. I couldn't find a job here. My husband and I left first, and my brother came later".*

Most of young Croats in Germany, who participated in this research, get lower job positions. Participants mention several different positions and tasks: cleaner, chef, cashier, nanny, hairdresser, construction worker, worker with the iron, professional driver, controller of car punks; etc. and their wages range from 450 to 2.000 euros.

Speaking of wages, Valentina (27 years old) states as follows:

"Here in Croatia, I think the wages are not at all in line with our standards. The prices in stores here are overpriced, in Germany they are low. It's funny to me. People in Germany buy a full cart every day, and nobody works on Sundays, everything is closed".

Participants analyzed and compared prices in stores in Croatia and Germany. Cosmetics, sweets, bottled water, fruits and vegetables are found to be cheaper in Germany than in Croatia. On the other hand, bread, milk, meat, coffee and cigarettes are more expensive in Germany. The prices for clothes are similar in both countries.

As explained by the participants of this research, the prices of bills and the rent in Germany vary from 200 to 1.000 euros, depending on the size and location of the apartment. Half of the participants regularly send money to families in Croatia. Amounts of remittances range between 200 and 600 euros per month. These remittances are of particular importance to Croatia, especially to Požega and Pleternica, as they can greatly contribute to their development. As for the possibilities of savings, Ivan (20 years old) notes: *"Savings can be made, but not as before when people went in Germany and could build a house in Croatia".*

The possibility of returning to Croatia and proposals to the Government

Participants discussed the possibility of returning to Croatia:

"Not for now, but maybe when we will be retired. And that is big maybe. Right now, there is nothing that can make us return to Croatia. There are lots of opportunities in Germany for both of us and for our child. Finance issues play an important role as well, of course" (Krunoslav, 32 years old).

"I would have returned in Croatia if I had a solid job with a normal salary" (Antonio, 32 years old).

"Just under these conditions: reduced taxes, the increase of the minimum wage, the more secure and accessible jobs, the fact that you don't need to literally have a connection to be employed somewhere. The salary needs to be secured, so that the employer cannot just not pay you and no one cares about it, which is a very common case with us, you know it yourself" (Nikola, 24 years old).

"Of course I have the desire to return, because I grew up here and marked the important part of my life, but for that to happen, a stable economy and secure income should be created. Unfortunately, the majority in Croatia are trying to survive and the rest of them are enjoying their lives in Germany" (Tena, 20 years old).

Other participants of this research have also mentioned other open issues of Croatia, such as: poor political leadership and bureaucracy system, high presence of corruption and nepotism and a low standard of living. In their opinion, compared to Germany, Croatian advantages include: greater security, better social life and natural resources. Although, they note that our natural resources are insufficiently utilized. They propose to the Government to improve and solve the above mentioned issues, which in turn would result in thinking of coming back to Croatia. As of March 2019, none of those 12 participants in the research have returned to Croatia.

7. Conclusion and implications for further research

As already stated, emigration can be caused by many factors. It is therefore of particular importance for the country's authorities to identify the key causes of the contemporary emigration of its citizens so it could adopt and implement appropriate policies in due time.

In that regard, authors carried out both primary and secondary research.

Aim of the secondary research was to evaluate effects of personal remittances from emigrants to Croatia. Research findings showed that the volume of remittances has been increasing over the last years, which is in line with the expectations. Remittances from Germany strongly dominate over remittances from other countries and effect seems to be increasing. It can also be seen that list of countries from which emigrants have sent remittances to their home countries has increased. However, as already stated, Germany has remained dominant from the aspect of personal transfers as well as from the aspect of pension revenues. From our findings, it can be concluded that personal remittances were, and will remain a substantial factor of financial help to families on the micro level.

Aim of the primary research was to identify the key reasons for the emigration of young people from Požega and Pleternica to Germany. The results indicated a number of factors that motivate young people to leave, part of which can be classified in the category of wishing to live in a safe and well-regulated social system, and the other part in the category of economic reasons that would solve the financial difficulties associated with life in Croatia.

Although examinees reported different advantages Croatia has over Germany (such as social life, security, natural resources), in the end, poor economic conditions (e.g. unemployment, low wages) have prevailed in their decision whether to emigrate or stay in the country. Also, once one family member emigrates to a certain country, it is more likely the other family members will emigrate too in order to keep the family together.

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2 Macro Issues in Regional Development

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THE ANALYSIS OF THE BROD-POSAVINA COUNTY FOREIGN TRADE EXCHANGE FOR THE PERIOD FROM THE YEAR 2013 TO THE YEAR 2017

ABSTRACTS

The foreign trade policy of the Republic of Croatia is significantly determined by its membership in the World Trade Organization (WTO) and the European Union (EU). In terms of foreign trade policy, the path of the Republic of Croatia towards the EU, marked trade liberalization, free trade with countries in the region, harmonization of legislation and ultimately WTO membership, which provided the basis and foundation for integrating the Croatian economy into the European and global markets. By joining the EU, the Republic of Croatia has committed itself to applying the „Common Comercial Policy“.

In today's globalized conditions of business, country's foreign trade exchange is of great importance to its economy. The Republic of Croatia, according to its territorial constitution, is comprised of 21 counties, and the subject of this article is the analysis of foreign trade exchange of the Brod-posavina county. According to the size and the number of residents, the Brod-posavina county is in the middle of the mentioned 21 counties.

The main objective of this paper is to determine involvement and influence of the Brod-posavina county in foreign trade exchange through the review of export and import according to NKD 2007. principle of organisation by analyzing the secondary data gathered from the Croatian Chamber of Economy, Financial agency and the Croatian Bureau of Statistics. The aim of this paper is to analyze the level of foreign trade exchange, import dependence and export development of the Brod-posavina county.

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**: export, import, Brod-posavina county*

1. Introduction

The Brod-posavina county has 2.034 km^2, what is 3,61% of the total size of the Republic of Croatia and as such is the 14th largest county in the Republic of Croatia. According to the population census from 2011, the Brod-posavina county has 158.575 residents and is the 10th largest county according to number of residents in the Republic of Croatia. In the Brod-posavina county different economic activities are developed, such as metal processing industry, wood industry, construction, agriculture and trade (processing industry being the most developed). Development of different economic activities enables foreign trade exchange of the Brod-posavina county. The main objective of this paper is to analyze foreign trade exchange of the Brod-posavina county in the period from 2013 to 2017 with special review of export and import according to NKD 2007. principle of organisation. The efficiency of a country on an international market is determined by the competitive capacity of all its business partners involved in its foreign trade business, respectively international exchange. It is essential to have competitive advantage what is the basis for achieving higher profitability. (Grant, 2010) On a global market, only those national economies, or its business subjects, that are capable of creating larger economic value in relation to its opponents can have competitive advantage. (Barney, 2008)

2. International trade of Brod-posavina county

Trade exports are an important macroeconomic category that promotes growth of production and employment based on foreign demand. It is therefore important for small economies such as Croatia, where the domestic market is limited by a small population and their low or moderately high standard.

Although the value of exports directly affects the size of GDP, their relationship depends heavily on the structure of the economy and the size of other demand categories. Because of this, the low level of commodity exports does not mean the lower development of the economy. However, when looking at comparable features and relatively similar levels of development, it is evident that higher export levels are one of the key drivers of growth in the economy. Also, it is not enough to look only at exports but also the value of imports. Although these two categories are not closely linked, as a significant part of imports are the consequence of domestic demand, it is common to observe the balance of trade and its impact on the movement of GDP. All of the above applies to the regional level, ie at the county level of the Republic of Croatia. Trade exchanges show a significant difference in the economic strength and structure of economies of Croatian counties. Areas with a higher level of commodity exports are generally more developed. Of course, a more accurate picture at regional level provide relative indicators such as export and GDP ratio or export and population ratio, and the relative value of exports and imports is also important. (Croatian Chamber of Economy, 2018, 3)

__Table 1:__ International trade of Brod-posavina county

Brod-posavina county	2013.	2014.	2015.	2016.	2017.
Export, kn	1.702.777.000	1.935.853.971	2.351.146.167	2.408.794.152	2.873.239.699
Import, kn	974.209.941	826.590.618	1.026.003.627	954.260.511	1.262.550.143
Export share of the county in the Republic of Croatia export, %	2,0	1,7	2,1	2,0	2,2
Import share of the county in the Republic of Croatia import, %	0,9	0,8	0,9	0,9	0,9
Rank in the Republic of Croatia on the value of exports	13.	15.	13.	13.	12.

Source: Authors according to data from Financial agency and Croatian bureau of statistics

The table shows that the level of exports increases from year to year and in the last year of the observed period it amounts to 1.170.462.669 kuna's more than in 2013. The level of imports oscillates, but with a slight tendency of growth. In the year of 2017, the value of exports to the Republic of Croatia was better for three places, but there is certainly place for improvement.

3. Export of the Brod-posavina county

Based on the data gathered from the Croatian bureau of statistics, the economy of the Brod-posavina county has been orienting on export and has marked a high rate of growth of export (Table 2. and Table 3.)

__Table 2:__ Export according to NKD 2007., principle of organisation, 2013 – 2017

thousand kn

	NKD 2007. section	2013.	2014.	2015.	2016.	2017.
	Total	**1446426**	**1308485**	**1879251**	**1897172**	**2323054**
A	**Agriculture, forestry and fishing**	**72453**	**143053**	**132902**	**194420**	**223188**
B	Mining and quarrying	299	1182	238	0	0
C	**Manufacturing**	**1301081**	**1091006**	**1612351**	**1566751**	**1927066**
D	Electricity, gas, steam and air conditioning supply	0	0	0	32	0
E	Water supply; sewerage, waste management and remediation activities	3136	3438	1263	2647	2290
F	Construction	1291	7173	5725	4125	4587
G	**Wholesale and retail trade; repair of motor vehicles and motorcycles**	**66112**	**56392**	**98681**	**96740**	**112914**
H	**Transportation and storage**	**1616**	**1898**	**12643**	**12639**	**23106**
I	Accommodation and food service activities	7	23	232	483	0
J	Information and communication	0	62	0	0	0
K	Financial and insurance activities	0	0	0	0	0
L	Real estate activities	0	43	0	0	0
M	**Professional, scientific and technical activities**	**129**	**3950**	**14486**	**18802**	**29306**
N	Administrative and support service activities	263	229	684	501	477
O	Public administration and defence; compulsory social security	0	37	0	0	0

	NKD 2007. section	2013.	2014.	2015.	2016.	2017.
P	Education	0	0	0	0	0
Q	Human health and social work activities	0	0	0	0	0
R	Arts, entertainment and recreation	4	0	6	32	0
S	Other service activities	34	0	40	0	120
X	Unclassified	0	0	0	0	0

Source: Authors according to data from Croatian bureau of statistics

According to Table 2 export is most represented in the following activities: Manufacturing, Agriculture, forestry and fishing, Wholesale and retail trade; repair of motor vehicles and motorcycles, Professional, scientific and technical activities and Transportation and storage. In 2017 in NKD section C (Manufacturing) the amount of export is equal 1.927.066 thousand kuna which is 48,11% more than in 2013. In section A the increase in 2017 compared to 2013 is 208.04%, and in section G the increase in 2017 compared to 2013 is 70,79%.

Next table represents the export of Brod-posavina county according to selected partner countries in period from 2013 to 2017.

Table 3: *Export of Brod-posavina county according to selected partner countries, 2013 – 2017*

thousand kn

Partner country	**Export**	**Export**	**Export**	**Export**	**Export**
Year	2013.	2014.	2015.	2016.	2017.
Total	1446426	1308485	1879251	1897172	2323054
Total (selected countries)	**1413420**	**1297335**	**1852517**	**1863169**	**2271760**
Albania	13040	17648	18341	15195	12977
Austria	65680	46885	76302	65681	73201
Belgium	47122	47404	112235	116603	72022
Belarus	0	0	93	90	1034
Bosnia and Herzegovina	**123712**	**127848**	**155627**	**172841**	**147175**
Bulgaria	720	2227	895	921	5924
Montenegro	14145	17370	13677	13008	12616
Czech Republic	10618	10548	40365	15385	16161
Denmark	7979	2769	194953	6854	63661
Estonia	4434	2336	1754	1992	2191
Finland	41907	7202	10052	20800	17155
France	**98239**	**146269**	**186348**	**176308**	**236151**
Greece	960	388	8634	6394	2378
Ireland	0	1986	93704	58313	13488
Italy	**82381**	**127161**	**212327**	**366544**	**453457**
Kosovo	15078	20251	7598	12052	13912
Latvia	168	100	231	189	545
Lithuania	2357	1570	3494	5468	6414
Luxembourg	21	0	0	0	151717
Hungary	10676	27640	35651	28342	41207
Former Yugoslav Republic of Macedonia	11059	5666	5543	4272	7270

Partner country	Export	Export	Export	Export	Export
Netherlands	9856	8390	7452	4604	34826
Norway	714	1291	1914	3249	3468
Germany	**149251**	**176538**	**205937**	**208601**	**321420**
Poland	22200	67063	110485	28968	31497
Portugal	437	1583	800	1427	2122
Romania	4846	4822	10812	8751	8226
Russian Federation	5226	5144	3354	4423	10657
Slovakia	9008	8070	9895	15745	13806
Slovenia	45628	50740	69562	125242	74667
Serbia	80461	145589	82700	46204	76490
Spain	5184	5394	4993	5920	6530
Sweden	66310	27807	8634	5717	9251
Switzerland	95233	15914	13706	15006	12412
Turkey	35643	1874	2460	3661	24698
United Kingdom	**333127**	**163848**	**141530**	**298108**	**290698**
Ukraine	0	0	459	291	336

Source: Authors according to data from Croatian bureau of statistics

According to data from the Table 3, Croatia exports most to Italy, Germany, the United Kingdom, France and Bosnia and Herzegovina. In 2017 the amount of exports to selected countries was 2,271,760 thousand kuna's, which is 60.73% more than in 2013. In 2017 the smallest export was to Ukraine with the amount of 336 thousand kuna's followed by exports to Latvia with 545 thousand kuna's and Belarus with 1034 thousand kuna's.

4. Import of the Brod-posavina county

Although the economy of the Brod-posavina county is still burdened with problems (problematic privatization of public property, permanent meaningful unemployment rate, difficult process of transition, decreasing industrial production, negative foreign trade balance…), in the last few years the tendency toward strengthening small and medium-sized enterprises and trades in personal ownership has been evident.

The county's foreign trade exchange is increasing, but the portion of the county's foreign trade exchange in the national foreign trade exchange is symbolic. Tables 4. and 5. are showing the trend of increase of the loss (deficit) evident in higher rate of growth of the import in relation to the export.

Table 4: *Import according to NKD 2007., principle of organisation, 2013 – 2017*

thousand kn

	NKD 2007. section	2013.	2014.	2015.	2016.	2017.
	Total	1144219	1020954	1273620	1342377	1454671
A	**Agriculture, forestry and fishing**	**76871**	**100441**	**76316**	**96312**	**94434**
B	Mining and quarrying	3305	6187	3703	2511	3766
C	**Manufacturing**	**929991**	**742301**	**915548**	**867019**	**1050177**
D	Electricity, gas, steam and air conditioning supply	228	27	0	0	0
E	Water supply; sewerage, waste management and remediation activities	0	16	114	679	184
F	Construction	5770	6556	17946	12258	17068
G	**Wholesale and retail trade; repair of motor vehicles and motorcycles**	**114942**	**133344**	**201918**	**195474**	**236692**
H	**Transportation and storage**	**5310**	**5906**	**12920**	**24776**	**22994**
I	Accommodation and food service activities	1075	1146	627	526	459
J	Information and communication	121	34	94	97	66
K	Financial and insurance activities	168	0	0	0	0
L	Real estate activities	99	0	0	0	51
M	**Professional, scientific and technical activities**	**1673**	**19402**	**36794**	**133040**	**16993**
N	Administrative and support service activities	3718	5357	7119	9507	8983
O	Public administration and defence; compulsory social security	0	0	0	0	0
P	Education	30	0	1	0	10
Q	Human health and social work activities	296	196	204	12	12
R	Arts, entertainment and recreation	194	17	223	105	34
S	Other service activities	429	23	90	62	25
X	Unclassified	0	0	1	0	2724

Source: Authors according to data from Croatian bureau of statistics

The table shows the import of Brod-posavina county by NKD section. Brod-posavina county imports the most in sections in which export is also highest. The amount of import for section C, in which import is largest, values 1.050.177 thousand kuna's what is 41,48% more compared to 2014 in which the import in that section was the smallest, followed by imports in sections G with import with amount of 236.692 thousand kuna's and in section A with import with amount of 94.434 thousand kuna's.

Table 5: *Import of Brod-posavina county according to selected partner countries, 2013 – 2017*

thousand kn

Partner country	**Import**	**Import**	**Import**	**Import**	**Import**
Year	2013.	2014.	2015.	2016.	2017.
Total	1144219	1020954	1273620	1342377	1454671
Total (selected countries)	**1069832**	**944182**	**1187611**	**1271272**	**1405629**
Albania	0	0	0	7	6
Austria	34410	41496	69210	41347	43594
Belgium	20597	20333	26722	35305	46747
Belarus	301	0	0	274	157
Bosnia and Herzegovina	**31358**	**54356**	**120149**	**126891**	**130565**
Bulgaria	4266	11136	18104	14626	40387
Montenegro	221	355	802	390	164
Czech Republic	12295	22265	16375	23800	35486
Denmark	48336	33956	30368	42094	69089
Estonia	2551	1883	1989	1164	804
Finland	58263	13452	6702	4042	3991
France	72700	62168	55352	60155	97153
Greece	1526	4472	2935	3245	2777
Ireland	0	0	2179	1534	588
Italy	**123616**	**113712**	**137247**	**151917**	**173133**
Kosovo	0	450	0	0	21
Latvia	0	0	0	124	7
Lithuania	4932	5023	5713	5204	4744
Luxembourg	259	141	50	353	193
Hungary	47614	71490	90743	84538	67023
Former Yugoslav Republic of Macedonia	5287	5415	1482	20669	9316
Netherlands	55166	59089	41242	112950	31176
Norway	134290	3840	6836	212	2304
Germany	**187504**	**199405**	**266706**	**229777**	**316361**
Poland	13865	14035	20864	22457	44026
Portugal	517	652	1487	1496	3326
Romania	33146	27644	53753	30988	22347
Russian Federation	120	515	532	617	4011
Slovakia	13258	15498	14165	21802	16780
Slovenia	**75774**	**67687**	**74408**	**120232**	**124419**
Serbia	53323	64435	74760	70282	74224
Spain	4862	8362	7839	6912	10203
Sweden	5560	4686	22770	7596	3530
Switzerland	7485	6013	3462	2232	2594
Turkey	5113	8838	10103	15669	17403
United Kingdom	8007	1167	1003	8529	2439
Ukraine	3310	213	1559	1842	4541

Source: Authors according to data from Croatian bureau of statistics

According to the Table 5., Brod-posavina county imports from the countries with which it also has the largest export relation, with the exception of Slovenia. From Slovenia, in 2017, the Brod-posavina county imported in the amount of 124.419 thousand kuna's, which is 64,2% more than in 2013. In 2017 the highest import was from Germany with value of 316.361 thousand kuna's after which comes import from Italy with value of 173.133 thousand kuna's. According to total recorded import volumes, Brod-posavina county imported in 2017 31,39% more than in 2013.

5. Conclusion

The basis of economic development of Brod-posavina county consists of processing industry (export-oriented: metal, wood, food industry, agriculture, construction, trade and service). According to the analyzed period of foreign-trade exchange of the Brod-posavina county, it is evident that the year-to-year export grew. Analyzing imports, it also grew, but along with some oscillations. What is certain is that there is a specific area for increasing the difference in the two observed variables by reducing imports by boosting domestic production and at the same time increasing exports to current partner countries as well as countries that are potential new markets. From the analysis it can be seen a clear strengthening of the partnership with the selected countries, which is certainly a basis for further growth and development. Along with that, affordable geostrategic position, transport infrastructure, natural resources, cultural and historical heritage and the readiness of the educational system and the academic community to adapt to the needs of the economy provide preconditions for a more intensive development of the economy and other activities which will affect the development of the county.

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"SLAVONIA, BARANYA AND SYRMIA PROJECT" WITH THE PURPOSE OF ACHIEVING THE STRATEGIC OBJECTIVES OF THE NATIONAL SECURITY STRATEGY OF THE REPUBLIC OF CROATIA – LEGAL ASPECTS"

ABSTRACT

The Republic of Croatia has gained numerous benefits and faced numerous challenges by becoming a full EU member. One of the benefits is certainly the possibility of using EU funds and programmes. When it comes to challenges, numerous security challenges have emerged, including the interdependence of the world economy that makes the national economies susceptible to global trends. Hence, due to the significant share of the tourism and transport sector in GDP, the Republic of Croatia is particularly susceptible to global economic and security trends, and therefore faces the challenges of increasing competitiveness, greater public sector efficiency, greater investments in research and development, debt reduction, and public companies and state property management.

In order to achieve its own goals and evenly disperse economic prosperity in all areas of the Republic of Croatia, the Government of the Republic of Croatia has defined the strategic objective, in terms of implementation of the "National Security Strategy of the Republic of Croatia" guidelines: Development of strong and sustainable economy and Demographic renewal and revitalization of the Croatian society. In the description of the listed objectives, undertaking and development of special balanced regional development measure, especially in demographically and economically vulnerable areas, is listed as an implementation mechanism. In the specific case, the "Slavonia, Baranya and Syrmia Project" can be considered such a mechanism, which is aim of the research in this paper.

"Slavonia, Baranya and Syrmia Project" has been launched in order to provide 2.5 billion euros from EU funds exclusively for projects in the five Slavonian counties. Investment funds for entrepreneurship, agriculture, education, health, research and development, water and sewerage, cultural and natural heritage, transport sector, inland waterways and energy sectors demonstrate connectivity (causality) of the relationship between the Project itself and the achievement of the National Security Strategy of the Republic of Croatia, which is the sole aim of the research in this paper.

This paper will use archival research in order to collect the necessary data on the approved programmes, which will be analysed and statistically processed with the aim of comparing the success of the implementation of National Security Strategy guidelines.

Key words: *economic development, "Slavonia, Baranya and Syrmia Project", National Security Strategy of the Republic of Croatia, EU funds, demographic renewal*

1. Introduction

With the EU accession, namely by acquiring full EU membership, the Republic of Croatia has been offered the opportunity of using EU funds and programmes. Parallel to opening up and obtaining access to such opportunities, the Republic of Croatia faces the challenges of transferring capital, money and development programs to those regions (counties) that are, according to all economic and demographic indicators, devastated and economically/ demographically weakened. Such economic and demographic conditions affect the general national politics, economic, demographic and social movements, and at the same time form the elements of national security challenges in the contemporary understanding of security challenges.

Therefore, the authors of this paper and research try to draw of legal aspects of parallel and establish causality between the individual projects of the Government of the Republic of Croatia and the security challenges, namely whether certain projects, specifically in this paper and the research "Slavonia, Baranya and Syrmia" (Project) are implementing the goals/objectives of the adopted National Strategy for National Security of the Republic of Croatia (the Strategy). The importance of extensive comparison of the Project and its infiltration into the guidelines of the Strategy or vice versa is of national significance for the authors of this paper and research, and also for the executive and legislative authority of the Republic of Croatia, because this Project (which will be presented in this paper, author's comment.) wants to enable - achieve the prosperity of balanced development in all areas The Government of the Republic of Croatia, in terms of implementation of the "National Security Strategy of the Republic of Croatia", has defined the strategic objective/s: Ecological Croatia and the development of a strong and sustainable economy and demographic renewal and revitalization of the Croatian society. In the description of the mentioned objectives, taking and developing special measure of balanced regional development, especially in demographically and economically weakened areas, is listed as an implementation mechanism. Specifically, the "Slavonia, Baranya and Syrmia Project" can be considered such a mechanism, which is the subject of this research in terms of analysing the results of the approved projects by priority axes to see if there is a positive correlation between them and the goals set by the National Security Strategy, namely the implementation of the Strategy.

Considering the "Slavonia, Baranya and Syrmia Project", launched by the Government of the Republic of Croatia in October 2016 with the purpose of increasing the absorption of EU funds covered by the existing operational programmes and the Rural Development Programme in the 2014-2020 financial period, for five Slavonian counties (Osijek-Baranya, Vukovar-Syrmia, Virovitica-Podravina, Požega-Slavonia and Brod-Posavina), it can clearly be stated that the founding of the Project creates a deeper meaning of the content that will come from the Project itself, as previously mentioned in this introduction. Since the project is designed to provide HRK 18.75 billion (EUR 2.5 billion) from EU funds for the purpose of financing the mentioned counties, the question of the extent and national importance of the implementation of such a political mechanism must be raised. Apart from better absorption of resources in substantive terms, the project, through the set goals, disperses the strengthening of local and regional self-government capacity that will be responsible for the preparation and implementation of projects. The significance of the Project's implementation as a mechanism for revitalizing the East of Croatia is reflected through the establishment of the Council for Slavonia, Baranya and Syrmia, which will take account of the harmonization of all policies, equal regional

development, transport connectivity, the development of small and medium-sized enterprises and stopping emigration in Slavonia, Baranya and Syrmia.
The planned resources are intended for investment in entrepreneurship, agriculture, education, health, research and development, water supply and drainage, cultural and natural heritage, transport, inland waterways and energy. The project also includes the implementation of a number of new measures such as the commitment to projects from less developed counties in co-financing through direct award, the possibility of achieving additional points when selecting projects in open grant award procedures, developing a new development index model, creating a poverty map and multiple deprivation index, and the development of analytical background for redefinition of statistical regions in the new financial period. In addition, the objective is to create the preconditions for the introduction of a special regional 'Operational Program for Slavonia, Baranya and Syrmia' in the next financial period of the European Union from 2021 to 2027 (European Structural and Investment Funds, n.d.)
It is clear from the content of the Project that this paper and research imply the already mentioned comparison between the content of the Project implementation and the content of the National Security Strategy of the Republic of Croatia guidelines. Therefore, the authors of the research will use archival research for the purpose of this paper and the research itself to collect data on approved programmes through the "Slavonia, Baranya and Syrmia Project", which will be analysed and statistically processed in order to ultimately compare the success of implementation of the National Security Strategy through the mentioned Project, namely to prove the causality-connectivity of the Project implementation and the Strategy implementation. The data were collected from the European Structural and Investment Funds website on 8 February 2019 (European Structural and Investment Funds, n.d.).
For the purpose of carrying out the theoretical elaboration of the mentioned topic and the research, the analysis of scientific and professional publications, relevant web pages as well as other important documents and publications of the institutions of the Republic of Croatia (Law on Local and Regional Self-Government Financing, Law on Regional Development of the Republic of Croatia, author's comment) has been conducted.
Structurally, namely in substantive terms of exploring and proving the thesis of this paper, the second part will present the Conclusions of the Council for Slavonia, Baranya and Syrmia, demonstrating the dispersion and the content of the Project from which the conclusions on the desire for balanced development of all parts of the Republic of Croatia, specifically Slavonia, Baranya and Syrmia, can or could be drawn. The same part will also give an overview of the basic concepts related to EU funds, since the Project is being launched with the purpose of increasing absorption of EU funds provided under the existing operational programmes, and will include research and analysis on priority axes and investment priorities in order to see how much funds have been contracted and how the National Security Strategy guidelines have been implemented by absorption. In the third part, the authors will provide legal aspectst/theoretical definitions of the concept of national security, and show those guidelines of the National Security Strategy of the Republic of Croatia that speak about a balanced development and revitalization of the Republic of Croatia and demographic issues, all for the purpose of forming a final conclusion in this research and the work, which is presented in the fourth part of this paper.

2. Council for Slavonia, Baranya and Syrmia - legal mechanism for Achieving the Objectives of the National Security Strategy Through the Absorption of the European Union Funds

In the sense of proving the connectivity or causality between the "Slavonia, Baranya and Syrmia Project" with the National Security Strategy of the Republic of Croatia, it should first be stated that the Government of the Republic of Croatia has just designed a mechanism to represent the advisory body in coordinating the implementation and monitoring of the use of European Structural and Investment Funds (ESI), that is, the implementation of the Project itself, and thus indirectly the National Security Strategy. In this regard, at the Government session held on 8 March 2017, the Council for Slavonia, Baranya and Syrmia (Council) was established.

The primary reason for establishing the Council as a mechanism lies in the fact that, according to statistical indicators, Eastern Croatia, or the territory of Slavonia and Baranya, which occupies almost one fifth of the Croatian territory, is the least developed Croatian macro-region. The lagging average GDP ratio in relation to other regions as well as the highest unemployment rates are the indicators that rank this area in the so-called problem areas. That term generally encompasses the parts of a national territory which, due to their structural and dynamic characteristics, increasingly burden the development of the country as a whole. (Matišić, Pejnović: 2015)

The statistics in the following table show the unemployment rates for the counties of Eastern Croatia, the unemployment rate at the level of the Republic of Croatia, and the County of Istria and Zagreb.

Table1: *Registered unemployment rate*

COUNTY	2015	2016	2017
The Republic of Croatia	19,3	16,9	13,9
Osijek-Baranya	31,9	28,8	24,9
Vukovar-Syrmia	33,6	29,7	25,1
Brod-Posavina	30,8	27,1	22,4
Virovitica-Podravina	35,8	32,7	28,8
Požega-Slavonia	26,2	22,8	19,0
Istria	9,9	8,4	6.2
Zagreb	18,2	15,1	11,3

Source: www.dzs.hr

The data show that the counties of Eastern Croatia are among the most underdeveloped in the Republic of Croatia and that the unemployment rate is far above the rates for example in Istria and Zagreb County, which has resulted in increased emigration of younger and more educated population and weakening of demographic resources. For these reasons, the intervention of the state in these areas in both financial and operational terms is necessary, as well as the additional capital available from European funds.

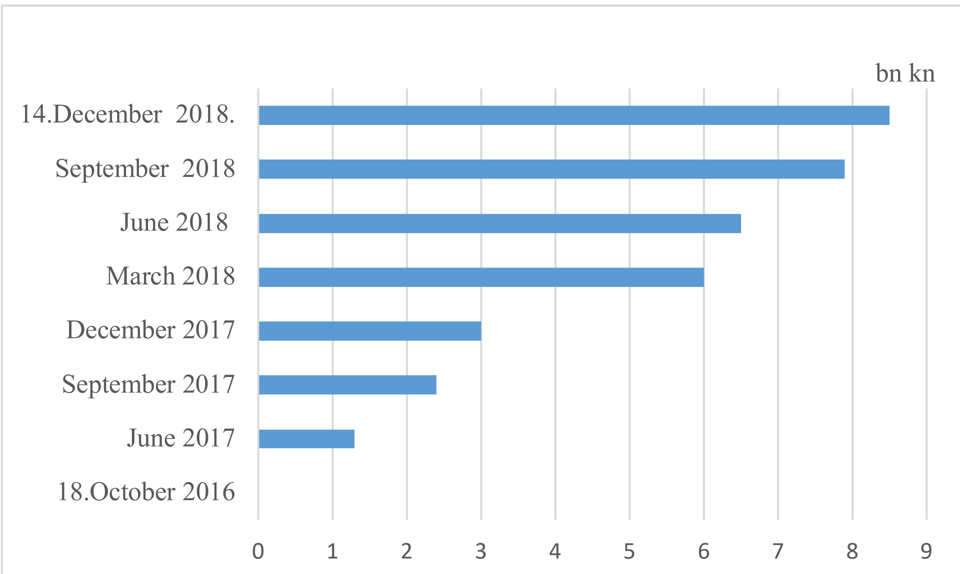
In order to monitor the implementation of the Project, which would reduce the disparity between the developed and underdeveloped regions of the Republic of Croatia, the Council has hitherto held 7 sessions with conclusions to determine all the facts and scope of implementation as well as future action. Concerning the above, as well as proving the importance/significance of the Project in relation to the implementation of the National Security Strategy, the principal contents of the Conclusions of the Council's sessions will be outlined, from which it will be possible to draw the parallels - the link between the National Security Strategy guidelines, namely its objectives (Ecological Croatia and the Development of Strong and Sustainable Economy, Demographic Renewal and Revitalization of the Croatian Society), as well as the implementation of the Strategy through the mentioned Project;

- a balanced development of all parts of Croatia is a priority of the Government of Croatia and all its departments.
- the counties, cities and municipalities, development agencies and local action groups will be conducive to development Slavonia.
- development of agriculture has a particular place in the development of Slavonia.
- in the upcoming calls for grant funding from ESI funds, the adjustment of the criteria will allow for additional points to be made for projects implemented in the area of underdeveloped units of regional or local self-government.
- the Council supports the establishment of the Regional Development Fund with the aim of promoting balanced regional development of all parts of the Republic of Croatia.
- the Council supports the signing of the first Development Agreement for Slavonia, Baranya and Syrmia. The Development Agreement shall be concluded between the central level of MRDEUF and the Ministry of Agriculture and 5 counties: Brod-Posavina, Osijek-Baranya, Požega-Slavonia, Virovitica-Podravina and Vukovar-Syrmia County. The agreement provides for the means to implement 29 development projects. The objectives of the cooperation are: strengthening competitiveness and balancing regional development, responding to key social challenges and reducing poverty and increasing the standards of counties for which the Development Agreement is concluded. It has been confirmed that three restricted calls worth over HRK 300 million will be issued for Slavonia, Baranya and Syrmia, in accordance with the signed Development Agreement: Preparation and Implementation of Integrated Development Programmes based on the Restoration of Cultural Heritage in Slavonia, Baranya and Syrmia, Promotion of Sustainable Development of Natural Heritage in Slavonia, Baranya and Syrmia and Financing the Preparation of the Inventory of Strategic Regional Development Projects with Priority Axis 10 Funds - Technical Assistance of the Operational Programme Competitiveness and Cohesion.
- in the 5th session, the Treaty on the Advisory Services for Growth and Employment in Slavonia, Baranya and Syrmia (RAS Agreement) was signed with the World Bank, which provides advisory services worth EUR 6.2 million for a period of 36 months to support the Slavonian counties in increasing the efficiency of the EU funds in the current financial perspective (2014-2020) and prepare them for the financial perspective 2021-2027, and other sessions confirmed progress in the implementation of the Treaty.
- the Government of the Republic of Croatia, by changing the legislative framework, allows for the reduction of regional inequalities, strengthening of the role of regional coordinators and more effective management development.
- the Ministry of the Economy, Entrepreneurship and Crafts conducts activities aimed at strengthening the financial ability and competitiveness of entrepreneurs through the intensification of the use of EU funds and the improvement of the legislative framework that will stimulate the creation of new value chains in Slavonia, Baranya and Syrmia.
- the activities of the Ministry of the Sea, Transport and Infrastructure are focused on continuing the already started projects in road and railway infrastructure, as well as in inland waterways.
- the Ministry of State Property will intensify the processing of requests by local and regional self-government units to put inactive state property into service for the purpose of building entrepreneurial zones through the issuance of consent for applying for EU funds, namely the donation, allocation or use of property owned by the Republic of Croatia.
- the Ministry of Agriculture continues to implement and amend regulations in the field of agriculture in order to create a sustainable supply chain, to reduce administrative

obstacles and to put the available agricultural and forest land into service, namely the allocation of the country to the young, domicile population.

- the restoration of cultural heritage creates the conditions for the development of continental tourism, a series of cultural projects in Slavonia continues, and balanced regional cultural development and participation in culture and the development of the public is also important.
- within the Strategy for Demographic Revitalization of the Republic of Croatia, special attention will be given to Slavonia, Baranya and Syrmia, in order to approach this area as a Special Demographic Care Area, and the deadline for the preparation of specific measures within the mentioned strategy is April 2019.
- it has been confirmed that the Ministry of Science and Education will support the promotion of regional and local development capacities in education and science, as a key segment of sustainable territorial and regional development.
- it has been confirmed that by the end of the year the Ministry of Environmental Protection and Energy will open the remaining public calls for co-financing the necessary infrastructure for the establishment of a waste management system and that by the end of 2018, in cooperation with Croatian Waters and public service providers, the preparation of projects in the field of water management will be accelerated.
- in a short period of time, the Ministry of Health has undertaken many capital investment activities in the 5 counties of the Slavonia, Baranya and Syrmia Project, which will contribute to providing better health care services to the population in this area and contributing to economic growth.
- the Council has provided an overview of the contracted grant rates movement within the five (operational) programmes and programmes of European Territorial Cooperation for the Slavonia, Baranya and Syrmia Project, quarterly (Government of the Republic of Croatia 1-7, 2018):

Chart 1*: An overview of the contracted grant rates movement within the five (operational) programmes and programmes of European Territorial Cooperation for the Slavonia, Baranya and Syrmia Project, quarterly*



Source: created by the authors according to European Structural and Investment (ESI) Funds (n.d.)

2.1. EU Cohesion Policy within the “Project Slavonia, Baranya and Syrmia”

An analysis of European funds has been carried out which (in)directly affect the implementation of the Project and (in)directly the Strategy, for the purpose of the research and the withdrawal of the parallel between the “Slavonia, Baranya and Syrmia Project" with the guidelines of the National Security Strategy of the Republic of Croatia,
In order to analyse the contracted funds through EU funds for the “Slavonia, Baranya and Syrmia Project”, the text below presents a theoretical overview of the basic concepts related to EU funds.
“European funds are conceived as financial instruments that support the implementation of a particular European Union policy in Member States. Hence, for some, the most important policy pursued by the European Union is precisely the cohesion policy which is aimed at stimulating job creation, business competitiveness, economic growth, sustainable development and improving the quality of life of citizens of all regions and cities of the European Union” (Šimunković, 2016, 65). The EU's cohesion policy has developed with the intention of reducing regional development policies both within the EU (between Member States) and within the EU Member States, which can be applied to the factual state of development of the Croatian regions. It follows that cohesion policy is not a substitute for the regional policy of Member States, but their complement.
The purpose of the cohesion policy is to improve the opportunities within a particular territorial unit, namely geographic area, which has a lower rate of economic growth, higher unemployment rate or lower gross domestic product (GDP) than other EU territorial units (Lajh, 2006:5).
There are three main funds for financing the cohesion policy:

1. Cohesion Fund (CF) - For EU Member States whose gross national income per capita is below 90% of the EU average and finances projects in the area of transport and the environment.
2. The European Regional Development Fund (ERDF) aims to strengthen economic and social cohesion in the European Union and to reduce developmental differences between its regions. Special attention is devoted to specific territorial characteristics, and action is designed to reduce economic, environmental and social problems in urban areas, with particular focus on sustainable urban development. It also mainly focuses on infrastructure investments, investments in production with the aim of job creation and on local development and development of small and medium-sized enterprises.
3. The European Social Fund (ESF) - promotes employment and employment opportunities in the European Union, and two more funds are available in this financial perspective. The European Regional Development Fund and the European Social Fund are also known as the structural funds, and all five funds are commonly named European Structural and Investment Funds (ESI Funds, n.d.).

There are two more funds available in this financial perspective: the European Agricultural Fund for Regional Development and the European Maritime Affairs and Fisheries Fund.
The European Regional Development Fund and the European Social Fund are also known as the structural funds, and all five funds are commonly called European Structural and Investment Funds (ESI Funds). The central coordination body of the Republic of Croatia responsible for managing ESI funds is the Ministry of Regional Development and European Union funds.
How much ESI funds will be spent during the programming period of the state are detailed in the Operational Programs (OP). They can be drawn for a specific region or thematic objective at the countrywide level (e.g. the environment).
Member States apply operational programmes based on partnership agreement. Each operational programme determines which of the 11 thematic objectives that will be managed

by cohesion policy in the 2014-2020 programming period will tried to be achieved through the resources available under this operational program. (European Commission, n.d.).
In the 2014-2020 programming period Croatia has at its disposal OP Competitiveness and Cohesion, OP Efficient Human Resources, Rural Development Programme, OP Maritime and Fisheries and Rural Development Programme.
European territorial cooperation, as the second objective of the cohesion policy for the 2014-2020 period, refers to the creation of the basis for the development of coordinated, systematic and strategic cooperation on the local, regional and central government level with partners from neighbouring countries and other regions of the European Union. With such an objective, as well as with the exploitation of this fund, we can conclude that the implementation of the guidelines of the National Security Strategy of the Republic of Croatia can be done through it, primarily, as mentioned above. Regional development will contribute to the economic and overall social development of the Republic of Croatia. With a view to balanced territorial development of the Republic of Croatia, it is necessary to take into account the prerequisites and circumstances that in certain counties favour the development of certain economic sectors, and to define and regionally implement selective economic and fiscal policies. According to the above said, an overview of the approved funds according to the Operational Programmes of the Slavonia, Baranya and Syrmia Project, and further elaboration of the most represented Operational Programme in relation to the priority axes, is given below.

2.2. Research Results – Analysis of Results Approved Through Operational Programmes Competitiveness and Cohesion 2014-2020 in the Slavonia, Baranya and Syrmia Project

By researching and analysing contracted funds under operational programmes, it is evident that more than half of the target amount (52%) of grants for the Slavonia, Baranya and Syrmia Project include funds for OP Competitiveness and Cohesion, followed by the Rural Development Programme (37.03%), while the OP for maritime affairs and fisheries is the least represented (0.32%), as shown in Table 2.

Table 2: *Slavonia, Baranya and Syrmia Project – value of contracts in all five counties according to operational programmes concluded from 18 October 2016 to 8 February 2019*

Operational Programme	**Amount (HRK)**
OP Competitiveness and Cohesion	4.604.750.612,60
OP Efficient Human Resources	734.990.423,94
Rural Development Programme	3.272.682.917,32
OP for maritime and fisheries	28.324.049,44
OP for food and/or basic material assistance	40.159.864,27
European Territorial Cooperation	157.637.601,05
Total grants contracted	**8.838.545.468,62**
The target amount for the Slavonia, Baranya and Syrmia Project	18.750.000.000,00

Source: ESI funds (n.d.)

Below in the paper, there is an analysis of contracted funds OP Competitiveness and Cohesion by priority axes, investment priorities, which indicates the development and success of the Slavonia, Barania and Syrmia Project.

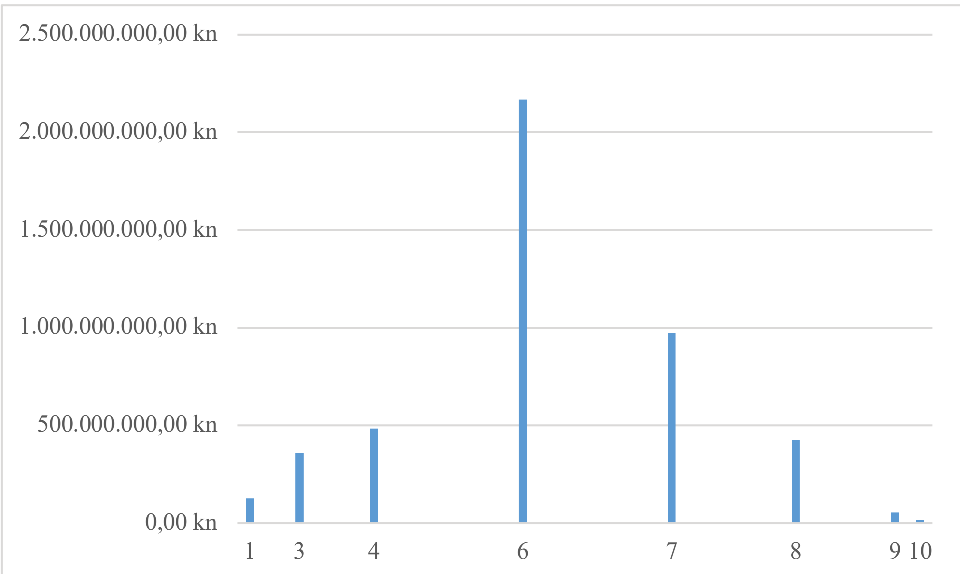
2.3. Analysis of Contract Value in OP Competitiveness and Cohesion in All Five Counties from 18 October 2016 to 8 February 2019 by Priority Axes

High representation of OP Competitiveness and Cohesion is logical if the priority axes of the programme are known: strengthening the economy by applying research and innovation, using information and communication technology, business competitiveness, promoting energy efficiency and renewable energy sources, climate change and risk management, environmental protection and sustainability of resources, connectivity and mobility, social inclusion and health, education, skills and lifelong learning and technical assistance.
In the text below, there is a list of priority axes funded by the Operational Programme Competitiveness and Cohesion in the Slavonia, Baranya and Syrmia Project, which can (could) undoubtedly induce implementation of the National Security Strategy guidelines:

- priority axis 1: strengthening the economy through research and innovation
- priority axis 3: business competitiveness
- priority axis 4: promoting energy efficiency and renewable energy sources
- priority axis 6: environmental protection and sustainability of resources
- priority axis 7: connectivity and mobility
- priority axis 8: social inclusion and health
- priority axis 9: education, skills and lifelong learning
- priority axis 10: technical assistance

Additionally, the graphic representation of funding by above mentioned priority axes in Slavonia, Baranya and Syrmia Project shows which axis is the most represented.

Chart 2: *An overview of contracted grants by priority axes*



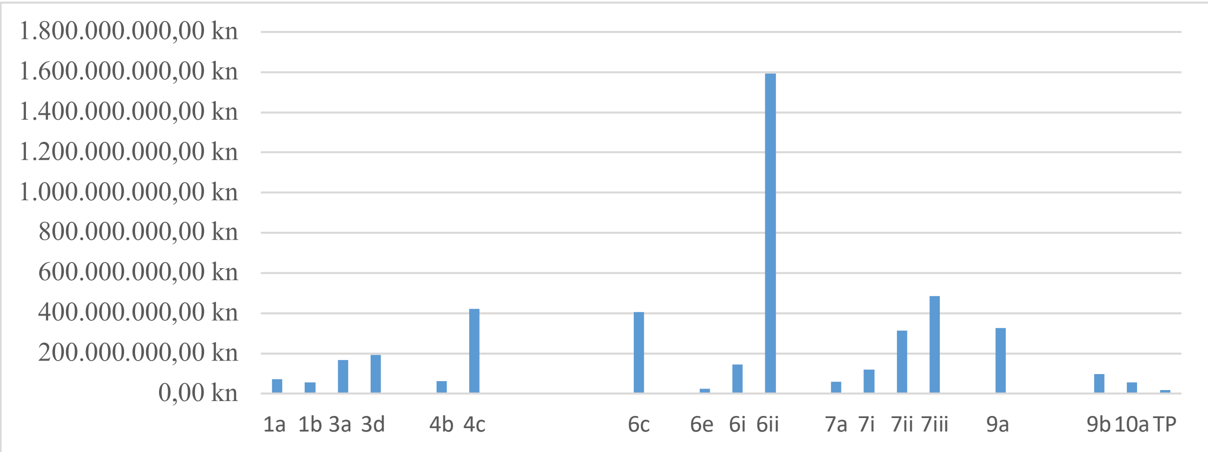
Source: created by the authors according to ESI Funds (n.d.)

The highest amount of funds was contracted for priority axis 6: environmental protection and sustainability of resources (HRK 2.167.588.808,60), followed by priority axis 7: connectivity and mobility (HRK 971.417.967,76), which makes it possible to conclude that, to a certain extent, the National Security Strategy guidelines have been met, namely the Strategic Goals – "Ecological Croatia and the Development of a Strong and Sustainable Economy".

2.4. Analysis of Contract Value in OP Competitiveness and Cohesion in All Five Counties Concluded from 18 October 2016 to 8 February 2019 by Investment Priorities

The research and analysis presented in this paper, as well as this subchapter, show that there are investment priorities within each priority axis which, in relation to other parameters, make up the overall balance of economic and social development neccessary to ensure the quality of life in all regions. The main challenges are low competitiveness of the economy, high unemployment, the gap between education system and economic needs, inadequate economic and public infrastructure and services. There are also regional inequalities, caused by geographic and various socio-economic factors. (ESI Funds 2). The chart below represents the contracted grants to show which investment priorities are the most prominent in Slavonia, Baranya and Syrmia Project.

Chart 3: *An overview of contracted grants by investment priorities*



Source: created by the authors according to ESI Funds (n.d.)

Given that the majority of the funds were contracted for the financing of priority axis 6, it was to be expected that the investment priority within that axis would be the most represented. By analysing it, it was found that the most grants were contracted for investment priority 6 iii - Investing in the sector declines to meet the requirements of the acquis communautaire in the environmental field and meet the needs for the investment that exceed these requirements (HRK 1.593.405.083,24) set out by the Member States. Then follows 7iii and contracted HRK 485.299.259,08 related to the Development and Renovation of Comprehensive, High Quality and Interoperable Railway Systems and the Promotion of Noise Reduction Measures. It can be concluded that the given measures are (in)directly in the service of the implementation of the National Security Strategy, namely the objectives "Ecological Croatia and the Development of a Strong and Sustainable Economy" and within the objective of the improvement of infrastructure development with the aim of improving traffic and electronic communication links...

3. Legal ascpects of National Security and the National Security Strategy – Challenges and Realities through the implementation of the "Slavonia, Baranya and Syrmia Project"

The totality of the existing implementation-scope of action of the "Slavonia, Barany and Syrmia Project" has been presented/proved in the previous chapters of this research/paper, as well as "its" (in)direct impact on the empowerment and revitalization of the economy, namely on the possibility of achieving the prosperity of balanced development of all parts of the Republic of Croatia as one of the strategic goals of this Government, the question of connectivity between the Project and national security (threat of national security) needs to be sought in contemporary understanding of the concept of national security.

The issue of security, national security in contemporary understanding has taken on different connotations in relation to previous definitions and previous understanding, since integration, political-geopolitical circumstances, economic, social (demographic) and other circumstances influence the definition of national security. Hence, precisely in the context of the aforementioned factors which influence the national security, the definition of the latter may perhaps best be given by Cvrtila, who defines national security as the nation's (national) ability to protect its internal values from external dangers (Cvrtila, 1995), and Nobilo who sees national security as "a complex interaction of the political, economic, military, ideological, legal, social and other internal and external factors, through which individual states seek to ensure normal, namely acceptable conditions for preserving the sovereignty, territorial integrity, physical survival of the population, political independence and the possibility of an equal, harmonious and rapid social development" (Nobilo, 1988).

From the aforementioned definitions of national security understanding, we can conclude that the classical understanding and classification of the military aspect in defining the term is not relevant and up-to-date, but it is characterized by threatening one of the factors that affect the threat or the strengthening of national security measures. Hence, in terms of understanding the concept of national security and its protection, in the introductory part of this paper/research it is stated that it is necessary to compare the Project and "its" roles in the protection of the national security of the Republic of Croatia because the development of a strong and sustainable economy, demographic renewal and revitalization of the Croatian society are of national importance. Comparing the Project with the national security protection should primarily be seen in the fact of the exclusive insight into the primary sources that contribute to this research, namely the content of the guidelines of the adopted National Security Strategy of the Republic of Croatia from 2017, the SOA Public Report for 2016 (SOA, 2016) and the Conclusions of the sessions of the Council for Slavonia, Baranya and Syrmia.

In the adopted National Security Strategy of the Republic of Croatia, the introductory part entitled "INTRODUCTION, VISION AND SECURITY CONCEPT" states that "*National security in the Republic of Croatia shall be achieved through concerted practices in all areas of development, not only in security instruments and activities... The vision of the Republic of Croatia is to develop a democratic and free state capable of protecting its population, territory and sovereignty, national identity, the highest values of the constitutional order, human rights and freedoms through a comprehensive and coordinated action. The Republic of Croatia will ensure economic and social prosperity that will enable demographic renewal and revitalization ... The National Security Strategy of the Republic of Croatia is an initial strategic document defining the policies and instruments for achieving the vision and national interests, and achieving security conditions that will enable a balanced and continuous development of the state and society.*" Our reflection as well as the demonstration of the contemporary concept of national security understanding is clearly identified in the first part of the Strategy, and this paper/research proves that the "Slavonia, Baranya and Syrmia Project" complements the

aforementioned. In addition to clear vision and security concept, the Strategy also defines national interests and among the national interests it is stated that “the welfare and the prosperity of the citizens are the most important indicators of the quality and success of the state, a democratic political system and a stable society”.
In addition to the defined national interest of the Republic of Croatia in the National Security Strategy of the Republic of Croatia, the strategic goals and mechanisms for their realization are defined since the strategic goals represent the concrete implementation of the national security policy in the area of every national interest, in accordance with the conditions of the strategic environment and observed through the level of ambition in medium-term period. Considering the aforementioned, and according to the thesis of this paper/research, some of the Strategic goals of the Strategy are;

1.Ecological Croatia and the development of a strong and sustainable economy which states that the Regional development will contribute to the economic and overall social development of the Republic of Croatia. Regional development will be based on continuous learning and transfer of knowledge, participation in decision making, resilience and sustainability, activation of local development potential, culture of systematic public management and social sensitivity. Special balanced regional development measures will be undertaken and developed specifically in demographically and economically weakened areas. With the aim of achieving balanced territorial development of the Republic of Croatia, in the strategic objectives it is stated that the preconditions and circumstances that in certain counties favour the development of certain economic sectors will be taken into account, and that selective economic and fiscal policies will be defined as well as regionally implemented.

2. Demographic renewal and revitalisation of the Croatian society which determines that the security, survival and prosperity of the Republic of Croatia depends to a great extent on how to preserve or increase the number of inhabitants in the future, ensure equal population and develop human resources. In that regard, it is precisely the negative demographic trends, the unbalanced regional development of the Republic of Croatia, the decline and aging of the population, that indirectly become a limiting factor for the sustainability of the economic, regional and overall development of the Republic of Croatia, which directly affects the security challenges. The mechanism is as follows, when making plans and guidelines for economic development, special attention will be devoted to measures that will halt the depopulation of parts of the territory and uneven regional development. The importance of the renewal and revitalization of Croatian society, as well as demographic policy that also affects the threat of national security, was noted by Šterc, who views demographic policy as a policy of the future, and demographic problems and displacement issues as a matter of national security (Šterc, 2018). Relationship between demographic policy and demographic problems is noticed by the Security Intelligence Agency of the Republic of Croatia in its 2016 Public Report, which states the following in the subtitle “Demographic Challenges”: “Although the link between demography and national security is not always straightforward and clear, the dynamics of certain demographic categories, independently or in synergy with other factors, affects security-political processes. Hence, SOA has analytically processed the link between demographic trends and national security.”
At the end of this part of the paper/research, in the sense of withdrawing the parallel between the “Slavonia, Baranya and Syrmia Project” and the issues of national security, namely security challenges and threats, it should be stated that the National Security Strategy clearly states in its text that negative demographic trends, the unbalanced regional development of the Republic of Croatia, the decline and aging of the population indirectly become a limiting factor for the sustainability of the economic, regional and overall development of the Republic of Croatia.

Such facts therefore make the National Security Strategy and the Slavonia, Baranya and Syrmia Project, as an operational mechanism for the implementation of the Strategic guidelines, dependent, for the purpose of overall development of the Republic of Croatia.

4. Conclusion

To sum up, when it comes to writing a conclusion of this paper and the research, the authors were primarily guided by objective (factual) knowledge and thoughts on the influence and importance of a balanced development of all parts of the Republic of Croatia. Balanced development of all parts of the Republic of Croatia, apart from political, undoubtedly has a supranational meaning that manifests itself through social phenomena, and such phenomena affect the overall development of the Republic of Croatia and the achievement of the objectives and guidelines of the National Security Strategy. Public policies, therefore, in terms of balanced development of all parts of the Republic of Croatia, as well as for the purpose of upgrading the said Strategy, should, through mechanisms, whether legal or political, or synergy of both concepts, achieve balanced development, economic growth and demographic revitalization of precisely those regions which are in economic and demographic deficit. Therefore, a mechanism that could achieve positive trends and turn the mentioned deficit in favour of citizens of the East of Croatia has been designed, and it is called "Slavonia, Baranya and Syrmia Project".

"Slavonia, Baranya and Syrmia Project" in substantive terms, and analysing the Conclusions of the Council's previous sessions as an operational and supervisory body for its implementation, the authors of this paper and research conclude that there is a political will and measures/mechanisms that could place the totality of the objectives of the Croatian East revitalization under the aforementioned, both through legislative framework (the Law on Local and Regional Self-Government Financing and the Law on Regional Development of the Republic of Croatia) as well as through external financing through European funds. However, the research in this paper implies a lack of absorption of European funds, which is particularly visible through a relatively small number of approved projects in the area of priority axis 1: strengthening the economy through research and innovation, through which grants could be allocated to those priorities and programmes that would revitalize Slavonia, Baranya and Syrmia, trigger positive demographic trends that would reflect on the socio-economic development of the country and thus not only meet the Government's Programme objectives in the four-year mandate, but also implement the guidelines/objectives of the National Security Strategy of the Republic of Croatia.

If we understand cohesion policy as a substitute for regional and state policies, we can conclude that, with the absorption of financial resources from European funds, the economic recovery of Slavonia and Baranya requires more effective and concrete measures of the Government of the Republic of Croatia in terms of relaunching the economy, which should be taken into account when making state budgets for future periods.

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BACK TO THE FUTURE: STRUCTURAL PROBLEMS OF ECONOMIC DEVELOPMENT OF SLAVONIA IN 1919 AND 2019

ABSTRACT

After the end of the First World War and the collapse of the Austro-Hungarian monarchy Croatian countries, apart from the direct war consequences, were devastated by long-lasting structural economic difficulties that resulted in the extremely uneven development of the industrial economy at the level of the Monarchy and the additional relative lagging behind of the Croatian countries. Looking at the antecedents and the consequences of economic circumstances in Slavonia a hundred years ago we can conclude that the same basic problems are present today. We propose that the basic aggravating features of the economic development of the Croatian countries including Slavonia before the dissolution of the Monarchy were (1) the oppressive demands of a supranational hierarchy which manifested itself in the territorial divisions of Croatia under the Austro-Hungarian Compromise settlement of 1867, (2) the lack of its own national economic policy, (3) weak industrialization based on the foreign initiative and money whose basic business model is exploiting natural resources and a favorable geo-economic position and (4) a high relative degree of illiteracy, lack of education and lack of knowledge necessary for a more significant economic development. The paper focuses on an analysis of the current economic structure of Slavonia based on these four issues and the comparison of the current situation with the situation from a hundred years ago. By comparing the causes and consequences of observed prerequisites of economic development, we will be able to conclude whether Slavonia and Croatia have improved their position in this respect or is the same scenario repeating again.

Key words: *Slavonia, economic development, economic history, Austro-Hungarian monarchy, European Union*

1. Introduction

That we can derive metanarratives from the past which we can then use in the present time is described in the well-known phrase *historia est magistra vitae*. From the perspective of evolutionary psychology, in the segment of awareness and learning, the role of memory is to enable us not to repeat the same mistakes, thus increasing the chances of survival. However, it is not entirely clear that learning from errors is such a straightforward issue when it comes to collective choices such as national policy making. Learning from mistakes of others is difficult to say the least, especially if we have not witnessed these mistakes but can only read about them in history books. When it comes to the economy of Croatia, especially the current one, it is increasingly felt that the unfavorable situations of the past are now reviving. That is especially visible to more experienced economic researchers, whose have inherent experiences with flawed economic development models.

Slavonia was once rich. At the time the source of competitive advantage was land suitable for agriculture. Today, the competitive advantage is in people. The circumstances have changed, but the model of economic development has not. There is a saying in Croatia that is primarily related to the football supporters: "Proud to be Croat". The slogan suggests that we should be happy that we are part of a group whose representatives are excellent football players. Can we use that saying in other aspects of our society? The country, which is still the foundation of economic development in Slavonia, is not something that we should be proud of. We did not contribute in any way to the fact that we were born in at a certain place in the world. We should be proud of what we do with our own strengths. So the destiny of all of us as well as the destiny of organizations we form such as family or a nation depends on our own action. However way of how we act is in connection with a structure that we have to contend with. The issue of economic structures in Slavonia today and 100 years ago is the main focus of this paper.

The pressure of social institutions is the tyranny with which we all face; it molds us and narrows our opportunities. But it also gives us direction and makes us more productive. Man is a combination of his given predispositions, the influence of the social (and economic) structures and affiliation he develops and which consequently directs his activity. In an effort to recognize the reasons for the weak economic development of Slavonia today, in comparison with the situation 100 years ago, we focus on the impact of the structure of the economic context. This does not mean that the remaining two segments: predispositions and values do not affect the outcome of economic development, but these segments are not the subject in this discussion.

In attempt to compare economic history of Slavonia with current state of affairs we have identified four issues that we will elaborate on in the paper: 1) the oppressive demands of a supranational hierarchy which manifested itself in the territorial divisions of Croatia under the Austro-Hungarian Compromise settlement of 1867, (2) the lack of its own national economic policy, (3) weak industrialization based on the foreign initiative and money whose basic business model is exploiting natural resources and a favorable geo-economic position and (4) a high relative degree of illiteracy, lack of education and lack of knowledge necessary for a more significant economic development. Each of these questions poses a unique set of issues to the economic policy makers in attempt to increase economic development.

2. Croatian lands in Europe – state of affairs and tendencies in economic development snapshots from 1919 and 2019

2.1. Socio-economic state of affairs in Europe prior to 1919

When we analyze Europe and its socio-economic development, it should be emphasized that it the developed through the so-called "twin revolution", that is, the two major revolutions that changed the Old World: French civil revolution and English industrial revolution (Puljiz, 2006). The main features of that time were the process of industrialization, agrarian revolution, traffic revolution, demographic transition and the rise civil society. All social changes have come, as they always do come, as a result of sociological and economic changes.

The prominent British historian E.J. Hobsbawm (1987) used the term "long 19th century", which marked the period from 1789 until 1914, and precisely in that time range we can observe tendencies that will allow us to make sense of economic development of Slavonia and Croatia in Europe in 1919.

The primary feature of this period in the segment of economic development is industrialization that has brought about fundamental changes in the traditional economic systems. This primarily refers to the transformation of the former form of production by the introduction of large factories and the appearance of the professional workforce. Industrialization, first and second, occupied all areas of the economy, and the result was a higher level of production, which conditioned the continuous advancement of modern society (Hobsbawm 1987). This continuity was transformed into a sort of race in development of mechanical engineering techniques. The subjects of this race were primarily the world's major powers as shown in Table 1.

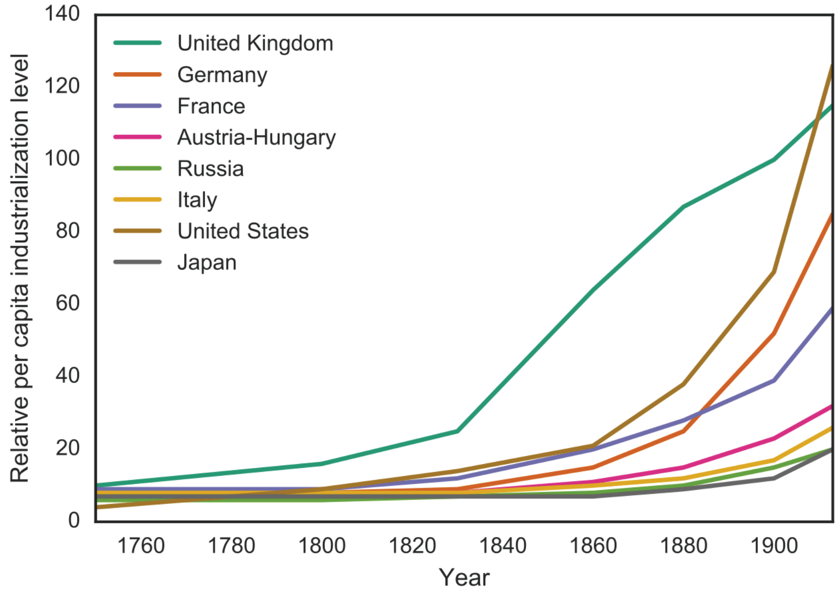
Table 1: *The value of machinery and tool per capita ($ in 1990) of three world superpowers*

Year	England	Ø god. %	USA	Ø god. %	Japan	Ø god. %
1820	82	-	87	-	-	-
1870	334	2,91	489	3,59	94	-
1913	878	2,33	2.749	4,2	329	3,03
1950	2.122	2,12	6.110	1,92	1.381	3,47

Source: amended from Stipetić, V. (2012): Dva stoljeća razvoja hrvatskog gospodarstva (1820.-2005.), HAZU, Zagreb, p 36.

To this group from the second half of the 19th century we can join Germany, which recorded a high rate of industrialization and development in general, and afterwards Italy as well. That is visible from Exhibit 1 which shows levels of industrialization in developed countries measured by relative per capita. Basis is United Kingdom at 1900 (value of 100). Values are triennial annual averages, except for 1913 (Bairorch, 1982.). Of special importance for the point of focus of this paper is that industrialization level of Austro-Hungary was relatively small which is indicative of vitality of the economic system that Slavonia was part of.

Exhibit 1: *Relative industrialization in developed countries measured by relative per capita (value 100 = United Kingdom at 1900)*



Source: Bairoch, P. (1982): *International Industrialization Levels from 1750 to 1980*, Journal of European Economic History, p. 11

The agrarian revolution, on the one hand, is marked by the changes in the techniques of work, which are linked to industrialization, and on the other hand, this revolution has abolished the traditional feudal relations and exploitation of the peasantry by the feudalists. Thanks to colonialism, especially English, about 100 new plant cultures were imported into Europe from America, which fundamentally changed the previous agrarian system (Kautsky, 1953). The industrial revolution as well as the agrarian revolution was factors of the development of capitalist productive relations, but also of civil society. It should be emphasized that the overthrow of feudal relations caused that serfs in Western Europe became landowners, and the more adaptable feudalists began to engage in intensive agriculture and entrepreneurship. This development of the large countries was significantly contributed by the countries which supported the development of entrepreneurship and banking by their stable and stimulating economic policies. Along with fundamental changes in the development of agriculture and the industrialization, change was also occurring in the case of traffic, by means of a faster and more economical rail transport. There were also major changes in shipping because of introduction of a steam engine.

These three impacts have irreversibly stimulated transition in demographics which is primarily indicated by changes in mortality, which were the result of the development of the chemical industry and drug production in the 19th century, but also better living conditions and cultural development of society (Wertheimer-Baletić, 2009). It should be noted that demographic transition did not take place in the 19th and 20th centuries all over Europe, but only where the economic and social development occurred, so again primarily in Western Europe, and only partially in periphery states. Thus, demographic transition encompasses the population of those European countries that have experienced a certain level of economic and social development, within the framework of certain developmental conditions relating to the geographical location, religious, traditional, national, cultural and other characteristics of their populations (Wertheimer-Baletić, 2013). Again same is obvious today; the current exodus of people from Slavonia is fuelled primarily by relatively bad economic situation and lack off jobs.

In the context of demographic change, the role of cities that have become new centers of national development and social events within the European civil society should be highlighted. Table 2 shows changes in the number of inhabitants in London, Paris, Vienna and Zagreb. While Vienna as the capital of Austria, which was a periphery of Europe in sense of industrial and civil changes, remained visibly behind London and Paris in aspect of population. In this, Zagreb is completely behind, and shows that Croatia is only periphery of the periphery of Europe.

Table 2: *Population of selected cities of Europe 1800 to 1940*

Cities	1800	1850	1900	1910	1940
London	1,011,157	2,286,609	5.896.175	7,157,875	7,987,936
Pariz	<1.000.000	>1.000.000	Ø4.000.000	Ø4.500.000	Ø5.700.000
Vienna	271,8	551,3	1,769,137	2,083,630	1,770,938
Zagreb	7.706	16.036	61.002	79.038	Ø 230.000

Source: Zagrebački ljetopis 2007, p 61; http://www.demographia.com/dm-lon31.htm (1-2-2019); Statistischen Mitteilungen der Stadt Wien (Heft 4/2000) Statistik Austria. Statistisches Jahrbuch 2009; Institut national de la statistique et des études économiques, 2016

Osijek as the largest city in Slavonia in 1900, had 33,407 inhabitants, and in 1910 40,106, which was for a about one third lower growth rate than Zagreb in the same period (Municipalities and Population of the Republic of Croatia 1857-2001, DZS, Zagreb, 2005).

In the period 1789-1848 a modern civil state is developing, and with it a modern economy that has stimulated personal abilities and protected the rights and assets acquired through work and knowledge. This created the first capitalist relations, and profit was the driving force behind the development of this new capitalist society. That time was remembered for the time of new philosophers and economists who played an important role in the development of civil society at that time. As fundamental, it is the time to promote "freedom", the freedom of thought, the freedom of the person, the freedom of conscience, the freedom of thought, press, gathering, association, freedom of property, contracting and trade (trades) and the right to equality (Gross, Szabo, 1991). Education during the 19th century is experiencing significant changes that have influenced better education of students and students. Class barriers are reduced, and education becomes a prerequisite for advancement, the acquisition of a desirable social status and better opportunities within the community. In the processes of modernization and industrialization, education is becoming more and more related to the field of work.

Table 3: *Years of education per employee for England, USA and Japan*

Year	England	USA	Japan
1820	2	1,75	1,5
1870	4,44	3,92	1,5
1913	8,82	7,86	5,36
1950	10,6	11,27	9,11

Source: amended from Stipetić, V. (2012): Dva stoljeća razvoja hrvatskog gospodarstva (1820.-2005.), HAZU, Zagreb, p 36.

Understanding that the competitiveness and development of the nation directly depends on education has become clearer and the education system is increasingly modernized in accordance with the economic goals of the state. All this has affected the accelerated development of science, especially chemical, technological and technical, which was accompanied by the development of new states such as Italy and Germany, which have recorded high rates of growth and growth in economics and science since the second half of the 19th century.

The economic development of Croatia and Slavonia in the period prior to 1919 was largely based on traditional agricultural business models since Austro-Hungary did not adequately monitor industrial developments in the whole, especially in our countries. The fact is that at the end of the 19th Century Monarchy was the Old Lady of Europe without economic vitality, which distinguished Germany and the West. The same epithets today mean a part of the researcher to the European Union especially in the light of Brexit.

2.2. Relative economic position of Slavonia in European Union

In order to indicate common factors that underline economic development of Slavonia today and a century ago we will take a snapshot on the development of Slavonia relative to EU, to the degree that the data sources are available.

We have derived data from the Eurostat using the current NUTS classification. The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU for the purpose of: (1) the collection, development and harmonization of European regional statistics, (2) socio-economic analyses of the following regions: (a) NUTS 1: major socio-economic regions, (b) NUTS 2: basic regions for the application of regional policies, (c) NUTS 3: small regions for specific diagnoses. The current nomenclature is valid from 1 January 2018 and lists 104 regions at NUTS 1, 281 regions at NUTS 2 and 1348 regions at NUTS 3 level.

The Eurostat NUTS classification is used to define regional boundaries and determine geographic eligibility for structural and investment funds. Regional eligibility for the European Regional Development Fund (ERDF) and the European Social Fund (ESF) during the programming period 2014–20 was calculated on the basis of regional GDP per inhabitant (in PPS and averaged over the period 2007–09). For the programming period 2021-2027, the Commission envisages the continued use of the NUTS classification for determining the regional development and hence eligibility for support from the ERDF and the ESF.

Croatia is included in the Nomenclature of Territorial Units for Statistics (NUTS) of the European Union. The NUTS of Croatia were defined during the Accession of Croatia to the European Union, codified by the Croatian Bureau of Statistics in early 2007. The regions were last revised in 2012. The three NUTS levels are: NUTS-1: Croatia, NUTS-2: 2 Regions, NUTS-3: 21 administrative Counties.

The two NUTS 2 regions are Jadranska Hrvatska (adriatic region) and Kontinentalna Hrvatska (continental part of Croatia). Region Kontinentalna Hrvatska consists of 14 administrative units, counties and city of Zagreb (NUTS 3 division). Out of those 14 NUTS 3 counties five form the basis for the analysis of Slavonia: County of Virovitica-Podravina, County of Požega-Slavonia, County of Brod-Posavina, County of Osijek-Baranja and County of Vukovar-Srijem.

Since there is no exact date in which we could specify relative position of Slavonia in respect to the EU we will take in consideration relative size of Slavonian counties in respect to other 9 administrative units from Kontinentalna Hrvatska NUTS 2 region using the National Beauro of Statistics information.

Table 4 gives us insight on the Gross domestic product (GDP) at current market prices by NUTS 2 regions and Slavonia in € where we can see how Slavonia is doing in respect to EU, Croatia, NUTS2 region Jadranska Hrvatska and the whole NUTS2 region Kontinentalna Hrvatska.

Table 4: *Gross domestic product (GDP) at current market prices by NUTS 2 regions and Slavonia (€)*

Year	EU	Croatia	Jadranska Hrvatska	Kontinentalna Hrvatska	Slavonia
2008	13,086,522.35	48,138.8	15,399.6	32,739.2	6.330,63
2009	12,330,593.32	45,145.38	14,317.51	30,827.87	5.834,63
2010	12,841,529.67	45,155.53	14,319.97	30,835.56	5.551,86
2011	13,217,461.47	44,825.46	14,111.05	30,714.41	5.551,57
2012	13,484,171.14	43,982.74	13,931.51	30,051.23	5.352,91
2013	13,596,777.25	43,779.18	13,944.45	29,834.73	5.371,00
2014	14,072,023	43,431	13,918.08	29,512.92	5.162,63
2015	14,828,28	44,605.9	14,272.3	30,333.5	5.294,72
2016	14,958,253.49	46,639.46	14,939.77	31,699.69	5.523,45

Source: Eurostat, Last update: 26-02-2019, Croatian Bureau of Statistics

Gross domestic product in € per capita in Slavonia in respect to EU average is presented in Table 5. Slavonia is on around 60% of GDP per capita of entire Croatia.

Table 5: *Gross domestic product (€) per capita in Slavonia in respect to EU average*

Year	EU Gross domestic product per capita, EUR	Slavonia Gross domestic product per capita, EUR	% of EU Average
2008	25.922,23	7.302,00	28,17%
2009	24.478,49	6.736,38	27,52%
2010	25.555,34	6.496,83	25,42%
2011	26.398,33	6.536,09	24,76%
2012	26.646,33	6.354,79	23,85%
2013	26.813,10	6.416,90	23,93%
2014	27.684,87	6.183,11	22,33%
2015	29.091,03	6.432,47	22,11%
2016	29.260,98	6.845,15	23,39%

Eurostat, Last update: 26-02-2019, Croatian Bureau of Statistics

Although the regional structural business statistics concerning SBS data by NUTS 2 regions would be interesting to investigate, it is not possible to get that information because the Eurostat does not have the data for Croatian NUTS 2 regions. The same case is for the information concerning employment (thousand hours worked) by NUTS 2 regions.

The drift between Slavonia and the EU is becoming even biger so that in last 10 years Slavonia fell behind EU average GDP for almost 5%.

3. Antecedents and consequences of economic circumstances in Slavonia in 1919 and 2019

The long-lasting structural economic difficulties that led to the uneven development of the industialization within the Austro-Hungarian Empire who was falling behind western nations, were even worst in Croatia because of the long lasting war with the Ottoman Empire. Period of Croatian Kings ended with the Battle of Gvozd in May 1097 and the death of Petar Svačić in the battle against the Hungarians (Zelić-Bučan, 1992). From then until 1990 Croatia was under foreign rule. Croatia played the role of protecting Christian Europe from the Ottoman Empire spreading to the west. Those are the circumstances in which Croatia entered the second half of the 19th century - fragmented, underdeveloped and illiterate. Although the focus of the paper is Slavonia it needs to be noted that the situation was not better in Croatia or in Dalmatia. The overall economic situation was somewhat bette in Istria because of the proximity to core of the monarhy.

The fact is that Slavonia at the end of the 19th century until the middle of the 20th century was significantly impoverished. In the rest of the paper we argue that the main reasons for this were (1) the fragmentation and the problem of (non) living a national identity, (3) lack of own state and state economic policy, (3) weak industrialization, and (4) low level of literacy and knowledge. In our view, these problems were the underlying structural factors of Slavonia's development hundred years ago and that they still maintain to be that in the present.

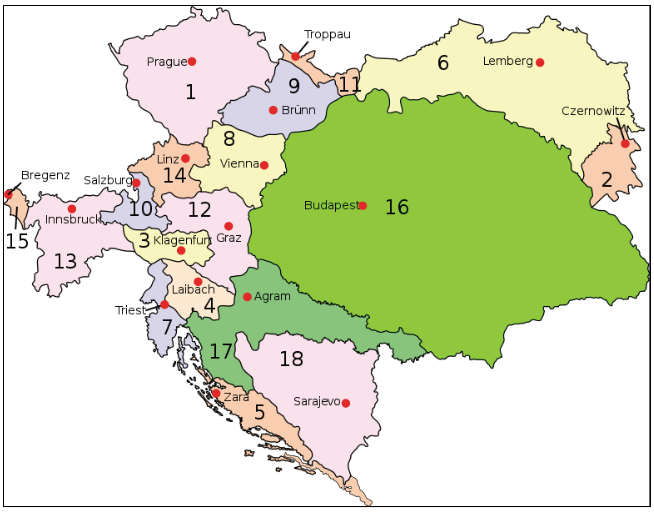
3.1. The oppressive demands of a supranational hierarchy

Being in the middle of interest zones of big powers: Austria, Russia and Ottoman Empire, Balkan has always been in turmoil and will probably be for a long time. Since the Croatian land have always been tosted to one power or the other one of big structural problems in the process of achieveing full potential of Croatia hundret years ago as well as now are the oppresive demans of supraniationl hierarchy, Austo-Hungarian Empire than, hipoteticly European Union now and Yugoslav federation of Balkan states in between (as well as its predecesor Kingdom of Serbs, Croats and Slovenes). Such situation is best described by long lasting fragmentation of Croatian countries.

The political boundaries of Croatian countries were no longer under they own reigh, but changed from the political and economic interests of the current rulers. The frequent changes of the external and internal borders without the bear in themselves changes in language as well as social and economic life.

The issue of fragmentation of Croatian lands is evident if we take in consideration Croatian lands within Austria-Hungary which consisted from two parts: Dalmatia, part of Empire of Austria (Cisleithania) and Croatia-Slavonia part of Kingdom of Hungary (Transleithania) (Exhibit 2).

Exhibit 2: *Two parts of Triune Kingdom: Croatia-Slavonia (number 17) and Dalmatia (number 5) within Austria-Hungary*



Source: Public domain

Under the conditions of a high degree of fragmentation of Croatia, the dominant illiteracy, high percentage of the rural population and the standard of living at the borders of hunger driven by the domination of foreign economic interests, the national issue was neglected for a long time.

The official language often changed, from German and Italian, to Serbian, depending on the position of power in a specific time. Accordingly, at the time of the emergence of a civil society, the parties formed one of the options, such as the autonomists who advocated the language of the authorities and the people who fought for the national Croatian language. These struggles often escalated into street clashes, and although the balance of power at the local level sometimes changed, on the national level it was never significantly chalenged. The fighting for language and nationality often went through political compromises within which a call for new struggles and conflicts was created.
The question of language was an importan issue in relation between Croatians and different foreigh influences since the language is most important element of a culture (Rajčić, 2006). The problem of language, especially in education, was finally supported by the Austro-Hungarian Empire, and in 1880, the imperial decree for the corporatization of secondary schools was adopted, which in 1880 in Split and throughout Croatia provoked the protests by the autonomists in the country, but without any special success (Jelic, 1963).

The development of cities, civil society and the rise of the young Croatian generation of intellectuals at the end of the nineteenth century also raised the national question within the Croatian political movement in 1848-1849. The movement sought the accomplishment of the territorial integrity of the Croatian provinces, and the introduction of a national or Croatian language in the administration, judiciary and education, but without many results. Nevertheless, the national spirit slowly woken, and education in the Croatian language was sought for all social strata, which was followed by the founding of the modern University of Zagreb in 1874. Accordingly, the movement sought and gradually realized free cultural cooperation with other South Slav nations. In spite of all this, the term "conservative modernization" (Jagić, 2008) would be best used for Croatian modernization.

The reflections and reinterpretations of the 19th century Europe were in the domain of only the educated elites of Western Europe, while broader layers of society, especially in countries as Croatia, were relatively late. This was probably the reason why the thoughts and desires of the Habsburg provinces, related to national integration, were gradually directed towards the larger southern Slavic community, which happened in the State of SHS.

By joining SHS, Croatia further exacerbated its prospects for improving the structural assumptions of economic development. Although the picture of the economic development of Slavonia in 1919, is not influenced by the SHS, we can mention how that was the time that Croatia should have moved in the direction of development of its own institutions. Of course, the situation and the real possibilities for such a way of action in the situation after the break-up of the Austro-Hungary Monarchy goes beyond the scope of this work.

SHS was a country of various traditional cultural and institutional lifestyles, as well as political aspirations (Miljković, Batinić 2011). Thanks to its leading role in the state of SHS, Serbia has developed its concept of Greater Serbia, which is especially evident from the education plan and program. In other words, the more pronounced civic way of life of that time, which would be logical, required the adaptation of the entire educational structure to new civic views and interpersonal relations. Therefore, the progress in the development of secondary education is, as a rule, a consequence of the needs of a differentiated civil society, but this was not the case in the educational system of the state of SHS (Modrić Blivajs, 2007). The imminent state of the Serbs of Croats and Slovenes (SHS) in 1918 was de facto a Serbian monarchy that developed the concept of Greater Serbia through that country, and the fragmented Croatia was a suitable political and spatial material for political inter-state tutelage, such as the Rapallo Agreement. That is, in the direct negotiations between Italy and the Kingdom of SHS, on November 12, 1920, a final agreement, known as Rapallo Treaty, was reached (Begonja, 2007). The agreement granted Italy de facto and de jure Croatian territory, among which the following eastern Adriatic areas included: Istria, Zadar, the islands of Cres, Losinj, Lastovo and Palagruža, while Rijeka became an independent state by the agreement until 1924, when by the Treaty of Rome was incorporated in Italy (Krizman, 1975).

National integration was also time-worn with national and religious diversity, especially in the second half of the 19th century, as well as at the beginning of the 20th century (Gross, 1985).

In adition to all above-mentioned objective limitations for the development of national consciousness, strong sense of local patriotism emerged mostly as a consequence of fragmented and low-educated Croatian national body, as well as the general economic downturn. This local patriotism proved to be a strong brake in the economic development of Croatia, especially in the necessary arrangements and cooperation between the cities in the realization of major development projects such as the construction of railway lines in Croatia.

With the dissolution of Yugoslavia Croatia became sovereign, internationally recognized state and was finally in situation to make decisions for its destiny in Zagreb. In mid-2013 Croatia became member of the European Union. Today in 2019 as a full member of EU, with upcoming presidency in first half of 2020, Croatia is in situation to fully harvest the economic potential of political and economic integration in Europe.

Although it would be unfair to compare previous integrations that Croatia has participated in with the EU (since other integrations were nominaly focused on the absorption of Croatian national entity) we can ask what kind of constraints to the development of national economic interest, if any, does the EU have.

The definition of national interests remains an under-researched topic in the social sciences. Svetličič and Cerjak (2015) note that national interests help states define themselves in relation to their external environment through the power they possess to define and enforce those interests and their ability to translate them into viable national policy guidelines.

National interests differ on the basis of a country's size. Croatia as a small country within the EU which needs to answer the question of pursuing national interest in respect to interest of other EU countries. Small states face disadvantages in shaping European policies owing to their limited bargaining power and constrained financial resources necessary for building up policy expertise and exerting pressure via arguing (Panke, 2010). In attempt to shed light to the question of why some small countries are more active in decision making than the others Panke (2010) tests hypotheses on learning, co-ordination mechanisms and legitimacy. It shows that small states are most active in negotiations if they have non-interrupted administrative work environments, motivated staff, balanced systems for the development of national positions, and have experienced a learning curve through long membership durations. Especially interesting is that Panke also mention the fact that significant influence can be exerted through holding the office of the Presidency.

The fact is that the membership in any form of integration is a contentious game that needs clear idea about our own goals and values as a *condicio sine que non* of developing sound grounds for economic development.

3.2. Lack of national economic policy

The absence of one's own state and state economic policy through the centuries left a deep mark on the economic development of Croatia. At a time when Western Europe concluded peace at the beginning of the 19th century after mutual exhausting wars, an agreement was reached on the distribution of the world in which England began to colonize other continents, and France began to conquer Europe. The wars of France and Prussia followed; new states, Germany and Italy, were born, of which Germany was increasingly intensified as a new member of the core industrial countries, which was not accepted by the old core, and the conflicts that finally escalated with the First World War. At the same time, Habsburg Monarchy decided that solutions to their development should be sought within their borders which was decision that mostly directed its economic policy. As an example of such an approach, Karaman (1972, p. 274) points out the ilustration of this policy by citing Alexander Konig, an Austrian businessman, owner of a coal mine and several plants in Dalmatia, at a lecture in Vienna in 1900. Konig was interested in further utilization of resources in Dalmatia, and he advocated the construction of the Vienna-Split railway line when he said: "We do not need for the next decades neither Africa nor China, we can lead the colonization policy in the country itself, and the first stage is the utilization of Dalmatia, because the Adriatic in the largest extent has all the prerequisites, that the famous Habsburg Monarchy needs to rise and shine again."

In such an economic-political environment, on the one hand, and Croatia's objective disadvantages at the end of the 19th and the 20th centuries on the other, it is logical that in Croatia and its countries, the economic policies of power-holders have often been shifting. The economic policy on the Croatian soil was subordinated to the various competencies and factors of the Habsburg monarchy, and it acted in the interest of external social-political forces. Autonomous organs of the Croatian-Slavonian administration were allowed to act independently only in the domain of agriculture (Karaman, 1991). Therefore, investments were in the hands of foreign investors, behind which were their countries, as well as banks with large capital. Entrepreneurial ventures grew over time, but, as Karaman stressed well (1991), these were mostly foreign investors and business owners.

Industries that were then developed in Croatia and Slavonia were wood and wood processing industry, processing of cereals and sugar beets, as well as an ever-increasing production of alcoholic beverages. It is interesting that Karaman, understanding the economic situation in Croatia at the beginning of the 20th century (1910), calls 64 enterprises with over 100 employees as a large-scale industrial enterprise, while the European core develops its industry with enterprises of over 1,000 workers. This size-size ratio in the company's diversity is still present today.

Table 6: *Business enterprises in Croatia and Slavonia by the end of 19^{th} and beginning of 20^{th} century*

Area	Business enterprises (number)			Workers (number)		
	1890.	1900.	1910.	1890.	1900.	1910.
City of Zagreb	22	41	79	1.722	3.665	5.984
Croatian counties	29	51	66	2.149	4.672	5.049
City of Osijek	5	14	25	235	697	2.057
Slavonian counties	54	107	101	5.786	9.765	10.514
Total	110	213	271	9.892	18.799	23.604
	Business enterprises (%)			Workers (%)		
City of Zagreb	20	19,3	29,2	17,4	19,5	25,4
Croatian counties	26,4	23,9	24,2	21,7	24,9	21,4
City of Osijek	4,5	6,6	9,2	2,4	3,7	8,7
Slavonian counties	49,1	50,2	37,3	58,5	51,9	44,5
Total	100	100	100	100	100	100

Source: Karaman, I. (1991): Industrijalizacije građanske Hrvatske (1800.-1941.), Naprijed, Zagreb p. 192

Under the influence of the more aggressive economic policy of the Monarchy, in 1910, joint stock companies were formed. In northern Croatia, this is largely initiated by Hungary, which capital dominates the weaker Croatian economy. According to Karaman (1991, p. 197), 58 Hungarian joint stock companies have 51,103 million krunas of engaged capital and 2/5 Croatian labor.

In order to bring products from Croatia to other markets as well as the other way around railway traffic was paramount. So the priority needs of Croatia and Slavonia, as well as other economically disadvantaged parts of Monarhy were in building traffic infractructure. In the second half of the 19th century, four companies, which constituted 100% of the existing railway lines, dominated the traffic: (1) The Austrian National Railway Company with 51.3%, (2) The Railway Company with 34.5%, (3) Southern Railway Company with 9.4%, (4) Danube Steamboat Company (Pecuj-Mohač railway line) with 4.8%. All four societies were owned by the Viennese Rothschild house, but with the participation of Hungarian aristocrats and their capital (Karaman, 1991, p. 79). It is also worth noting that from 1929 to 1946 not a single kilometer of new railroads was built, which speaks well of the care for Croatian economic development during the period of the Kingdom of SHS (Stipetić, 2012, p. 274).

Agriculture, which in northern Croatia had the potential, due to the fragmentation of arable land, the lack of industrialization, the lack of education of peasants and neglect of the authorities, remained at the level of family estates that barely provided for their own survival.

We can say that Croatian farmers were not prepared for market production at the end of the 19th century (Akrap, 2018). It would seem that the structural issues of national economic policies in Croatian lands hundred years ago were not focused on the development of domestic strengths and Croatian economy.

The question that needs to be posed today is the question of quality of today's economic policy in respect to the current and future development. Some questions are more important than the others in respect to functioning of distinct parts of economy such are agriculture, tourism or industry. One question that is of prime importance in this respect is discussion of introducing Euro as a national currency instead of Croatian Kuna. The debate has started few months ago and by the looks of it Croatia will decide to join the Eurozone in several years' time.

Numerous complex issues are constantly under scrutiny from the perspective of best national economic interest in respect to the EU agendas. Certainly there is significant amount of freedom within the framework of EU economic policies that a country can legally decide on, depending on clarity of vision and negotiating potential of Croatian decision makers.

3.3. Weak industrial development

Weak industrialization of the Croatian and Slavonian economies at the end of the 19th and the first half of the 20th century was already tackled in the previous sections of the paper. It is worth noting that competition in the development and dynamics of the development of the more advanced parts of the Monarchy made it possible to develop the textile industry more successfully, and local entrepreneurship turned to the development of timber industry, shipbuilding, cereal processing and alcoholic beverages (Karaman, 1991). Also observing industrialization in Croatia, Stipetić (2012) focused on different industries as well as on the fact that the development of industries after 1918 until 1938 did not rise significaly in respect to the number of factories founded prior to 1918 (Table 7).

Table 7: *Number of factories, workers and engaged horse power in Croatia from 1918 until 1938*

Industry	Founded		Number	Year	Workers	Power (HP)
	Until 1918	1918.-1938.	1938.			
Extractive	21	16	40	1919-23	23.349	23.356
Metalurgy	1	2	6			
Metal	20	56	79			
Cheramichs	43	16	63	1924-28	11.270	13.995
Wood	79	109	203			
Paper	11	18	30			
Chemical	27	47	79	1929-33	12.792	10.484
Food	217	189	431			
Textile	30	91	121			
Leather	7	12	19			
Electro	54	93	162	1934-38	6.740	9.080
Other	1	7	9			
TOTAL	511	656	1242	TOTAL	54.151	56.915

Source: amended from Stipetić, V. (2012): Dva stoljeća razvoja hrvatskog gospodarstva (1820.-2005.), HAZU, Zagreb, combined table p. 262 and p 263

Two faces of Croatian industrialization should be mentioned here, domestic and foreign. Although both of them constitute Croatian industrialization they do not do that with the same effect. For example, Austro-Hungarian has developed a military maritime base in Pula, which has been largely driven by domestic entrepreneurs in the development of shipbuilding. Also, Mali Lošinj quickly developed sailing maritime entrepreneurship, but the technical revolution, which domestic entrepreneurs did not perceive seriously enough, has soon destroyed this activity. Accelerated penetration of steam engine and iron in traffic, especially in seafaring in Western Europe, also affected Northern and Western Croatia, and the result was the downfall of the enterprenurial efforts of the young Croatian bourgeoisie (Karaman, 1991). On the other hand, foreign investors supported by the economic policies and local markets of their countries who were also more familiar with the novel technological improvements were more sucesfull.

As in Western Europe, as well as in Croatia and Slavonia, at the end of the nineteenth century entrepreneurship developed in cities that grew rapidly. This was fulled by the emergence of Croatian working class, largely uneducated, which came from the villages leaving work in agriculture, expecting a comfortable life in the cities. The strongest centers of young Croatian entrepreneurship were in Zagreb and Osijek. Entrepreneurship grew rapidly in these cities, with 34.1% of all enterprises in the factory economy in northern Croatia (from 25.9% in 1900 to 1910) (Karaman, 1991). However, the actual engaged horse power of these factories, at the time of then mature second industrial revolution, was very low compared to the same ones in the Austro-Hungarian, and especially in Western Europe.

While the world today is in midst of new industrial revolution Slavonia is yet again lagging behind (for the novel study on croatian industrial production see Tomić, Stjepanović, 2017). Since the Eurostat does not have information the regional structural business statistics concerning Croatian NUTS 2 regions we can rely only on the Croatian Bureau of Statistics for data on the current level of industrial output. In Table 8 we show that index of industrial production is increasing or decreasing but is around the same since the 2005.

Table 8: *Industrial production volume indices for Croatia - gross indices (2014=100)*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	XII	XII	XII	XII	XII	XII	XII	XII	XII	XII	XII	XII	XII	XII
Total industry	110.1	113.7	113.2	110.8	104.4	105.3	103.5	94.7	93.5	100.0	102.5	114.1	108.8	101.5

Source: Croatian Bureau of Statistics

Relative status quo in industrial production in Croatia in observed 14 years period is not problematic from the perspective of dynamics because other European countries shared quite a similar pattern but more on the level of production, something that has been the same 100 years ago as well.

3.4. High relative degree of illiteracy, lack of education and lack of knowledge necessary for a more significant economic development

The low level of literacy and knowledge is one of the most important characteristics of Croatia and Slavonia at the end of the 19th and the first half of the 20th century. According to statistics, in the middle of the 19th century Croatia and Slavonia were among parts of Monarhy with the largest number of illiterate population. The male population in 1869 was 75% totally illiterate while 88% of women were illiterate, and in 1880 there were 67.9% of illiterate men and 79.9% of illiterate women (Gross, Szabo, 1992).

Table 9: *Main occupation in year 1880 and literacy in year 1869 in Croatia and Slavonia*

	Main occupations in 1880 %				Literacy % (1869)			
a. CROATIA	Intelectual	Agriculture	Employed house help and others	Rentiers	Reading and writing	Only reading	Completely iliterate	
Cities	10,95	24,32	57,98	6,75	44,97	0,75	54,28	100
Counties	0,71	91,36	7,17	0,76	10,76	1,42	87,82	
b. SLAVONIA								
Cities	11,69	8,54	74,5	5,27	52,87	0,78	46,35	100
Counties	1,18	84,35	14,02	0,45	12,22	0,76	87,02	100

Source: Szabo, A. (1987): „Demografska struktura stanovništva civilne Hrvatske i Slavonije u razdoblju 1850-1880., Historijski zbornik, god. XL (1) str. 221., Gross, M. & Szabo, A.: „Demografski društveni procesi, Globus, Zagreb, str. 44., 51.i 72.

There were many reasons for the high structure of the illiterate population of Croatia at the end of the 19th century. One of the important reasons was inadequate elementary schooling, that is a small number of public schools, for example, in Zagreb County, there is one school in every 44km^2 while in Bjelovar there is one school for every 48km^2. The reason for this was the fragmentation of the Croatian villages, which averaged about 165 inhabitants in the mid-

19th century (Szabo, 1987). Compared to Hungary, whose village had an average of 714 inhabitants, decentralization of rural areas was a significant obstacle to education. Another problem of high degree of illiteracy in Croatia was cultural. The domination of the traditional, and in every respect of the backward Croatian village supported the non-education of children who were already at the earliest age included in agriculture jobs, and in the towns in the heavy work in the factories. For these reasons, the predominant rural population of Croatia, nearly 40% of children did not attend compulsory education (Szabo, 1987).

The development of cities, especially Zagreb and Osijek, has raised the level of education in various ways. On the one hand, after the formation of the first Croatian universities, higher education was also developed in Croatia. Aslo, well educated profesors and intellectuals from other European countries came to Croatia for various reasons, which contributed to the industrialization and the higher level of life in Croatian cities. As it can be seen from Table 9, the difference in the structure of the educated population of cities and non-residents is very high, which points to the importance of cities for the entire development of civilian Croatia.

The current state of development of this segment of the development of the society, which is a prerequisite for economic development, can be approximated by the level and quality of today's education, about which, especially for the past several years, there is a lot of disputes. In the European Commission's Education and Training Monitor EU analysis 2018 study analyzing and comparing the most important challenges facing EU education systems in Croatia, 3.1% of young people aged 18 to 24 have given up from schooling, which is an increase in compared to 2.8% in 2014, but it is significantly lower than the EU average, which stood at 10.6% in 2017. This information, however, does not give a true picture regarding the different forms of financing higher education systems in the EU countries.

More useful information when it comes to possibility of utilization of new industrial revolution gives us the data on tertiary education which in 2017 have reached 28,7% of population, which is less than in 2014 when the number was 32,1%. European average in 2017 in respect to 2014 has risen from 37,9% to 39,9%.

4. Conclusion

By examining the antecedents and the consequences of economic circumstances in Slavonia a hundred years ago and today we can conclude that the same basic problems are still present. Slavonia is significantly lagging behind rest of Croatia who is also well below the EU GDP average and with the negative trend in laste few years.

From the analysis of economic situation in Slavonia in 1919 we have derived what we find two significant history lessons: one concerning structural prerequisites of economic development and second concerning potentials of future growth approximated by the level of existing knowledge and skills.

So far the issue of potential oppressive demands of a current supranational hierarchy, the EU, is concerned; it should be dealt urgently by making our economic priorities clear and concise, our agendas set and our ability to negotiate our goals in the arena of European policy making improved. These efforts need to go hand to hand with the sound and grounded national economic policy taking in consideration Croatian interests as well as interest of the EU.

Also, the next industrial revolution, as it always does, offers novel kinds of opportunities which are best used within a well thought trough national ecosystem. The paper has showed how and why the industrialization efforts in Croatia did not yield with significant economic development. This hindsight offers a good base for (re)thinking our current efforts in this respect.

From the point of view of our second conclusion Croatia is in situation that it, so to say traditionally lags behind in current level of industrialization but also in level of higher education which is more than 30% below EU average in respect to number of graduates.

From the observed comparison we can conclude that Croatian economic development is burdened with the same kind of problems as it was 100 years ago what remains to be seen is how will these problems be tackled by the policy makers so that we do not get the same scenario in 2119.

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STATE INTERVENTION IN SOCIAL MARKET ECONOMY

ABSTRACT

The paper gives an overview of the constituent and regulatory components of the social market economy model, better known as "Third Way" (i.e. the two dominant models of economic planning - socialist and capitalist) in the populist rhetoric. Through the environment of the Croatian political and economic scene during the past thirty years the paper goes on to the understanding achieved through observing the German government, which is the foundation of the social market economy. Apart from the ideology and general principles upon which this model is based, the second part of the paper also deals with the reintegration of the concept in order to better perceive its essential parts. A logical conclusion follows that the social market economy is a way in which we could ensure the stabilization of the economic growth, economic growth itself and prosperity.

Key words: *Social Market, economics, politics*

1. Introduction

Twenty-six years of existence of the Republic of Croatia as an autonomous, independent, sovereign and democratic state, as stated in the preamble to the Constitution, carries a certain responsibility for the systematic selection of style of state organization and the implementation thereof. Since passing of a certain number of years carries certain weight, innocent experimentation of an immature state can no longer be a justification for unsustainable national policies.

Reflecting on the period of existence of the state since, the Croatian War of Independence, we observe a pattern in the political behaviour – Western economic thinking about market economy, nuancing the model depending on the dominant party on the scene. The discontinuity, as a result of a party's policy which is detrimental of the national policy, has created a political environment in which the emphasis is systematically put on solving the tensions between those who are shifting in power, so it is not a surprise that we have an underdeveloped model of economic planning that fails to respond to the conditions dictated by the global market.

Considering that the concepts of state organization, its fundamental values being social justice, equality and freedom, were given to us as legal legacy, it is irresponsible to leave them in the formal sphere without providing them with the necessary material reality. It is necessary to analytically approach the restructuring of the overall system, which will result in the creation of a more viable and more efficient economic policy as a generator of prosperity in general. The economic concept that would consolidate constitutionally guaranteed rights and freedoms is certainly the so-called “Third Way", whose success is empirically confirmed in the German model of economic planning. The social market economy is a concept which fuses social and market momentum, thus setting the grounds for market operators. Economic development is conditioned by finding the measure between access to liberal market activities and state regulation thereof, with the purpose of preventing the abuse of market legalities to the detriment of citizens’ social rights. Homogeneous, but not uniform, concept contributes with its cost-effectiveness and continuity to economic growth, which is a goal of every market economy and welfare state.

The first step to solving the problem is always acknowledging that the problem exists. In this spirit, the political entourage must be able to speak openly and transparently to the media about the causal links between the emergence of critical situations and the way in which they are solved. In order to reach the core of the problem, remove its causes and start working on the recovery of the entire economy, legal certainty and trust of citizens in the rule of law are necessary. Solid but sufficiently liberal policies and effective mechanisms for protecting the constitutionally guaranteed rights are basis for a democratic social state.

2. From the fall of socialism to the crisis of capitalism

In order to gain critical ability to evaluate a model of a market economy whose essence is the social moment, it is necessary to give a basic overview of the development of social values and political reality in the context of comparative historical events. In order to simplify the presentation of the course of the development of economic ideals on which the actual political and economic scene rests, I will afford the luxury to generalize and divide it into three stages: 1. The fall of self - managed socialism and the process of conversion and privatization; 2. Modified model of capitalism; and 3. Economic and social crisis as a by-product of the unsustainability of the former actions.

The inefficiency of socialism in Eastern Europe, and also in the former Yugoslavia, is an infamous fact today. Such an approach is well justified if we take into account the empirical knowledge of the unsustainability of one-party communist rule, which has been present in our social order since 1945. In that version, the system of planned economy remained until 1989, when the process of conversion and privatization was started. This transition from a planned to market economy was parallel to the collapse of Yugoslavia and the independence of the Republic of Croatia, which made a difficult process even more difficult. The resentment towards communism spurred the tendency towards Western political rhetoric and the neoliberal economic model (Vujić, 2014, 14). Transformation of the state-owned economy into private enterprises was on a course whose velocity was conditioned by the war in the state, and given all that, denationalization and deregulation were achieved in a relatively short period of time.

The environment in which antisocial post-communist capitalism was created helped to create a hybrid version of the model. Strengthening of the capitalist class was a means in of expressing revolt due to the restrictive relationship between labour and capital in the former socialist society, while advocating labour and social rights, providing support to the entrepreneurs is a guarantee that "wild capitalism" will not advance in its liberal momentum. Liberal democracy, on paper, seemed to be a viable and efficient model. The Companies Act of 1993 imposed private companies as holders of market activity, and this milestone was an overture to the liberal economic story.

Fifteen years later, the inequality gap in the social and economic, and political relationship, as well as inequality between work and capital, led to the economic and social crisis in the Republic of Croatia. In 2008, after the devastating effect of the global economic crisis, there is again need for restructuring national policies, including the economic one. As a humanistic alternative to pressures of globalization with key interests of oligarchical structures, the so-called " Third Way" emerges, i.e. a concept of social market economy. Equality, fairness and solidarity are the essential ideas of this model, while social protection and support provided for entrepreneurs are parallel principles of protection of extensively interpreted rights and freedoms.

Self-sufficiency of one of the of the economic regulation models, socialist or capitalist, is not possible in almost a clear number of cases. If we take the hypothesis that socialism is not in the spirit of contemporary understanding of democracy, as the starting point, capitalism imposes itself as a logical alternative. Classic liberalism as the ideological motive for the emergence of capitalism seems to remove the negative connotation of this model. Industrialization and expansion of supply and demand favoured the creation of a concept of the way in which market activities are regulated, according to which an equation is formed that the market should be regulated solely by its substantive forces - supply and demand. The free market, and the seemingly proportionate relationship between labour and capital results in the formation of class society and corporate capitalism. It is in these concepts that lies the key to resolving the postulate that a democratic way of economic regulation is equivalent to a liberal economy, at least in its extensive version. It is irresponsible to perceive the deregulation of the market as a passive measure in isolation, only in its positive connotation. The lack of interference of the state bodies and creations in the tectonic market movements means also the absence of mechanisms for protecting the rights of individuals in the social context. The manifesto that there is no democracy without social rights or social rights without democracy is, without a doubt, unquestionable. This thought, which is not commonly found in lexicography, leaves enough space for political manoeuvres, and becomes an incubator for the development of hybrids of the two contradictory models. Can we speak of a liberal economy in its organic form, whose direct product is market economy, and at the same time imperatively develop and impose mechanisms for the protection of civil rights of citizens in the processes of their functioning on the market, whether in an economic or working context? Since the answer is not affirmative, not to reconstruct a term that defines the concept of parallel protection of the two different constitutional rights, social rights and market rights, and to hold on only to the terms that had been given to us as legacy through Western political rhetoric, will leave us with an incomplete term that does not unite essential components of the concept. Due to that, it is inevitable and progressive to incorporate the word “social” in the model nomenclature, adding to it additional depth and emphasizing the importance of added value.

3. Social Market Economy

3.1. Historical background of the model

In order to get an insight into the origin of the idea of the free market, which is roughly regulated by a regulatory framework that is set by a state, it is necessary to go back almost one century. The crash of the American Stock Exchange, which was the backbone of the world's leading American economy, occurred in October 1929. “Black Tuesday”, as it was later referred to, was the day when Wall Street experienced a fall in stocks that has never before been recorded, and led to a complete breakdown of the United States economic system, symbolically announcing the twentieth century's biggest economic crisis, which lasted until 1933, and consequences of which were present much longer. As a result of distrust in a self-sustainable capitalist model of the market, an idea of state interventionism emerged that would structurally restrict the free market by means of fiscal and monetary policy and thus mitigate the consequences of the recession. The creator of the idea, John Maynard Keynes, and his most important work - *The General Theory of Employment, Interest and Money*, shook the foundations of the former central macroeconomic theory, overthrowing capitalism and pointing to the necessity of state intervention. Keynes lays the foundation to resolve the crisis in a way that the state by active interventions mitigates and/or eliminates the consequences of ineffective business in the private sector, representing a corrective role, whose task is to remove the negative effects of free market economy, and to avoid their occurrence in the future, whereby it takes over also the preventive function (Dragojević Mijatović 2012, 557). It is very important to understand the mechanism of state action in such a model of market and economic planning, in order to absorb the notion of a social market economy, which is fundamentally different from the mentioned one. The two main issues that an efficient market economy model must be able to tackle is the question of social justice in terms of political dialogue in order to meet the need for establishing effective mechanisms of protection of constitutionally guaranteed rights; and how to achieve a stable order that will successfully establish the foundation of the market economy which will not be limited by time or purpose (the time of crisis, immediately after the crisis), and at the same time will allow for the economic processes to occur and develop unhindered and autonomous, without interfering in the market activity.

3.2. Ideology of the model

The prototype of the model of social market economy, conceptually conceived in Germany in 1932, and which had found its practical application later in the German state regulation, is not only successfully preserved today, it also represents an ideal to which both developed countries and the transition economies strive, in order for them to live up to the country's ambition of economic growth and development. Republic of Croatia actively works to achieve the intention of creating a model that would in essence resemble the German model. Looking at the historical flow of influence on the Croatian legal system, the mentioned selection of the sample is logically justified. Retrospectively, the Republic of Croatia belongs to the Germanic school of the reception of Roman law, i.e. private property rights, and has through history identified itself with the Western European legal circle, as opposed to the Anglo-Saxon legal circle, which makes it suitable for adopting the German model of the market economy in the adapted form.

In order to get an idea of the essence of ideology on which the model of a social market economy lies, it is necessary to perceive the relationship between the state as the apparatus setting the normative framework of action and the society as the addressee of that framework. The existence of Christian influence on Roman law is generally accepted in science, the Roman society formed its principles under the influence of Christian notions that gradually became a pattern of conduct for all members of society (Berdica, Žiha, 2013, 30). It is therefore not surprising that the German model of market economy puts an emphasis of on the rights and freedoms of people, not only social, but also the basic, fundamental ones. The idea is an economy model that is based on the highest values and a developed system of values that responds to the challenges that the market economy puts as a part of systematic self-preservation, the idea is an economic model that is more than its definition in the macroeconomic sense. Christianity and the Church have had and have a crucial influence on the design of politics and economics in the countries of the European Union. In order to successfully perceive the model of a social market economy, it is necessary to break it down to its fundamental principles that represent the normative framework of state action and market functioning.

Unlike socialism, whose destiny, as history has shown, is always in essence the same - failure, capitalism has for now succeeded in some places, though often not very efficiently, in resisting the problems of global economic development. The ability of an economic operator; whether an individual, a company or a corporate giant; to make decisions, to take responsibility, to strive towards the development of moral responsibility and progression - are the key to a stable economic process. Such a way of doing business in the socialist countries was not the case, the state assumed the role of a regulator in the broader sense of the word, taking on the responsibility and risk, but also the capital and profit, which had always resulted in inevitable failures of such state arrangements. The second extreme was to let the market economy develop on the basis of a free market that was supposed to ensure an economy that readily responds to global market demands, which ultimately led to the creation of a large number of monopolies, the indebtedness of economic operators in order to remain competitive, and unemployment, which are the main indicators of an economy in crisis.

Taking into account the deficiencies of these systems as the cause of the above mentioned negative outcomes, the new model of the market economy unites the capitalist idea of a free market where free price formation, economic independence and the responsibility of consumers and entrepreneurs take place, without discarding the role of the state in making policies by which operators are guided. The social market economy promotes awareness of the impact of individual private entrepreneurial decisions on the overall social environment, which is the incubator of development for these, and also other entrepreneurial decisions. It is important to perceive the importance of integration of the consequences of individual actions into society, keeping in mind the common good at all times, as the umbrella term of the welfare of a market economy.

"Parts of a whole must keep trying for the good of the whole; Likewise, the whole must take care of the welfare of its parts, which is its responsibility." The moral instruction becomes a constitutional and legal measure of the legitimacy of the social state, which does not provide help to the socially weaker citizen out of pity, but due to the obligation he undertakes by declaring himself social. By this, solidarity becomes a common good (Šarić, 1997, 8). The basic means for achieving that this is the tax system. The maxim that the stronger ones should assume greater responsibility than the weaker ones is reflected in the principle of subsidiarity, which used in the service of solidarity. The coherence of personal decision and personal responsibility requires independent liability and the risk for the economic activity undertaken, but there is a distinction in our model with respect to the capitalist system of the market economy. If an economic operator finds itself in a difficult position and is unable to respond to dynamic market demands, the state temporarily assumes responsibility in the financial, often also administrative sense, in order to allow the operator to continue its activities on the market. These features represent the most sparse mindset upon which the idea of the social market economy is based.

3.3. State problematic and function in the same

Two elements of the social market economy model are the market economy and the welfare state. Market freedom and market legalities, in terms of the context they are given by liberalism, lead to an efficient economy, provided that this plastic equation is carried out as consistently as possible. What happens when the private corporate sector grows so much as to dictate market forces not only at national, but also on a global level? What happens when the uninhibitedness and unrestrictedness of economic operators develops and create a giant that, if and when it comes to a bad business period, becomes the herald of the crisis of the entire state? Creating monopolies, cartels, increase in the external public debt and rising unemployment rates are the reasons state intervention is necessary in economic management. While the state interventionism, as defined by its creator, John Maynard Keynes, represents the state as a public financier that stimulates demand and employment in order to stimulate economic recovery; the influence of the state in the social market economy is not represented by the measures directed directly at the management of market processes, because it is evident that the market is the most efficient regulator of economic activities, but by integration of a normative framework that will be monitored and, when needed, sanctioned by the addressee of the created system. The government, as an executive political authority, plays a key role in the creation of fertile soil for the realization of the conceptual proposal. In sports terminology, the state is the referee in the game, with the task of creating rules of the game, monitoring compliance, and if the answer is negative – to appropriately sanction those who break rules, and thus protect the other participants.

There are three actors whose synergy shapes and conducts market processes in one national economy. In the spirit of protecting the highest values of a human being, which are of primary importance for the model of the social market economy, the first place is occupied by the individual. Furthermore, the private economic sector is the very essence of the competition and bears the prospect and ambitions of a free market economy. The state as the third actor appears in all national structures, but depending on the tendency towards one of the two opposing models of national economy planning, its impact on the market activities is different. Because of the dynamism of the market, which is growing proportionally with the strengthening of globalization, the free market economy is subject to more drastic ups and downs, which creates uncertainty for citizens, whether they are in the capacity of an economic operator or a consumer. In the model of the social market economy, a state, as a regulator and stabilizer, has a task to set the legal framework that seeks to protect the individual.

It is of crucial importance that the hypothesis that a successful and competitive market is based on free competition, is taken as indisputable. It would be immature to pretend that the socialist way of regulating the economy can be fruitful in the conditions of today's international business. However, as German economist Walter Eucken points out, all efforts to establish competition are futile as long as certain stability of money is not secured. Monetary policy is therefore of primary importance for the competition (Adenauer Stiftung, 2012, 1). To ensure monetary equilibrium and economic liquidity, strong state intervention is needed in the banking sector. Good social policy is also necessary in the equation of its intervention as a generator of prosperity. Social security, in the spirit of the principle of subsidiarity, gives a certain freedom of action to the middle class on the entrepreneurial scene, ensuring the pluralism of goods and services that are moving on the market, which consequently leads to an improvement in the quality of life of an individual in general. We often find resistance of the citizens when the distribution policy is mentioned, the measure of which is the strengthening of social regulations, so it is necessary to give, through the education system, a context to these measures so that the addressees of the social policy norms would be given the opportunity to affirm it, with the purpose of a wider image of development and creditworthiness in business.

The distinction from the classical socialist system is, obviously, the personal responsibility of an economic operator and the private ownership of capital and profit. The thing in which this model of economic planning differs from the liberalism, i.e. neoliberalism of the economy, is assuming the business risks. Indeed, by entering an entrepreneurial venture, the economic operator himself bears responsibility for a potential failure, but if it really happens, the state is there as a safety net that will not allow abnormal impact of the business fiasco on the existence of actors, and acts according to the principle of solidarity. Establishing the functionality of a mixed type of responsibility between the public and private sectors ensures stabilization and flexibility of the national market economy, as well as the ability to respond readily to the demands of a dynamic global scene. Social market economy implies that the political sector will assume this responsibility, establish order and create a competent, favourable environment for the development of a competitive market.

3.4. Prerequisites for the success of an economy oriented towards social and market symbiosis

Preparing of fertile soil is half of the work needed for the development of the fruit, in this case the economic concept. In order to be sure that the realization of the idea will flow in the foreseeable course, we must ensure that the path of creation is navigable, not booby-trapped or leading to a blind street. As already mentioned, the principles of solidarity and subsidiarity are the main guiding principles for political entourage in creating the legal frameworks needed for social justice and sustainable business development.

It is necessary to proceed from the very essence, which is the framework of the legal state. It is paradoxical to talk about efficient market operations unless there is strong, autonomous democratic power. The twenty-first century often allows the state structures not to accept responsibility under the pretext of a liberal approach to democracy. On the other hand, interference of national creations in the market activity opposes the fundamental idea of a modern market, whose imperative is operational independence. Taking into account the shortcomings of the basis of the two bipolarised existing models of economic planning, socialism and capitalism, the focus of social market economy is to find measures in the behaviour of the state, which is, in both cases, undoubtedly the inevitable subject of economic activities. The Konrad Adenauer Stiftung emphasizes the importance of a democratically legitimized legal system that, in addition to the quality normative basis for an efficient and sustainable business, also possesses the strength of implementing it (Adenauer Stiftung, 2012, 1).

Within the set solid structure, it is of key relevance to leave manoeuvring space for the actors in the competition, without interfering in the private ownership, because only the private ownership is capable of ensuring a sustainable and effective economy. Private property creates a desire for business success, resulting in innovative entrepreneurship, leading to a lower unemployment rate.

In order for certain regulatory measures to be implemented, macroeconomic stability is imperative. This can be done either through restructuring of the economic policy, so that it stops being an end in itself and becomes fit for purpose, so as to enable the addressees to use public goods – education system, infrastructure, and health and social insurance. In this context, reform of tax and monetary policy is also inevitable. A stimulating grant system is needed for financing of state expenditures, which means that taxes should not minimize the motivation for achieving better results (Adenauer Stiftung, 2012, 41). If these criteria are met, sustainability is a logical consequence.

By strengthening economic stability at the national level, we become competent participant in this competition at a global level, which is the goal of every modern democratic state.

3.5. Decomposition of the term: socially in the social market economy

Freedom, equality, national equality and gender equality, pacifism, social justice, respecting of human rights, inviolability of ownership, conservation of nature and human environment, rule of law and democratic multi-party system are the highest values of the constitutional order of the Republic of Croatia and the basis for the interpretation of the Constitution (Constitution of the Republic of Croatia, consolidated text, NN 56/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10, 05/14)

Apart from setting up normative frameworks that guarantee respecting of fundamental rights, including social ones, the Constitution must lay the foundations for forming of an effective system of the legal and judicial protection of all guaranteed rights.

The very essence of the concept of a social market economy is precisely the notion of social state, or politics. Our political scientist and professor of political science, Anđelko Milardović, defines the notion of a social state as a caring state that protects its citizens against the most diverse risks that may arise due to different circumstances. Social security is represented by legal regulations governing the material and health care system of the population, which includes health, disability and pension insurance, put in simple words (Klaić, 1990, 1245). Social insurance is not an imperative of the social state, it is a social state. Social security is the very essence of the welfare state, and the mediator between these two concepts is precisely social policy.

Furthermore, the professor designates social policy as a set of measures implemented by a welfare state to ensure social security, stability, justice and peace (Bežovan, 1995, 273). In a political moment, the idea of a social state is shifted from ideology to materialized social protection, so the emphasis is put on national, non-party politics, because besides providing legal protection, sustainability and consistency promise legal certainty.

There is a logical question of how to achieve the full system of protection in the Croatian social and political reality, which is guaranteed by the highest legal act in the state, the Constitution.

Social equilibrium is the most important of all the tasks and goals that need to be achieved in the work of political subjects in the name of social security. On one side of the scales we have traditional addressees of legal standards of social protection – unemployed persons who get sufficient means for living, regardless of whether they are capable to work or incapacitated. Through taxpayers' contributions to the state budget, they make the policy of distribution possible, and that is where find the resistance of (neo)liberalists to the idea of a socially conscious state. But precisely in that part of the composition of the social market economy lies the essential component, which places the active working population on the other side of the scales.

We will take the hypothesis that an open economy is the aspiration of every democratic state, we do not have to pretend that the concept of self-sufficiency is condemned to failure, history gives us coverage for such a starting point. International exchange enables faster economic development, an increase in the efficiency of national production, and increases living standards and productivity, leading to economic progress (Kolaković, Lazibat, 2004, 3). In order for a company to be able to respond to the challenges of the global market, the prime requirement is its competitiveness. Being competitive today is not a question of success, rather of survival. Enterprises need to be flexible, innovative, and continuously upgrade their business (Kolaković, Lazibat, 2004, 50). The private sector is aware that the realization of the said platitudes is very often a Sisyphean task. Here enters the state, whose task is to stimulate the security of the corporate sector through investing in the economy, competent education, sustainable social politics as a regulator of pluralism of the market and goods, and to reduce the frequency of negative side effects of capitalism – monopoly, cartel and unemployment. The attitude that the entrepreneur is the risk bearer is a difference from the classic liberal approach to economics. As long as entrepreneurs are able to bear their own risks and responsibilities for being on the market scene, they will be responsible; but they also need to be aware and certain that, if their business is going bad, which is the natural course of development in the life of an enterprise, the state is here as a security net, which then assumes responsibility for revenue stabilization and establishment of functionality according to the principle of subsidiarity and solidarity. As a sign of gratitude towards the actors contributing to the general good through their actions in the market, and setting aside a part of their profit separates for the social protection of the weaker ones, the state apparatus provides them with a security through the knowledge that they are not alone in their troubles, which results in greater productivity and the competitiveness of the actors on the market scene.

Based on the above explained, we can agree that the policy of distribution and freedoms are by no means contradictory concepts, as seen by liberal critics of social approach, in fact, based on their synergy a realization of a normative value system of the welfare state is achieved.

3.6. Decomposition of the concept: free market and competition as imperative components of the market economy

Social market economy is a synergy of the idea of a market driven by an invisible hand (Vranjican, 2007, 103) and of the idea of a strong state that can, if the need arises, resist the power of the market. The two seemingly contradictory concepts are reconciled to the successfully achieved symbiosis of an economy organised in that way.

Referring to the previous chapter, it is necessary to break down the second part of the concept of the social market economy – the market economy. The liberal approach to regulating the economy versus the socialist approach has proved to be convenient as a framework for sustainable economic development. In this regard, the starting point for developing the idea of a social market economy lies precisely in such a way of market organization.

Speaking of the socialist countries of the last century, the usual practice was that the state set the prices. Salaries of workers employed in state-owned enterprises were very low, so also the provisions one needs necessary for living were priced below the equilibrium price determined by the market, which is why there was a constant shortage of goods. On the other hand, things that did not fall into the list of goods necessary for existence, reached the price above the market prices, and there were surpluses, which the rigid plan system was unable to timely prevent (Klarić, 2009, 7). The response to a disturbed price-setting system lies in the market forces, law of supply and demand, which mutually effect the pricing. After the established pricing mechanism, the next goal is to stabilize it, this time through monetary policy. Price stability is a basic prerequisite for economic growth, which in the context of monetary policy means maintaining low and stable inflation, enabling consumers to get proper and quality information about the relative value of certain goods from their prices (Monetary policy objectives, taken from the Croatian National Bank website, available at: https://www.hnb.hr/-/ciljevi-monetarne-politike, date 25.5.2018). State regulation through monetary policy is of major importance for the development of the core component of the market economy, competition. All the effort made to gain the competition is futile as long as a certain stability of the value of money is not secured (Adenauer Stiftung, 2012, 2).

The mechanism of market pricing, strong monetary policy, free access to the market, the primacy of private property over the state property, the freedom of contract, and the principle of accountability as the embryo of the model of economic planning are the constitutive factors that are listed by the creators of the preliminary concept of social market economy (Adenauer Stiftung, 2012, 14).

The decomposition of the concept is detrimental to perceiving the concept as homogeneous, but for the sake of a more accurate interpretation, it is necessary to break it down, so as to later catch the conceptual thread which foresees the realization of the equilibrium system and synergy of the mentioned mechanisms.

3.7. Fusion of the social and market element of the model

The system which is the theme of this work, whose conceptual essence is inherited through a common European policy which, undoubtedly, is influenced by Germanization, testifies that the social and market moment do not necessarily have to be antonyms in regulating the economic policy of a state. In fact, if a harmonious balance is achieved between them, an efficient, but also a viable model can arise. In this context, in the absence of a better lexicographic expression, state intervention is interpreted in a restrictive sense, without linking it with state interventionism, as an economic and political measure in the context of Keynes' doctrine, as described in the chapter of this paper discussing the historical background of the social market economy model. State intervention in the form of the creation of a minimum legal framework for free competition on the market, through the prism of monetary and social policy, is not contradictory to that envisioned by neoliberalism, even more so, they essentially coincide.

In theory, the neoliberal state is characterized by strong individual freedoms, primarily property rights and freedom of contract, rule of law, free market and trade, and institutional arrangements, implemented by the state, and through which those guarantees are achieved. Private entrepreneurship and entrepreneurial initiatives are essential for productivity growth, whose continued growth leads to a higher standard of living and reduction of poverty. The lack of legally defined property rights is a major obstacle to economic development and improvement of human well-being, while competition, whether between individuals, companies or territorial units, is considered to be the primary virtue. It is imperative to fully respect the rules of competition. When these rules are not clearly defined, the state must use its power to impose or invent market systems through new institutional arrangements that will improve its competitive position in relation to other countries on the global market. Emphasis is placed on the responsibility of individuals for their own actions and welfare extending to the sphere of protection of social rights. Given that the rule of law and the strict interpretation of constitutionality are central to neoliberal theory, solutions and answers to each problem need to be sought individually and through the legal system. Freedom of companies and corporations to operate within this institutional framework of the free market is considered to be fundamentally good (Harvey, 2013, 67).

The essential elements described in neoliberal and social market model are undoubtedly equal. The essence of establishing social market economy is the reconciliation of requirements raised by issues of social protection, on the one hand, and the free market on the other. The homogeneity of this concept does not mean uniformity, as is the case with, conditionally speaking, pure models of economic planning with complications we systematically testify to.

By means of the constituent factors, the established market and economic order creates a framework for the performance of business entities that are guided by efficiency. Its social characteristic, in terms of preventing the exploitation of market power at the expense of the weaker ones, is that it makes possible for a large number of people make to earn income, and even for those who for some reason are not able to take care of their existence. The regulatory principles that make this possible are state control of the monopoly in order to prevent the misuse of the position of power, incomes policy in accordance with social and political aspects, but on the other hand, constitutionally guaranteed tariff autonomy legitimizing trade unions whose task is to negotiate with employers' representatives on the wages and working conditions, which ultimately prevents the influence of state and corporate giants on the wage policy (Adenauer Stiftung, 2012, 17). Finding a balance in the reconciliation of the aforementioned requirements results in finding of a sustainable efficient economic model of the economy, which unites the social and liberal moment.

4. Conclusion

Bad current economic situation does not necessarily have to be solely a bad thing. Negative experience with inefficient models of economic planning should be focused on removing the causes of such action, not on looking for a short term solution. This is achieved by abandoning familiar patterns of behaviour, by turning to the fundamental values of a democratic social state as a compass in the creation of a political and economic environment that will contribute to economic growth and development.

The synergy of social and market momentum is capable of establishing equally strong frameworks for the protection of differential groups of human and citizens’ rights, both social and economic. Hybrid model of the capitalist way of economic planning is distinguished through the strong role of the state, but only as a regulator whose task is to ensure that rules of a fair competition are respected. Its strength is not contradictory to the liberal principle, in fact, it achieves it. Avoidance of the term "socially" requires the process of maturing of society through a reform of education, which, together with the restructuring of the tax system and making the competitiveness an imperative, directly affects the stabilization of the economic development. Having a chance to fulfil an ambition is not a matter of luck, but dedication and discipline. If the Republic of Croatia fulfils its ambition of a developing country, the dynamic conditions of globalization will not be seen as a problem but an optimistic prospect. The social market economy is the solution for achieving this goal.

It is a good thing that the solution to the systemic problems lies in our hands, but it is disturbing that many consider the solution to be more dangerous than the problem. By taking responsibility for its actions, the state becomes a model for its citizens, and gives credibility to the fundamental provisions of the Constitution of the Republic of Croatia.

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BUDGET OUTCOMES AND POLITICAL ACCOUNTABILITY: THE CASE OF EASTERN CROATIA REGION[1]

ABSTRACT

Regional disparities have been recognised as one of the obstacles to the conduct of a sound economic policy. Scholars of political economy and public sector economics emphasise the role of public finance, i.e. budget outcomes and collective action overall, in that process. The first goal of this article is to investigate the differences between Eastern Croatia and the remaining five regions (Northern Croatia, Central Croatia, Dalmatia, North-Adriatic Croatia and the City of Zagreb) regarding their budget outcomes and political accountability. Budget outcomes will be expressed by local governments' share of surplus/deficit in total revenues. Political accountability will be proxied by their online local budget transparency index (OLBI), which has been annually measured for all Croatian counties, cities and municipalities. The second goal is empirically to determine possible clusters within local governments in Eastern Croatia. Cluster analysis is conducted on a sample of 127 Eastern Croatian local governments over 2014-2017 period. The results show that Eastern Croatia exhibits low budget outcomes and low political accountability levels, with four clusters emerging - from lowest to highest performers regarding budget outcomes and political accountability levels. The paper is expected to contribute to the literature by relating the importance of local government budget transparency – a prerequisite for citizens' participation in budgetary processes – for budget outcomes in Croatia.

Key words: *Budget outcomes, Online budget transparency, Political economy, Croatian local governments, Cluster analysis*

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1. Introduction

The interplay between incumbents and voters has many applications. One of them concerns budget outcomes (surplus or deficit of national, regional or local budgets) and the question of accountability, which is directly tied to budget transparency. The premise behind collective action (collecting taxes and public spending) is the level of trust between the principal (voters) and the agent (incumbent). In this relationship, it is up to the incumbent to signal the level of its own trustworthiness and accountability. If that is so, in the best-case scenario, we could expect incumbents to signal their level of accountability and competence by increasing the level of budget transparency. Consequently, the motivation for fiscal misbehaviour and the available instruments for such misbehaviour will be minimised (Eslava, 2011). There are several ways of reaching this level. Incumbents can decide that this is the best (dominant) strategy for them since it allows them to distinguish themselves from their competitors or pressure from the media and electorate can lead to such an optimal outcome (Alt and Lowry, 1994.; Ferejohn, 1999).

The reality is, however, very different. We are plagued by budget misbehaviour that works to the advantage of the incumbents. The literature has identified several causes that have at their roots the lack of political accountability and budget transparency (Alesina and Perotti, 1996; Hagen and Vabo 2005; Stein, et al 1998). The political economy literature highlights the role of fiscal illusion (Alesina and Perotti, 1996) and information asymmetry (Alt et al., 2006) in that process but most current empirical research has focused on cross-country comparisons.

This research has two goals. First, to determine whether Eastern Croatia differs from the remaining five regions (Northern Croatia, Central Croatia, Dalmatia, North-Adriatic Croatia and the City of Zagreb) with respect to their budget outcomes and political accountability. Second, by using cluster analysis for confirmatory purposes, to check whether there are groups of local governments that could be labelled as having low or high budget outcomes with low or high political accountability, respectively. Cluster analysis is carried out on Eastern Croatia, using average values for the period 2014-2017. To the best of our knowledge, a similar contribution regarding the role of political accountability and budget outcome at the local level is new in the literature. It follows from the development of an Open Local Budget Index (Ott et al, 2018), which we use as a proxy for political accountability on the local level. In addition, the paper uses two measures of budget outcome (the share of the surplus/deficit in total operating revenues and the share of the surplus/deficit in total revenues).

The rest of the paper is organized as follows. The second section gives a short literature review. The third explains data and methodology. The fourth presents the results of the cluster analysis. The main conclusions, limitations and suggestions for further research are summarized in section five.

2. Literature review

At this stage, only a few research papers have been published on the determinants of budget outcomes in Croatia. They vary with respect to local governments – cities vs municipalities (Erjavec et al, 2017; Rašić Bakarić at al, 2014a; 2014b), political budget cycles (Mačkić, 2013; 2014) and their focus on borrowing (Bajo and Primorac, 2010). Nevertheless, they all have one thing in common: none of them refers to the part played by the level of transparency and in that sense to political accountability in the determination of budget outcomes.

On the international front, Von Hagen and Harden (1995), Stein et al (1998), Alesina et al. (1999), Alt and Lassen (2006) and Benito and Bastida (2009) find a positive relationship between higher budget transparency and better budget performance on the national and the international level. Researchers that have focused on the sub-national level report the following conclusions. Turley et al (2015), del Sol (2013) and Akhmedov and Zhuravskaya (2004) confirm a positive correlation between urban areas, higher fiscal transparency and better budget outcomes. A positive effect of population on better budget outcomes was reported by Gandia et al. (2007), Serrano-Cinca et al. (2008) and del Sol (2013). Laswald et al. (2005) and Serrano-Cinca et al. (2008) found that the wealth effect is also positively correlated with better budget outcomes while a negative correlation between unemployment and fiscal transparency was reported by Caamano-Alegre et al. (2013). Other factors that are positively correlated with fiscal transparency are better credit ratings and lower levels of corruption (Ma and Wu, 2011), higher levels of political competition (Alt et al., 2006; and Caamano-Alegre et al., 2013) and experiences with democracy (Gonzalez, 2000); Akhmedov and Zhuravskaya, 2004). As far as the authors are familiar, there is only one paper reporting a negative correlation between transparency and budget outcomes (Gerunov, 2016).

This brief literature review points to two preliminary conclusions. First, the existing research on local governments in Croatia has neglected the transparency channel when looking at the political accountability, since there was previously no possibility to measure it. Second, none of the existing papers used both measures of budget outcome. Considering these two points, the paper presents data and methodology used in the empirical part of the research.

3. Data and Methodology

A comparative analysis of Croatian regions vis-à-vis budget outcomes and political accountability is the first research goal of the paper. In order to do that this paper uses the Tax Administration (2019) classification of Croatia into six regions:

1. City of Zagreb;
2. Central Croatia (Zagreb, Krapina-Zagorje, Sisak-Moslavina and Karlovac county);
3. Northern Croatia (Varaždin, Koprivnica-Križevci, Bjelovar-Bilogora, and Međimurje county);
4. Eastern Croatia (Virovitica-Podravina, Požega-Slavonia, Brod-Posavina, Osijek-Baranja and Vukovar-Srijem county);
5. North-Adriatic Croatia (Primorje-Gorski Kotar, Lika-Senj and Istria county);
6. Dalmatia (Zadar, Šibenik-Knin, Split-Dalmatia and Dubrovnik-Neretva county).

The next step is the definitions. Budget outcome is defined as the budget deficit/surplus that local government records at the end of the fiscal/calendar year. In this paper, two measures of budget outcome will be used. The first measure is the share of surplus/deficit in total operating revenues, $stor$, and is represented by the following equation:

$$stor_{it} = \frac{tor_{it} - toe_{it}}{tor_{it}} \cdot 100, i = 1, \dots, N, t = 1, \dots, T,$$

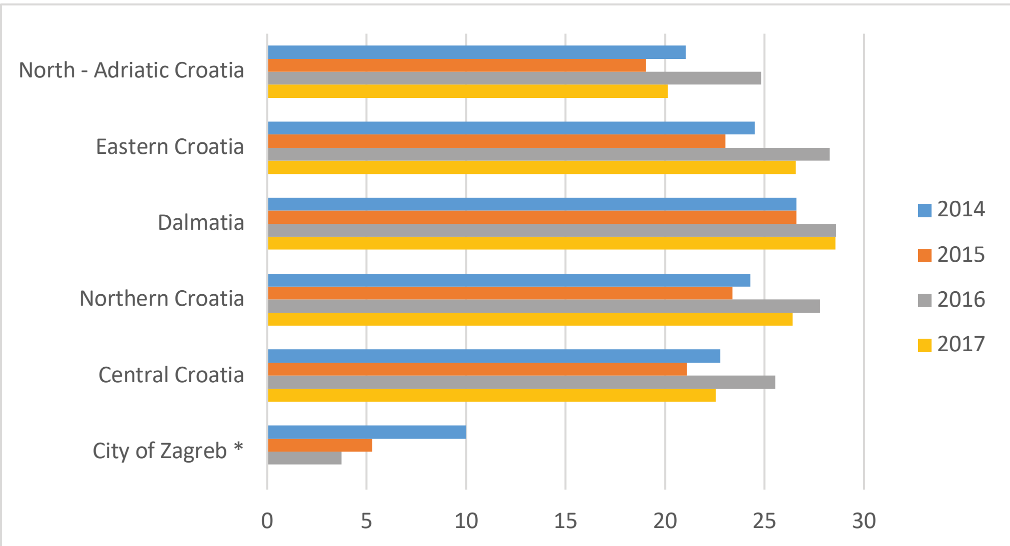
where tor represents total operating revenues; toe represents total operating expenditures; i represents city/municipality (556 in total) and t is year of observation for the 2014 – 2017 period.
The second measure is the share of surplus/deficit in total revenues, str, is represented by the following equation:

$$str_{it} = \frac{tr_{it} - te_{it}}{tr_{it}} \cdot 100, i = 1, \dots, N, t = 1, \dots, T,$$

where tr represents total revenues; te represents total expenditures; i represents city/municipality (556 in total) and t is year of observation for the 2014 – 2017 period. Then, for each of the six regions, average values of shares of surplus/deficit in total revenues for the four – year period were calculated.

The Open Local Budget Index (OLBI) calculated by Ott et al. (2018) is used as a proxy for political accountability on the local level since it measures incumbents' implicit responsibility to govern public assets according to the principles of good governance. If the incumbent manages public funds in such a way, then he/she will want to show all the records and budget documents. Thus, transparency acts as a key determinant of the budget deficit (Alt and Lassen, 2006). The OLBI is calculated as a sum of five key budget documents (budget proposal, enacted budget, citizens' budget, mid-year report, and year-end report) that a local government produces and publishes annually on its official website. The score for each local government ranges from 0-5, depending on the number of budget documents published.

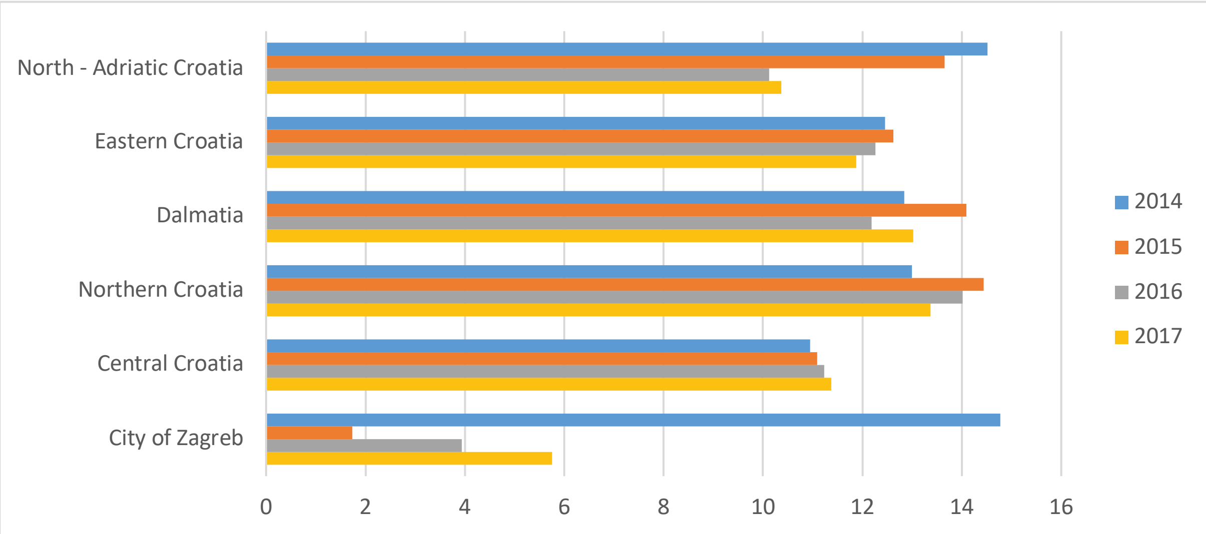
Graph 1: *The share of surplus/deficit in total operating revenues for six Croatian regions (in %, average values)*



*City of Zagreb had very small value for year 2017
Source: Authors' calculations based on Ministry of Finance (2019)

Data on the share of surplus/deficit in total operating revenues for six Croatian regions in the period 2014-2017 (Graph 1) point to two main conclusions. First, the City of Zagreb is a clear outlier since its share of surplus or deficit in total operating revenues is much better than that of the remaining five regions. Second, Eastern Croatia and Dalmatia are two regions that have the worst performance in the observed period. When one looks at the data in Graph 2, the first conclusion regarding the City of Zagreb does not change, but the second one does. Eastern Croatia is not among the worst performers, but it is the total cost of public goods and services compared to the public funds that the paper is looking at so it is the data shown in Graph 1 that are crucial.

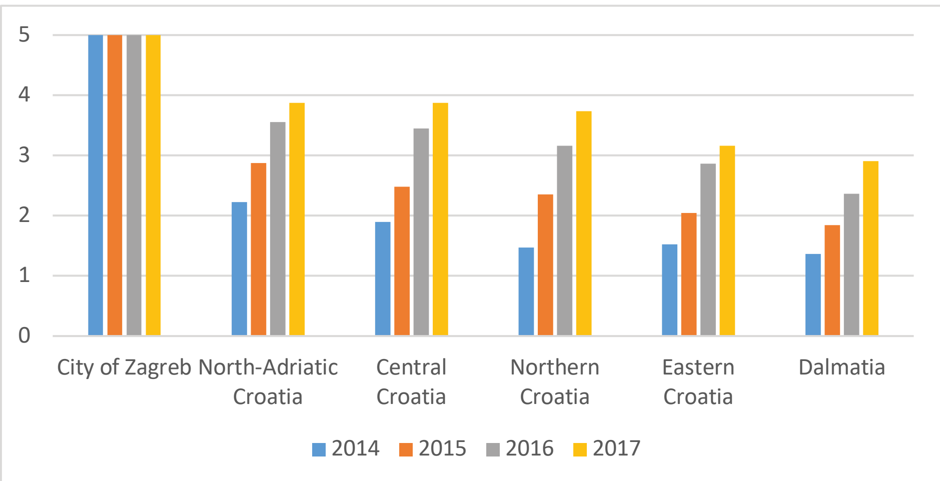
Graph 2: *The share of surplus/deficit in total revenues for six Croatian regions (in %, average values)*



Source: Authors' calculations based on Ministry of Finance (2019)

An identical interpretation for Graph 1 could be used in the case of the data shown in Graph 3 with the City of Zagreb being a positive outlier and the two worst counties being Dalmatia and Eastern Croatia. Although we can see a positive trend in the observed period, both of these regions report a chronically low level of political accountability.

Graph 3: OLBI score for six Croatian regions (average values)



Source: Authors' calculations based on Ott et al. (2018)

The comparative analysis of six Croatian regions points to the following conclusion. There is a negative correlation between budget outcomes and political accountability in the case of two Croatian regions: Dalmatia and Eastern Croatia. Since Dalmatia enjoys rents from tourism, the level of disposable income of people living in this region could be independent of the budget outcomes and political accountability of local level incumbents. Thus, in the remaining part of the paper the cluster analysis will be conducted on local governments in Eastern Croatia. In order to do that the paper introduces three additional variables: average annual resident income per capita (pc), unemployment rate and fiscal capacity pc (see Table 1).

Table 1: *Definition of variables*

Variable	Description	Source
OLBI	Budget transparency measure as a proxy for local political accountability; count data index ranging from 0 to 5, measured annually as the online availability of five key local budget documents (budget proposal, enacted budget, year-end report, mid-year report and citizens' guide).	Ott et al. (2018)
income_pc	Average annual resident income pc.	Obtained on request from the Ministry of Regional Development and EU Funds. Pc values are based on population estimates from Croatian Bureau of Statistics (2019).
fiscal_cap_pc	Fiscal capacity pc, i.e. local governments' own revenues pc, calculated as operating revenues minus all grants.	Ministry of Finance (2019). Pc values are based on population estimates from Croatian Bureau of Statistics (2019).
unempl_rate	Unemployment rate – Croatian Employment Service data on registered unemployed persons by local governments.	Obtained on request from the Ministry of Regional Development and EU Funds
bal_total_rev	The share of surplus or deficit total revenues in total revenues.	Ministry of Finance (2019)
bal_oper_rev	The share of surplus or deficit total operating revenues in total operating revenues.	Ministry of Finance (2019)

Note: All variables refer to average values for the 2014-2017 period.

Cluster analysis is a useful data reduction technique used to group objects based on the characteristics they possess. The resulting clusters of objects should then exhibit high internal (within-cluster) homogeneity and high external (between-cluster) heterogeneity (Hair et al, 1995). With metric data and a focus on proximity (distance measures of similarity, e.g. Euclidean) the primary goal of cluster analysis is to obtain two or more groups based on their similarity. The clustering algorithm used in this paper is a hierarchical clustering procedure or Ward's method.[2]

Prior to clustering, it is necessary first to obtain standardized values of the variables included. This is done using the z-score standardization of the variable value that applies the following calculation:

$$z = \frac{x-\mu}{\sigma}$$

[2] In this procedure the similarity used to join clusters is calculated as the sum of squares between the two clusters summed over all variables. Clusters with the greatest similarity are combined at each stage (Hair et al, 1995).

where z is the standardized value, x the original value of the variable, μ the mean value, and σ the standard deviation.

The results of the cluster analysis are presented in the next section of the paper.

4. Cluster analysis

Cluster analysis was conducted on three separate samples: (i) cities and municipalities in Eastern Croatia, (ii) cities in Eastern Croatia and (iii) municipalities in Eastern Croatia. Descriptive statistics for 127 local governments of Eastern Croatia is shown in Table 2. Since the data cover 22 cities and 105 municipalities, the large differences in the summary statistics are understandable with cities enjoying a higher level of income pc and fiscal capacity.

Table 2: *Summary statistics (average values 2014-2017)*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
Min.	0.00	6,901	503	14.66	2.87	4.78
Median	2.50	20,018	1,230	24.24	10.58	25.12
Mean	2.40	20,132	1,358	25.20	12.08	25.74
Max.	5.00	33,923	3,347	46.10	40.20	54.94

Source: Authors' calculations

Descriptive statistics for 22 cites of Eastern Croatia are shown in Table 3.

Table 3: *Summary statistics cities (average values 2014-2017)*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
Min.	0.75	19,332	862	14.66	2.88	7.34
Median	2.75	25,948	1,950	19.75	9.56	19.38
Mean	2.73	25,613	1,833	20.66	11.12	20.40
Max.	5.00	33,923	2,935	29.63	38.09	34.06

Source: Authors' calculations

Descriptive statistics for 105 municipalities of Eastern Croatia are shown in Table 4. When compares data from Table 3 and Table 4 it is evident that cities are more transparent and have better economic and fiscal outcomes.

Table 4: *Summary statistics municipalities (average values 2014-2017)*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
Min.	0.00	6,901	503	14.84	2.87	4.78
Median	2.50	19,363	1,136	25.71	10.66	26.24
Mean	2.33	18,983	1,259	26.15	12.28	26.86
Max.	4.25	26,463	3,347	46.10	40.20	54.94

Source: Authors' calculations

Table A in the Appendix lists all municipalities and cities that are divided into four clusters. Municipalities and cities belonging to these four clusters are also presented in Graph A, highlighting the lowest (cluster 1) and highest performers (cluster 4).[3]

[3] The tables for cities and municipalities separately are available upon request and have been excluded due to conference guidelines.

The results of cluster analysis are presented in Table 5. Four clusters have been determined and it should be noted that variables included in the analysis show different contributions to the clustering. The share of surplus/deficit in total revenues (variable bal_total_rev) had the largest contribution (interval), ranging from -0.49 (cluster 4) to 3.29 (cluster 2), while the share of surplus/deficit in total operating revenues (variable bal_oper_rev) had the smallest interval (-0.64 in cluster 4 to 0.34 in cluster 1).

Table 5: *Cluster means of all cities and municipalities in Eastern Croatia*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
1	1.90 (-0.45)	17,450 (-0.63)	1,007 (-0.67)	25.62 (0.06)	11.23 (-0.12)	29.12 (0.34)
2	2.63 (0.20)	18,248 (-0.44)	1,243 (-0.22)	24.47 (-0.10)	35.89 (3.29)	26.43 (0.07)
3	2.71 (0.28)	22,123 (0.47)	1,642 (0.54)	25.50 (0.04)	10.79 (-0.18)	22.94 (-0.28)
4	4.15 (1.58)	29,472 (2.19)	2,152 (1.51)	17.66 (-1.05)	8.51 (-0.49)	19.35 (-0.64)

Note: standardized values in parentheses

Two clusters are singled out whose mean values show the following. Cluster 1 encompasses local governments that we could label as lowest performers – with the lowest level of political accountability, resident income pc and fiscal capacity pc, the highest unemployment rate and operating revenue imbalance. Cluster 4, however, includes highest performers, the local governments with the highest level of political accountability, resident income pc and fiscal capacity pc, as well as the lowest unemployment rate, operating revenue imbalance and total revenue imbalance.

Based on the cluster analysis results one can conclude that there is a positive correlation between budget outcomes and political accountability. Local governments that report better budget outcomes (lower levels of deficit regardless of the measure) also report higher levels of political accountability. These results are in line with the Benito and Bastida (2009) research on a sample of 41 countries and since cluster 4 consists exclusively of cities, these results confirm finding of Erjavec et al (2017) that cities are fiscally conservative in Croatia. Reporting the only other research that looks at the net operating balance, this paper confirms the conclusion reached by Turley et al (2015) as well as findings of Caamano-Alegre et al. (2013) on the correlation between unemployment and fiscal transparency.

One possible explanation as to why municipalities report a lower budget outcome than cities could relate to municipalities being unable to use local public utility companies to circumvent legislative constraints on budget deficit and debt (Bajo and Primorac, 2010). Since creative accounting is out of the question it seems that transparency (OLBI) and political accountability are also out of the question.

The results of cluster analysis for municipalities are presented in Table 6. Three clusters have been determined and it should be noted that variables included in the analysis show different contributions to the clustering. The share of surplus/deficit in total revenues (variable bal_total_rev) made the largest contribution (interval), ranging from -0.25 (cluster 3) to 2.46 (cluster 1), while the share of surplus/deficit in total operating revenues (variable bal_oper_rev) had the smallest interval (-0.06 in cluster 1 and 3 to 0.03 in cluster 2).

Table 6: *Cluster means of municipalities in Eastern Croatia*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
1	1.78 (-0.52)	17,419 (-0.45)	1,065 (-0.41)	27.77 (0.22)	29.88 (2.46)	26.24 (-0.06)
2	2.10 (-0.22)	17,976 (-0.29)	1,073 (-0.39)	26.46 (0.04)	10.95 (-0.19)	27.13 (0.03)
3	3.13 (0.76)	22,215 (0.93)	1,826 (1.19)	24.80 (-0.18)	10.50 (-0.25)	26.28 (-0.06)

Note: standardized values in parentheses

Cluster 1 encompasses local governments that we could label as lowest performers. These are local governments with the lowest level of political accountability, resident income pc and fiscal capacity pc, us well us highest unemployment rate, operating revenue imbalance and total revenue imbalance. On the other hand, cluster 3 includes highest performers, the local governments with the highest level of political accountability, resident income pc and fiscal capacity pc, as well as the lowest unemployment rate, operating revenue imbalance and total revenue imbalance.

The results of cluster analysis for cities are presented in Table 7. Two clusters have been determined and it should be noted that the variables included in the analysis show different contributions to the clustering. The level of political accountability (variable OLBI) made the largest contribution (interval), ranging from -0.61 (cluster 1) to 0.73 (cluster 2), while the share of surplus/deficit in total operating revenues (variable bal_oper_rev) had the smallest interval (-0.15 in cluster 2 to 0.13 in cluster 1).

Table 7: *Cluster means of cities in Eastern Croatia*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
1	1.94 (-0.61)	23,553 (-0.61)	1,609 (-0.47)	22.96 (0.55)	11.22 (0.01)	21.49 (0.13)
2	3.68 (0.73)	28,085 (0.73)	2,103 (0.57)	17.91 (-0.66)	11.01 (-0.01)	19.09 (-0.15)

Note: standardized values in parentheses

Cluster 1 encompasses local governments that we could label as lowest performers. These are local governments with the lowest level of political accountability, residents' income pc and fiscal capacity pc, the highest unemployment rate, operating revenue imbalance and total revenue imbalance. On the other hand, cluster 2 includes highest performers, the local governments with the highest level of political accountability, resident income pc and fiscal capacity pc, as well as the lowest unemployment rate, operating revenue imbalance and total revenue imbalance.

5. Conclusion

This paper represents the first attempt to connect the issue of political accountability via the budget transparency channel and the resulting budget outcome in the local governments in Croatia. It is also novel in the sense that it looks at the budget outcome first as the share of surplus/deficit in total operating revenues, but then also as the share of surplus/deficit in total revenues.

Several interesting results come from this research. For the period 2014-2017 Eastern Croatia is among the two regions (together with Dalmatia) that exhibit the lowest levels of OLBI (our proxy for political accountability) as well as the lowest budget outcomes (especially one measured by operating revenues imbalance). Since it lacks rents from tourism, this is especially troubling for the citizens of this region. Their levels of disposable income could increase if the incumbent acted in a manner of good governor and allocated public funds in the optimal way (transparency channel increases the level of accountability measured by OLBI).

By using cluster analysis for confirmatory purposes on all three levels (cities plus municipalities, cities and municipalities separately) of local governments in Eastern Croatia, the research provided following results. In the total sample (cities plus municipalities), the hierarchical cluster analysis pointed to four key clusters, out of which we can determine:

- lowest performers (local governments with the lowest level of political accountability, resident income pc and fiscal capacity pc, as well as highest unemployment rate and the biggest operating revenues imbalance)
- highest performers (local governments with the highest level of political accountability, resident income pc and fiscal capacity pc, as well as the lowest unemployment rate, operating revenues imbalance and total revenues imbalance).

In the municipalities sample the hierarchical cluster analysis pointed to three key clusters out of which we could again determine:

- lowest performers (local governments with the lowest level of political accountability, resident income pc and fiscal capacity pc, as well as highest unemployment rate, operating revenue imbalance and total revenue imbalance)
- highest performers (local governments with the highest level of political accountability, resident income pc and fiscal capacity pc, as well as the lowest unemployment rate, operating revenue imbalance and total revenue imbalance).

In the cities sample we the confirmed previous findings with the hierarchical cluster analysis pointing to two key clusters.

The policy implications of this study are rather straightforward – political accountability and transparency matter! Future research avenues could focus on the role of the media, voter sophistication and the accounting practices of local governments. With respect to methodological improvements, a more robust empirical investigation (a panel model) could complement and further improve these results.

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Appendix

Table A: *Results of the cluster analysis (cities and municipalities).*

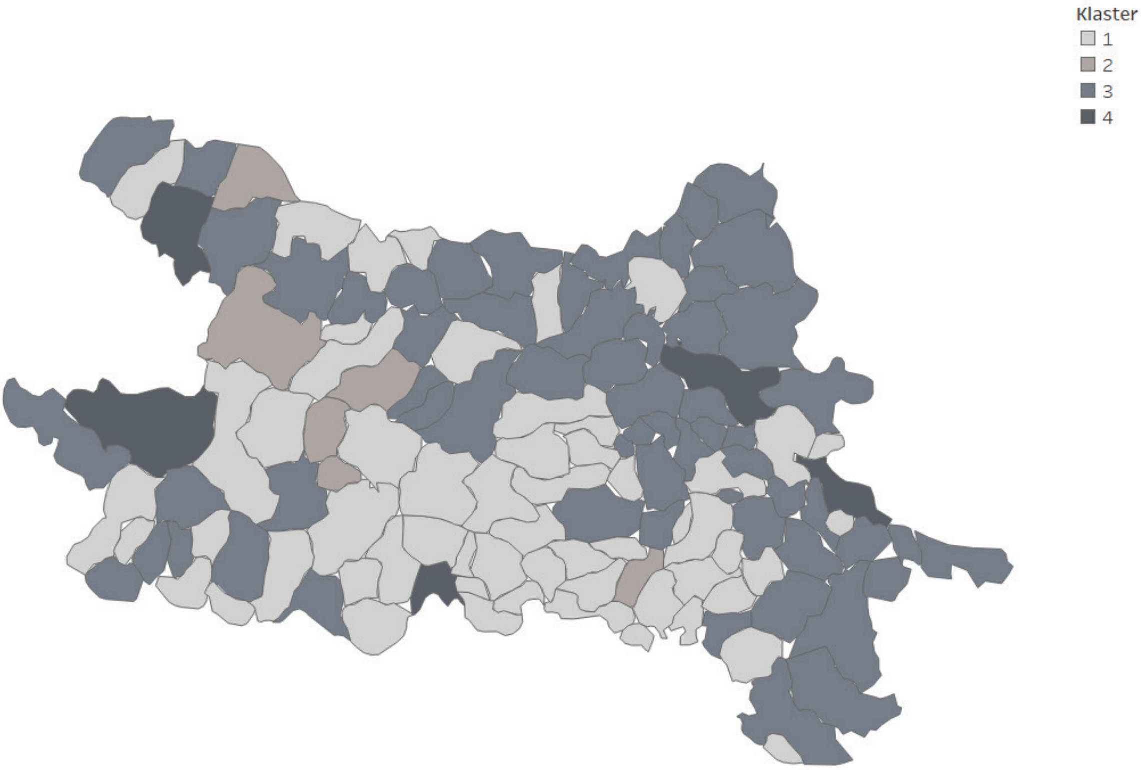
local government	county	OLBI	income_pc	fiscal_cap_pc	unempl_rate	bal_total_rev	bal_oper_rev
Cluster 1 – lowest performers							
Bebrina	Brod-Posavina	3.3	17,576	768	19.5	8.4	30.2
Brodski Stupnik	Brod-Posavina	3.5	22,206	969	15.2	19.5	39.7
Bukovlje	Brod-Posavina	3	19,784	970	15.8	22.4	38
Davor	Brod-Posavina	0.8	16,418	776	26.9	10.6	38.4
Donji Andrijevci	Brod-Posavina	2.5	20,167	1,013	17.5	5.6	39.5
Garčin	Brod-Posavina	2.5	20,322	1,086	18.6	5.3	25.1
Gornja Vrba	Brod-Posavina	3	18,475	1,261	16.9	12.3	31.8
Gornji Bogićevci	Brod-Posavina	1.8	14,300	955	42	8.9	38.4
Klakar	Brod-Posavina	3.3	22,319	1,063	14.8	11.9	37.8
Nova Kapela	Brod-Posavina	1.5	21,663	1,150	24.3	8.2	23.7
Okučani	Brod-Posavina	1.3	15,537	814	42.3	4.1	22.8
Oprisavci	Brod-Posavina	2.8	21,327	1,031	15.5	7.4	38.3
Podcrkavlje	Brod-Posavina	2	18,789	960	19.6	9	28.3
Rešetari	Brod-Posavina	1.8	19,322	855	28.5	2.9	39.4
Sibinj	Brod-Posavina	2.5	21,384	961	15.6	13.8	31.9
Sikirevci	Brod-Posavina	2	16,204	751	18	23.1	42.9
Slavonski Šamac	Brod-Posavina	2.5	14,134	757	20.4	5.6	37
Velika Kopanica	Brod-Posavina	1.3	17,404	1,089	16.5	5.5	32.6
Vrbje	Brod-Posavina	1	15,131	767	38.7	14.1	34.4
Vrpolje	Brod-Posavina	3	17,970	1,007	16.8	9.8	35.2
Drenje	Osijek-Baranja	0.8	15,317	675	30.8	12.8	19.5
Đurđenovac	Osijek-Baranja	0.8	20,332	1,002	32.4	15.5	22.3
Gorjani	Osijek-Baranja	0	18,682	1,433	25.3	13.4	26.2
Jagodnjak	Osijek-Baranja	2	14,814	1,324	46.1	17.9	17.5
Levanjska Varoš	Osijek-Baranja	1	12,043	869	40.5	15.3	17.4
Marijanci	Osijek-Baranja	1.8	19,770	1,468	23.8	14.9	30
Podgorač	Osijek-Baranja	3	15,792	1,403	41.2	12.7	17.1
Podravska	Osijek-Baranja	0	17,338	1,130	26.7	9.3	23.9
Punitovci	Osijek-Baranja	0	19,049	1,378	24.9	12.3	22.4
Satnica Đakovačka	Osijek-Baranja	2.5	17,429	1,092	26.6	6.7	33.2
Strizivojna	Osijek-Baranja	1	17,791	656	19.2	11.8	54.9
Trnava	Osijek-Baranja	0.3	16,105	898	29.7	25.9	17.3
Viškovci	Osijek-Baranja	1	19,691	985	25.7	9.9	31.3
Brestovac	Požega-Slavonia	2.8	19,771	1,011	19.2	9.1	29.7
Čaglin	Požega-Slavonia	2.3	14,246	939	20.1	13.5	24
Kutjevo (c)	Požega-Slavonia	0.8	20,598	1,025	16.7	13.5	34.1
Pleternica (c)	Požega-Slavonia	1.5	19,332	862	18.8	7.3	33.3
Velika	Požega-Slavonia	4	19,226	1,193	17.7	11.9	27.4
Čačinci	Virovitica-Podravina	2.5	9,556	1,243	23.9	8.2	22.3
Čađavica	Virovitica-Podravina	2	6,901	1,629	32.5	13.8	26.4
Mikleuš	Virovitica-Podravina	2.3	16,451	821	32	7.4	30.5
Sopje	Virovitica-Podravina	0.8	16,298	1,363	34.4	8.1	13.6
Špišić Bukovica	Virovitica-Podravina	1.5	15,981	1,127	27.1	6.1	34.8
Andrijaševci	Vukovar-Srijem	3.8	20,891	1,177	20.3	9.9	30.8
Babina Greda	Vukovar-Srijem	3	13,563	796	30.3	11	21

Borovo	Vukovar-Srijem	2.5	16,791	615	28.1	13.7	27.6
Bošnjaci	Vukovar-Srijem	1	17,870	1,099	31	3.5	8.4
Cerna	Vukovar-Srijem	2.8	20,198	1,175	23.3	8.7	21.7
Gradište	Vukovar-Srijem	1	18,313	862	26.9	14.2	41.8
Gunja	Vukovar-Srijem	1.3	13,152	832	44.3	10.7	41.3
Ivankovo	Vukovar-Srijem	2.3	20,332	966	20.6	14.3	16
Markušica	Vukovar-Srijem	2.3	13,548	714	32.4	12.1	24.6
Negoslavci	Vukovar-Srijem	1.3	17,328	503	24.3	7.2	16.8
Privlaka	Vukovar-Srijem	0.8	19,384	1,382	23.3	11.8	34.8
Štitar	Vukovar-Srijem	2.8	15,043	644	28.3	19.7	45.1
Trpinja	Vukovar-Srijem	1.8	15,914	1,136	26.9	4.9	10.8
Vođinci	Vukovar-Srijem	2.8	19,362	972	21.9	12.3	24.5
Cluster 2							
Gundinci	Brod-Posavina	3	15,666	800	18.6	32	17.8
Jakšić	Požega-Slavonia	2.5	20,492	938	15.8	40.2	38.5
Kaptol	Požega-Slavonia	2.5	17,554	895	18.9	35.7	27.8
Gradina	Virovitica-Podravina	2.3	15,335	1,148	34	32.8	20.9
Orahovica (c)	Virovitica-Podravina	3.8	27,561	2,181	18.4	38.1	22.6
Voćin	Virovitica-Podravina	1.8	12,879	1,496	41.1	36.6	30.9
local government	**county**	**OLBI**	**income_pc**	**fiscal_cap_pc**	**unempl_rate**	**bal_total_rev**	**bal_oper_rev**
Cluster 3							
Cernik	Brod-Posavina	4	21,366	1,043	28.8	4.5	30.3
Dragalić	Brod-Posavina	2.8	19,577	1,478	31	12.9	21.7
Nova Gradiška (c)	Brod-Posavina	2.5	25,741	1,956	24.1	4.1	27.1
Oriovac	Brod-Posavina	1.8	21,508	1,109	15.6	13.8	8.1
Stara Gradiška	Brod-Posavina	3.5	21,006	1,326	30.4	9.9	40.1
Staro Petrovo Selo	Brod-Posavina	3	18,870	1,071	30.6	19.9	39.7
Antunovac	Osijek-Baranja	3.8	26,463	1,480	18.3	7.1	22.7
Beli Manastir (c)	Osijek-Baranja	0.8	26,410	1,945	29.6	13.1	30.8
Belišće (c)	Osijek-Baranja	1.8	24,546	2,292	27.5	23.4	14.9
Bilje	Osijek-Baranja	2	26,442	1,758	20	17	22.1
Bizovac	Osijek-Baranja	4	23,079	1,441	24.2	5.9	25.5
Čeminac	Osijek-Baranja	0.3	24,228	2,477	23.8	7.6	19.3
Čepin	Osijek-Baranja	0.8	25,717	1,464	17.7	11.8	21.1
Darda	Osijek-Baranja	1.3	20,990	1,339	31.6	20.4	34.4
Donja Motičina	Osijek-Baranja	2	20,082	1,087	32.2	15.1	37.5
Donji Miholjac (c)	Osijek-Baranja	2.8	24,673	1,462	19.6	6.8	8.6
Draž	Osijek-Baranja	1.8	20,366	1,428	35	2.9	23.2
Đakovo (c)	Osijek-Baranja	2.5	22,981	1,398	20.2	12.6	24.8
Erdut	Osijek-Baranja	2.8	21,311	1,525	27	9.8	10
Ernestinovo	Osijek-Baranja	3	26,159	1,599	20.2	5.4	10.1
Feričanci	Osijek-Baranja	2.5	22,854	1,429	28.6	4.6	26.4
Kneževi Vinogradi	Osijek-Baranja	3.3	21,879	1,851	32.4	11	19.1
Koška	Osijek-Baranja	3	20,834	1,285	30.9	14.9	20.7
Magadenovac	Osijek-Baranja	2.3	19,279	3,347	27.8	8.9	15.2
Našice (c)	Osijek-Baranja	3	26,659	2,165	25.5	14.3	29.9
Petlovac	Osijek-Baranja	3	21,091	1,464	32.6	14.8	23.3
Petrijevci	Osijek-Baranja	3.3	23,325	1,554	20	9.9	29.5
Popovac	Osijek-Baranja	3	20,973	2,162	38.9	10.4	25.9
Semeljci	Osijek-Baranja	2.5	19,363	1,298	27.4	15.7	39.3
Šodolovci	Osijek-Baranja	3	17,456	1,100	36	8.2	18.6
Valpovo (c)	Osijek-Baranja	1,3	26,155	1,514	23.2	6.5	7.3
Viljevo	Osijek-Baranja	2,5	16,238	1,230	31.7	21.2	32
Vladislavci	Osijek-Baranja	3,8	19,951	1,385	24.2	5.4	27.1
Vuka	Osijek-Baranja	4,3	24,014	1,347	20.2	18.6	25.5
Lipik (c)	Požega-Slavonia	3,8	25,116	1,971	17.8	8.2	30.5
Požega (c)	Požega-Slavonia	2,8	28,133	1,954	14.7	15.2	17.7
Crnac	Virovitica-Podravina	3,8	19,470	2,362	29.5	19.4	19.4
Lukač	Virovitica-Podravina	4	18,143	1,372	28.1	6.9	19.3
Nova Bukovica	Virovitica-Podravina	2	20,700	2,352	32.2	20.8	38.5
Pitomača	Virovitica-Podravina	4	18,040	1,363	22	7.3	20.4
Slatina (c)	Virovitica-Podravina	3.3	23,157	1,609	24.8	10	18.5
Suhopolje	Virovitica-Podravina	2.8	17,744	1,163	30.7	10.2	13.8
Zdenci	Virovitica-Podravina	1.5	20,808	1,844	26.8	8.1	42.7
Bogdanovci	Vukovar-Srijem	2.3	20,455	1,027	28.3	7.6	4.8
Drenovci	Vukovar-Srijem	3.3	16,074	1,600	34.8	10.7	29.7
Ilok (c)	Vukovar-Srijem	2.3	22,472	1,054	20	11.7	8.6
Jarmina	Vukovar-Srijem	4	22,696	1,021	18.7	8.3	18.4
Lovas	Vukovar-Srijem	3.8	25,385	2,402	20.7	11.9	38.8
Nijemci	Vukovar-Srijem	3.8	20,970	2,335	24.1	17.7	39

Nuštar	Vukovar-Srijem	2.3	22,372	954	21	5.7	10.8
Otok (c)	Vukovar-Srijem	1	19,916	2,020	25.5	11.5	20
Stari Jankovci	Vukovar-Srijem	3.5	20,251	1,671	23.9	8.3	28.4
Stari Mikanovci	Vukovar-Srijem	2.5	20,018	1,060	21.9	4.8	8.7
Tompojevci	Vukovar-Srijem	3.8	23,231	1,640	25.4	17.1	41
Tordinci	Vukovar-Srijem	0.5	21,832	1,230	20.5	7.4	5.5
Tovarnik	Vukovar-Srijem	3.5	24,995	2,344	18.2	8.7	23.7
Vinkovci (c)	Vukovar-Srijem	1.5	27,426	2,033	16.9	2.9	12.6
Vrbanja	Vukovar-Srijem	3	19,027	2,542	28.5	5	20.5
Županja (c)	Vukovar-Srijem	4.3	25,256	2,133	23.1	3.1	10.7
Cluster 4 – highest performers							
Slavonski Brod (c)	Brod-Posavina	5	27,061	1,942	15.1	7.2	28
Osijek (c)	Osijek-Baranja	5	33,923	2,935	16.3	3.8	12.5
Pakrac (c)	Požega-Slavonia	3	28,036	1,870	17.8	7.6	16.4
Virovitica (c)	Virovitica-Podravina	3.8	28,583	2,250	18.3	9.2	18.7
Vukovar (c)	Vukovar-Srijem	4	29,756	1,762	20.7	14.9	21.1

Note: c denotes city

Graph A: *Map of Eastern Croatia, results of the cluster analysis (cities and municipalities), where cluster 1 are lowest performers, cluster 4 are highest performers.*



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ANALYSIS OF THE REGIONAL COMPETITIVENESS INDEX OF THE REPUBLIC OF CROATIA WITH EMPHASIS ON EASTERN SLAVONIA

ABSTRACT

The aim of the paper is to explain the regional policy, development and guidelines of the Republic of Croatia with special emphasis on eastern Slavonia. This paper analyses the Global Competitiveness Index (GCI), which evaluates the Croatian economy and compiles a report on global competitiveness of the world economy. The Republic of Croatia, according to the GCI index, has stagnated for the last ten years. The paper also analyses the Regional Competitiveness Index (RCI) in the three-year period (2007, 2010, 2013) for the area of eastern Slavonia, where 797.891 inhabitants, or 18.9% of the total population of the Republic of Croatia live. The comparative analysis of Eastern Slavonia and the Republic of Croatia according to statistical and perceptual indicators was applied in the paper. In regards to the previous regional competitiveness research (Regional Competitiveness Index of Croatia in 2007, Regional Competitiveness Index of Croatia in 2010), there are significant changes in the competitiveness profile of certain counties in 2013, but the least competing counties remained such, and the most competitive ones kept their previous status. Most of the indicators used (such as gross domestic product, employment, unemployment) show the results of developmental behaviour rather than factors that development capacity depends on. Consequently, the Regional Competitiveness Index, in terms of methodology and focus, contributes to the enrichment and systematization of the information base on the factors that influence competitiveness and thus the developmental performance at the county and subnational levels.

***Key words**: Regional Competitiveness Index, Global Competitiveness Index, Eastern Slavonia*

1. Introduction

According to the Regional Development Act of the Republic of Croatia (2014), regional development implies a long-term process of improving the sustainable economic and social development of an area that is realized through the identification, promotion and management of the development potential of that area. Namely, regional development is the initiation of economic processes and the promotion of using resources in less developed regions with the aim of achieving overall sustainable economic development of the region (Nijkamp et al., 2009).

Regional development policy denotes a comprehensive and harmonized set of goals, priorities, measures and activities aimed at stimulating long-term economic growth and improving the quality of life, in line with the principles of sustainable development economic growth focused on reducing regional disparities (Regional Development Act, 2014). Namely, regional policy seeks to increase the productivity and competitiveness of a given area, and strives to identify and eliminate the causes that lead to imbalances in particular regions. Regional policy should stimulate a regional approach to the development of the national economy, i.e. the balanced development of the entire national space on economic, political and social plan, with its instruments, measures or resources. Measuring of the competitiveness of Croatian counties has begun in 2007 with the aim of identifying quality of the factors that determine the attractiveness of an area for business and life. These studies provide an overview of the strengths and weaknesses, i.e. the advantages and disadvantages of 21 Croatian counties, and give recommendations for strengthening the competitiveness of the economy at the local level. Accordingly, the City of Zagreb, Varaždin County, Istria County, Međimurje County and Primorje-Gorski Kotar County occupy the top five positions according to the regional index of overall competitiveness. Požega-Slavonia, Vukovar-Srijem, Sisak-Moslavina and Virovitica-Podravina counties are at the bottom.

2. Methodology

The scope of research and analyses of the Regional Competitiveness Index (RCI) of the Republic of Croatia gives an emphasis on Eastern Slavonia, i.e. to five counties (Osijek-Baranja County, Vukovar-Srijem County, Slavonski Brod-Posavina County, Požega-Slavonia County and Virovitica-Podravina County).[1] This paper gives an overview of the Global Competitiveness Index 4.0 (GCI) developed by the World Economic Forum, whose analysis includes 140 countries, i.e. 99% of the world's GDP and 94% of the world's population.

Research on the Regional Competitiveness Index is conducted using the methodology of the World Economic Forum (WEF) and the Institute for Management Development (IMD), thus achieving consistency with measuring competitiveness at the national level. The methodological consistency of researching competitiveness at the sub-national level and the use of a very broad basis of indicators provide the possibility of horizontal (among counties) and vertical (in time) comparisons, thus strengthening the awareness of economic, political and

[1]According to Blagojević A. (2008): *Zemljopisno, povijesno, upravno i pravno određenje istočne Hrvatske - korijeni suvremenog regionalizma*, Proceedings of the Faculty of Law in Rijeka (1991), v. 29, no. 2, p. 1150; the area of Eastern Slavonia includes 5 counties: Osijek-Baranja, Vukovar-Srijem, Slavonski Brod-Posavina, Virovitica-Podravina and Požega-Slavonia County

scientific public about the problems of regional development differences and effectiveness of policies for their reduction (Regional Competitiveness Index of Croatia, 2013). A comparative analysis of the Regional Competitiveness Index of Eastern Slavonian counties to the average of the Republic of Croatia in 2013 was carried out for this paper.
Secondary sources of information were used during the analysis of the RCI, based on publications: *Regional Competitiveness Index of Croatia 2013, Regional Competitiveness Index of Croatia 2010, Regional Competitiveness Index of Croatia 2007*, as well as *The EU Regional Competitiveness Index 2016*.

3. Literature Review

Although the European Union's regional policy implies the creation of cohesion and economic integration of more developed and less developed parts by stimulating growth, employment and innovation, which are the priority of regional policy, followed by demographic consolidation, quality space management, balanced utilization of infrastructure, and greater social cohesion (*Regional Competitiveness Index of Croatia 2013*), Europeanization of regional policy does not imply a situation in which Member States have no possibility to influence the selection of instruments of regional policy implementation because, as emphasized by Trnski (2008), the state continues to play its central role in numerous stages of the process but initiatives and formulation of basic rules by which the implementation of regional policy will effectively be conducted, is shifted from the national to the European level.
The importance of regions and regional development is also pointed out by Marošević and Bošnjak (2018) who clarify the notion of regional development and frequently used concepts related to regional development. They emphasize the need to assign powers to smaller units, while respecting the principle of subsidiarity as well as the acceptance of the model of functional regionalization. Namely, by respecting the principle of subsidiarity, local and regional self-government units are given space for initiating regional development, a concept of globalization adapted to local conditions.
Annoni et al. (2017) emphasize the applicability of the RCI, which helps regions to increase their competitiveness by measuring the strong and weak regional division factors for each of the regions in the European Union. Covering a wide range of issues related to competitiveness, innovation, quality of institutions, transport and digital infrastructure, and health and human capital, this index (RCI) extends the traditional competitiveness analysis from being a purely economic measure to including social elements. In this way, RCI goes further than the company's perspective to integrate residents' concerns. In addition, the index considers the region's level of development with an emphasis on innovation. As an example, the authors state that regions in Italy, Spain, Belgium, Germany and Luxembourg have already started to use the RCI to select priorities for their development strategies. The index can give an indication of what each region needs to focus on, considering their specific situation and the overall level of development.

4. The Global and Regional Competitiveness Index

4.1. The Global Competitiveness Index

Competitiveness measurement is conducted every year by the World Economic Forum (WEF) who produces a report on global competitiveness of the world economy. According to the definition of the WEF competitiveness is a set of institutions, policies and factors that determine the level of productivity in a country.[2] According to the latest Global Competitiveness Report 2018-2019[3] the Global Competitiveness Index (GCI) 4.0 estimates productivity drivers as the most important determinant of long-term growth. According to this Report, the World Economic Forum has significantly changed the methodology for measuring competitiveness, as the total number of indicators decreased from 114 to 98 and the share of statistical indicators increased from the previous 31% to 43% to the current 70%, which means that now the overall rank considerably less depends on perception, and more on numerical statistical indicators. The new methodology abolishes the "level of development" weighing scheme based on the country's GDP, and the overall index is the result of an average of 12 pillars[4] for all countries. Innovation is also introduced in the calculation, where the distance from the "ideal state" is measured and evaluated with a mark from 0 to 100 where 100 is ideal. In addition, the emphasis is placed on the 4th Industrial Revolution and innovations that promote new business models and accelerate the growth of economies.

The competitiveness of the Croatian economy measured by the Global Competitiveness Index 4.0, according to the latest report, is ranked 68th out of 140 countries. In order to compare the new index with the index of previous years, the World Economic Forum calculated the position of the countries as it would be if the new methodology was applied in the previous year. Compared to last year, when the competitiveness of the Croatian economy was ranked 74th out of 137 countries, the rating would remain the same, and the two positions would be lost due to some progress recorded in Serbia and Georgia.

According to the global competitiveness index over the past ten years Croatia was marked by stagnation or deterioration of certain indicators as a result of slowness in the implementation of reforms, complicated administrative procedures, a negative atmosphere of legal certainty as well as a negative business and investing climate. According to the latest Global Competitiveness Report, Croatia is the worst ranked in the pillar of macroeconomic stability (106th), labour market (96th), market size (78th) and institutions (76th), and by the "ideal state" criterion it is the most distant in the capacity of innovation (38 out of 100), business dynamics (56 out of 100) and market size (50 out of 100). This is also evidenced by the fact that Croatia is still the worst in the efficiency of the judicial system in resolving disputes (139th), ease of recruitment of foreign labour force (139th), burden of government regulations (138th), employment and dismissal of workers (135th), and efficiency of the legal system in challenging regulations (135th). Although these weaknesses were identified in earlier reports of the Global Competitiveness Index, there was no government intervention to improve these indicators.

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[2] Schwab, K. (ed.): *The Global Competitiveness Report 2013–2014*, World Economic Forum, Geneva, 2013., p.4 https://www.weforum.org/reports/the-global-competitveness-report-2018

[3] Schwab, K. (ed.): *The Global Competitiveness Report 2018*, World Economic Forum, Switzerland, 2019 https://www.weforum.org/reports/the-global-competitveness-report-2018

[4] 12 pillars of competitiveness: institutions, infrastructure, ICT application, macroeconomic stability, health, education and skills, product market, labour market, financial system, market size, business dynamics and innovation. Pillars of competitiveness are divided into four groups: business environment, human capital, markets and innovation ecosystem.

The best position on the Global Competitiveness ranking was achieved by Croatia in infrastructure (36th), health (51st) and innovation capacity (63rd), while it is the closest to the "ideal state" in health (86 out of 100), infrastructure (77 out of 100) and macroeconomic stability (69 out of 100). As competitive advantages, noted are the high degree of electrification (1st), trade barriers (6th), road quality (17th), workers' rights (32nd), the average period that students spend in the education system (37th), and the inclusion of female labour force (40th).

For the future progress and strengthening of the Croatian economy, it is necessary to rapidly and efficiently implement structural reforms that would strengthen the economy and contribute to a balanced realization of the growth potential. It is necessary to establish a mechanism for the efficient functioning of the legal system, which would suppress corruption and strengthen the independence of the judicial system, to reduce administrative obstacles that negatively affect business and investment in the Croatian economy through public administration reform, liberalize labour legislation, reduce the tax burden on the economy, and lower public spending and debt. [5] In addition, it is extremely important to increase investment in science and technology, and to encourage transfer of technology and knowledge through the creation of a system that will encourage product and service innovation and cooperation with the private sector, thus enabling commercialization of research potential. In this way, knowledge-based economic development is created with the aim of improving the competitiveness of the Republic of Croatia globally.

4.2. The Regional Competitiveness Index

There is a strong regional diversity in Croatia with respect to the quality of life and business conditions and in order to contribute to a balanced development the first regional competitiveness research was carried out in 2007 by the National Competitiveness Council and the United Nations Development Program. The research is being carried out in three-year intervals, and since 2013, RCI of Croatia has demonstrated that it is methodologically compatible with national competitiveness research conducted by the World Economic Forum and regional competitiveness research. RCI, unlike other indicators such as GDP per capita or unemployment and employment rates, indicates the factors that development capacity depends on, not just the results of developmental behaviour (Regional Competitiveness Index of Croatia 2013).

The Republic of Croatia applies the Nomenclature of Territorial Units for Statistics (French: Nomenclature des unites territoriales statistiques), i.e. the NUTS system, which is a hierarchical system for the identification and classification of spatial units for official statistics purposes in the Member States of the European Union According to NUTS 2 statistical division, it can be concluded there is a stronger decline in the number of inhabitants in Continental Croatia (4.57% less in 2011 than in 2001) compared to Adriatic Croatia (1.06% less in 2011 than in 2001). [6]

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[5] Zekić Z. et al. (2017): *Analiza konkurentnosti Republike Hrvatske u europskom i globalnom logističkom prostoru*. In: *Privredna kretanja i ekonomska politika*, Vol. 26, No. 1 (140), p. 93;

[6] The largest decrease in the number of inhabitants is recorded in the Vukovar-Srijem County; the largest natural decline in the population is recorded in Osijek-Baranja County, while population growth is recorded only in the City of Zagreb, Međimurje County and Dubrovnik-Neretva County. The emigration process is present in most counties, with the exception of the Istria County and Dubrovnik-Neretva County, which have a positive migration balance. There are significant differences between counties with regard to the proportion of the socially vulnerable population - the largest share of the socially vulnerable population is recorded in the Šibenik-Knin and Virovitica-Podravina counties, as opposed to the Istria, Dubrovnik-Neretva and Primorje-Gorski Kotar counties which have

It is important to indicate one of the major problems affecting eastern Slavonia region that is related to negative demographic trend seen through migration from these counties. In 2017 the largest negative total net migration of population was recorded in the County of Vukovar-Srijem (-5665 persons) and the County of Osijek-Baranja (-5460 persons). Furthermore, out of the total of twenty counties and the City of Zagreb, the largest negative net migration between counties had the County of Vukovar-Srijem (-1021 persons) and the County of Osijek-Baranja (-964 persons.).[7] According to Župarić-Iljić (2016), some of the most important economic parameters for which temporary or permanent emigration occur are negative growth of GDP, unfavourable economic situation and entrepreneurial climate, high unemployment rate and long-term unemployment, decline in living standards, inability to find employment in the profession and inadequate salary due to qualification. In addition to these, we should consider numerous other push-pull factors that shape newer emigration flows from Croatia, including political, social-educational, distrust in state institutions, increased corruption, slowness and misconduct of the judiciary, non-respect of human and minority rights and underpayment of certain occupations.[8]
Table 1 analyses the GDP per capita for five counties of eastern Slavonia compared to the City of Zagreb in the period from 2013 to 2016. [9]

Table 1: *GDP per capita (in EUR) in five eastern Slavonian counties and the City of Zagreb from 2013 to 2016*

YEAR	*OBC*	*VSC*	*SBPC*	*PSC*	*VPC*	*CoZ*
2013	8,122	5,981	5,873	6,114	5,994	18,388
2014	8,011	5,823	5,654	5,830	5,598	18,303
2015	8,313	6,139	5,927	6,024	5,760	18,769
2016	8,834	6,563	6,292	6,346	6,190	19,546

Source: Croatian Bureau of Statistics, 2017

According to GDP per capita figures for the observed eastern counties, better indicators can be noted in Osijek-Baranja County, but there are still large regional disparities compared to the City of Zagreb, which has three times higher GDP per capita than the worst-ranked county (Slavonski Brod-Posavina County in 2016.) which represents a significant difference. This difference is precisely the cause of the main lack of current NUTS2 regional division since the influence of the City of Zagreb on the GDP of the continental Croatia has as a consequence less favourable opportunities for the use of regional aid for all continental Croatia counties, as

the smallest share of the socially vulnerable population. (*Regional Development Strategy of the Republic of Croatia for the period until the end of 2020*, 2017)

[7] Državni zavod za statistiku (National Bureau of Statistics): *Migracija stanovništva Republike Hrvatske u 2017* (in Zagreb, 2018): https://www.dzs.hr/Hrv_Eng/publication/2018/07-01-02_01_2018.htm, no: 7.1.2. (accessed on: 15 March 2019)

[8] As mentioned, Croatia is ranked 74th out of 137 by the Global Competitiveness Index. The report cites factors that negatively affect running business in the Republic of Croatia, and the top 5 places are: inefficient state bureaucracy, policy instability, tax regulations, corruption and tax rates. This is also supported by the fact that, by the burden of government regulation and the efficiency of legal framework in settling disputes, we are 135th out of 137, by the transparency of government policy making we are 128th, while we are at the 116th place by the public trust in politicians (Global Competitiveness Report 2017-2018, 2018).

[9] Državni zavod za statistiku (National Bureau of Statistics): *Bruto domaći proizvod - pregled po županijama*, https://www.dzs.hr/Hrv_Eng/Pokazatelji/Bruto%20domaci%20proizvod.xls (accessed on: 12 March 2019)

identified in the study conducted by the Institute for Development and International Relations in 2018.[10]

Table 2 shows the total number of employees according to administrative sources and according to this indicator the City of Zagreb had by far the most positive result, where 401,642 people were employed in 2016, while the lowest numbers were for Požega-Slavonia County where only 17,270 people were employed. The increase in the number of employed persons is more significant in the more developed counties and in the City of Zagreb, while in the less developed counties it stagnates or the increase is only marginal.

Table 2*: Total number of persons in employment according to administrative sources, situation as on 31 march 2017 in five eastern Slavonian counties and the City of Zagreb from 2013 to 2016*

YEAR	*OBC*	*VSC*	*SBPC*	*PSC*	*VPC*	*CoZ*
2013	*80,960*	*40,259*	*32,658*	*16,885*	*19,515*	*390,469*
2014	*77,092*	*38,101*	*31,640*	*16,754*	*18,837*	*383,967*
2015	*76,556*	*38,399*	*31,973*	*16,754*	*18,294*	*389,888*
2016	*77,229*	*38,696*	*32,454*	*17,270*	*18,734*	*401,642*

Source: Croatian Bureau of Statistics, 2017

Table 3*: the total number of employees according to administrative sources, the state on 31 March in five counties in eastern Slavonia and the City of Zagreb in the period from 2013 to 2016.*

YEAR	*OBC*	*VSC*	*SBPC*	*PSC*	*VPC*	*CoZ*
2013	*80,960*	*40,259*	*32,658*	*16,885*	*19,515*	*390,469*
2014	*77,092*	*38,101*	*31,640*	*16,754*	*18,837*	*383,967*
2015	*76,556*	*38,399*	*31,973*	*16,754*	*18,294*	*389,888*
2016	*77,229*	*38,696*	*32,454*	*17,270*	*18,734*	*401,642*

Source: Croatian Bureau of Statistics, 2017

The unemployment rate is interdependent with the employment rate, so the developmental relations are almost the same as in the previous indicator: according to Table 4 the City of Zagreb has the lowest rate of unemployed (in 2016 the rate was 8.6 percent), and Vukovar-Srijem County has the highest (the rate is 32.7 percent), which is four times higher unemployment rate compared to the City of Zagreb.

[10]Puljiz J. and Biondić I. (2018): *Izrada prijedloga nove NUTS 2 klasifikacije u Republici Hrvatskoj*, p. 15 https://razvoj.gov.hr/UserDocsImages/Vijesti%20-%20dokumenti/Izrada%20prijedloga%20nove%20NUTS%20klasifikacije%20u%20RH%20012019.pdf

Table 4: *Registered unemployment rate in five eastern Slavonian counties and the City of Zagreb from 2013 to 2016*

YEAR	*OBC*	*VSC*	*SBPC*	*PSC*	*VPC*	*CoZ*
2013	*32.1*	*35.8*	*37.0*	*30.5*	*36.2*	*10.8*
2014	*34.3*	*38.0*	*38.0*	*31.4*	*38.1*	*11.2*
2015	*31.9*	*33.6*	*30.8*	*26.2*	*35.8*	*9.6*
2016	*28.8*	*29.7*	*27.1*	*22.8*	*32.7*	*8.6*

Source: Croatian Bureau of Statistics, 2017

These data show that the labour market in Croatia has been recovering in the last few years but with an uneven intensity, and hence the regional differences in economic development are still noticeable. According to the Croatian Chamber of Economy,[11] the common characteristic of all counties is a more dynamic decline in the number of unemployed persons than the level of employment growth, which is a reflection of mass emigration, resulting in a stronger decline in the number of unemployed people, but also a decrease in the number of inhabitants in the counties. The increase in the number of employees is the result of the recovery of the economy after the economic crisis and Croatia's entry into the European Union. The need for more balanced economic development has been recognized throughout Europe and, with the aim of reducing regional disparities, significant financial resources are used through regional policy funds. Such an example is the Slavonia, Baranja and Srijem Project,[12] intended exclusively for the counties of eastern Slavonia, where a total of HRK 18.75 billion were provided for their development. So far, over half of the available funds in the amount of HRK 9.7 billion has been contracted.

The aim of monitoring the competitiveness of the Republic of Croatia at the sub-national or county level (NUTS 3 level) is to have a better insight into the reasons for the differences in competitiveness and development imbalances. Most of the indicators used (such as gross domestic product, employment, unemployment) show the results of *developmental behaviour*, rather than the factors that influence the *development capacity*.

Therefore, table 4 shows the components of the Regional Competitiveness Index in the sub-national level - eastern Slavonia. Each of the counties (NUTS 3) is described by a select set of indicators that influence the quality of individual pillars of competitiveness within the business environment and the business sector, as shown in Table 4.

Table 5: Components of Regional Competitiveness Index in eastern Slavonia

Components of RCI	*OBC*	*VSC*	*SBPC*	*PSC*	*VPC*
Ranking of competitiveness	11	20	16	21	18
Ranking of business environment quality	13	21	14	20	17
Ranking of business sector quality	9	18	14	21	17

Source: Regional Competitiveness Index of Croatia 2013

In 2013, according to the *Regional Competitiveness Index of Croatia 2013*, in the competitiveness profile of individual counties it is evident that the counties of eastern Slavonia, with the exception of Osijek-Baranja County, are the least competitive. According to the ranking of competitiveness Požega-Slavonia County is at the bottom of the scale, followed by

[11] CCE (2019): *Tržište rada – pokazatelji po županijama*. Sector for Financial Institutions and Economic Analyses, Zagreb

[12] More about the Project Slavonia, Baranja and Srijem at the following link: https://strukturnifondovi.hr/projekt-slavonija-baranja-srijem/

the Vukovar-Srijem County, Virovitica-Podravina County is in the 18th place, and Slavonski Brod-Posavina County is in the 16thplace.According to the quality of the business environment the worst is Vukovar-Srijem County, and according to the quality of the business sector the worst is Slavonski Brod-Posavina County. Although, data form 2013 Index shows changes in the competitiveness profile of some counties, however the less competitive counties still remain as in the previous report, while on the other hand the most competitive ones retained their previous status.[13]
Table 6 shows a comparative analysis of *statistical indicators*[14] of Eastern Slavonia and the Republic of Croatia in 2013 describing and ranking indicators that influence the quality of individual pillars of competitiveness, within the business environment and the business sector.

Table 6: *Comparative analysis of statistical indicators for eastern Slavonia and the Republic of Croatia in 2013*

		Average EASTERNSLAVONIA	Average THE REPUBLIC OFCROATIA
1.	Demography, health, culture	15.8	8
2.	Education	18.6	9
3.	Basic infrastructure and the public sector	14.2	9
4.	Business infrastructure	14.8	12
5.	Investments and entrepreneurial dynamics	11.4	10
6.	Entrepreneurship development	17.6	9
7.	Economic results – level	18	9
8.	Economic results – dynamics	14.6	11
	OVERALL INDEX	15.62	9.62

Source: Created by authors according to the Regional Competitiveness Index of Croatia 2013

The table shows that, according to statistical indicators, eastern Slavonia is below the Croatian average according to all these indicators. The business environment of eastern Slavonia is marked by a negative migration balance of all 5 counties, from 6.4% (Osijek-Baranja County) to 26.1% (Požega-Slavonia County) which greatly exacerbated the indicator of demographics, health and culture. The worst relation of eastern Slavonia with regard to the average of the Republic of Croatia is visible in the statistical indicator of education, where the share of people with higher education in the population from 25 to 64 in the counties of eastern Slavonia is significantly lower than in the most competitive counties. The lowest share of highly educated people in eastern Slavonia is in the Virovitica-Podravina County with 6.8%, while the highest

[13]The City of Zagreb, Varaždin County, Istria County, Međimurje County and Primorje-Gorski Kotar County occupy the top five positions according to the overall regional competitiveness index. Regarding the previous regional competitiveness research (Regional Competitiveness Index of Croatia 2007, Regional Competitiveness Index of Croatia 2010), Zagreb County dropped from the 5th place to the 7th place, and its place was occupied by Primorje-Gorski Kotar County. Varaždin County and the City of Zagreb have only replaced places compared to 2010 (Regional Competitiveness Index of Croatia 2013).
[14] Statistical indicators of competitiveness are described by real measurable values and the ranking of indicators for eastern Slavonia is calculated in comparison with the average of the Republic of Croatia. For the average of the Republic of Croatia, the weighted value was considered when analysing the statistical indicators according to the population criteria. Statistical indicators of the business environment include demographics, health and culture, then education, basic infrastructure and the public sector indicator. Statistical indicators of the business sector include investments and entrepreneurial dynamics, entrepreneurship development, economic results - level, economic results - dynamics.

share of 10.9% was recorded in the Osijek-Baranja County. However, the share of 10.9% is still significantly lower than the share of highly educated in the most competitive counties such as Primorje-Gorski Kotar County with 15.7%, Zadar County with 13.1% or Split-Dalmatia County with 14%, and particularly worrisome is the fact that the Osijek-Baranja County has the role of the centre of the higher education system in Slavonia. The basic infrastructure and the public sector indicator of the eastern Slavonia counties is marked by a higher share of support in the total LGU revenues compared to other counties, since 4 counties of the eastern Slavonia were ranked in the last places (except Osijek-Baranja County which was ranked 6th). Business infrastructure is characterized by fewer entrepreneurial zones in eastern Slavonia compared to the rest of Croatia, with the exception of the Virovitica-Podravina County, which is ranked 4th (Regional Competitiveness Index 2013).
The business sector of eastern Slavonia is also characterized by a below-average level where the worst indicator is the indicator of the level of economic results, which is worse than Croatia's average by as much as a half. All of the eastern Slavonian counties (except Osijek-Baranja County, which is ranked 13th) are at the bottom of the list according to the GDP per capita, and the worst ranked is the Slavonski Brod-Posavina County. Eastern Slavonian counties also have poor indicators compared to the rest of Croatia in average gross earning per employee where the Virovitica-Podravina County is the worst (ranked 19th). The investment and entrepreneurial dynamics indicator do not deviate significantly from the Croatian average, although for example according to the indicator of total investments according to the location per capita Slavonski Brod-Posavina County is in the last, 21st place, Požega-Slavonia County in the 20th place and Virovitica-Podravina County in the 19th place. The indicator of entrepreneurship development is characterized by a lower ratio of the number of persons employed in small and medium enterprises and the number of inhabitants, where the last one is the Virovitica-Podravina County (6.8) and the second last is Vukovar-Srijem County (7.4). In addition to this, a smaller number of trades and free occupations on the number of inhabitants is again expressed in the Virovitica-Podravina County, which is in the 19th place according to the mentioned indicator, and in the Osijek-Baranja County, which is in the 18th place. Eastern Slavonian counties are also characterized by a smaller number of employees compared to the number of inhabitants, which is especially expressed in the Slavonski Brod-Posavina, Požega-Slavonia and Virovitica-Podravina County, which are again at the bottom of the list.

Perceptive competitiveness indicators[15], unlike the statistical competitiveness indicators, were rated 1 to 7, with 1 being the worst grade and 7 being the best. To mitigate the impact of relatively small samples and the difference from year to year, perceptive indicators values were calculated as the average values obtained by RCI research in 2013 and 2010.Based on such grades, each indicator is ranked in relation to 21 units of the administrative structure of Croatia (20 counties and the City of Zagreb). The weighted average of the Republic of Croatia was taken during the analysis of perceptive indicators (given the number of inhabitants) and was calculated on the basis of an average of two years.

[15] The perceptive indicators presented in Table 6 evaluate location advantages (climate, relief, labour costs), local government (trust, corruption, quality of service and so on), physical infrastructure (development, quality and safety), rule of law (activities of grey economy, proprietary rights and claims, organized crime), education (quality of public schools, availability, investment in enterprises and education), financial market and local competition (access to various sources of financing, loans for innovative and risky projects, etc.), technology and innovation (technological development, sophistication of technology, investment in research and development), clusters (the development and spread of production clusters, collaboration of entrepreneurs with universities and institutes), marketing and management (the use of modern marketing, the independence of local businesses and so on).

Table 7: *Comparative analysis of perceptive indicators of eastern Slavonia and the Republic of Croatia in 2013.*

		Average EASTERN SLAVONIA	Average THE REPUBLIC OF CROATIA
1.	Location benefits	3.91	3.99
2.	Local government	3.84	3.76
3.	Physical infrastructure	3.87	4.35
4.	Rule of law	4.25	4.19
5.	Education	4.05	4.40
6.	Financial market and local competition	3.45	3.49
7.	Technology, innovation	3.72	3.93
8,	Clusters	3.50	3.73
9.	Marketing and management	3.96	4.01
	OVERALL Index	3.84	3.98

Source: Created by authors according to the Regional Competitiveness Index of Croatia 2013

Unlike statistical indicators where the average of eastern Slavonian counties is far below the average of the Republic of Croatia, according to perceptual indicators the eastern Slavonia is mostly consistent with the average of the Republic of Croatia. According to the locational advantages, the indicator of climate, natural beauty and ecological preservation of the county is best evaluated in all 5 counties of eastern Croatia. The labour costs indicators of Vukovar-Srijem and Virovitica-Podravina counties are rated the worst and the aforementioned counties are ranked 21st and 20th. It is interesting that the efficiency of local administration is worst evaluated in the Požega-Slavonia County, where as much as three indicators put this county in the last 21st place (public confidence in the financial honesty of politicians in the county, the quality of local government service for entrepreneurs, communication and cooperation of local government and entrepreneurs). Unlike the Požega-Slavonia County, the indicator of the local administration of Slavonski Brod-Posavina County was very well evaluated, particularly expressed in impartiality and incorruptibility of public officials (2nd place) and the quality of local government service for entrepreneurs (3rd place). In the physical infrastructure indicator, Požega-Slavonia County as the worst-ranked county in the Republic of Croatia according to the development of the general infrastructure, and Slavonski Brod-Posavina as the best-ranked county in the construction of the railway network, are highlighted. The indicator of the rule of law of eastern Slavonia is somewhat better than the average of the Republic of Croatia, but the eastern Slavonian counties are marked by higher activity of the grey economy compared to the Croatian average. The perceptive indicator of education is worse than the average of the Republic of Croatia, and what is emphasized is that the Osijek-Baranja County is better evaluated by the quality of public schools, the quality of mathematics and natural sciences education and the availability of scientists and engineers in the labour market. The Vukovar-Srijem County is evaluated below average in terms of availability and quality of business schools and enterprise investments in education and professional training of employees. The financial markets and local competition are evaluated the worst in Vukovar-Srijem County, followed by Požega-Slavonia and Virovitica-Podravina counties. Better ratings were awarded to Osijek-Baranja and Slavonski Brod-Posavina counties, but this is still below the Croatian average. The enterprises of Vukovar-Srijem County (20th place) and Požega-Slavonia County (19th place) do not base their development on innovations since they do not invest enough in research and development unlike the Osijek-Baranja and Slavonski Brod-Posavina counties which occupy the 6th and 7th place according to said indicator. Osijek-Baranja County was rated better than the average of the Republic of Croatia for all the indicators that make up the perceptive indicator of clusters, and it is most notable for the development and spread of production clusters, the local availability of research and education services, and cooperation of entrepreneurs with universities and institutes, while Vukovar-Srijem County is among the worst-rated counties. The perceptive indicator of marketing and management does not differ significantly from the average of the Republic of Croatia, and Slavonski Brod-Posavina and Osijek-Baranja counties have been awarded with better ratings for the quality of cooperation between employers and employees and the autonomy of local companies in the distribution and marketing of products and services.

The long-term trend of eastern Slavonia falling behind the average of the Republic of Croatia is manifested through numerous negative indicators, which contributes to uneven regional development. In addition to the abovementioned, such as the negative demographic trend, low GDP per capita levels and high unemployment rates, according to the GEM research in 2018,[16] the region of Slavonia and Baranja[17] has the lowest level of entrepreneurial activity, and along with Lika and Banovina it also has the lowest motivational index. This is manifested through the lowest positive perception of opportunities and the smallest number of people with the intention of launching a business venture, and the entrepreneurial ventures that are launched are more often driven out of necessity than due to the perceived opportunities. The cause for this is, among other things, the entrepreneurial environment that is still more restrictive than stimulating for entrepreneurial activity in Croatia. Particularly restrictive components of the entrepreneurial environment in Croatia are, according to GEM's 2018 research of government policies under the regulatory framework, the presence of significant barriers to market entry, low level of transfer of research into the business sector, cultural and social norms, and the insufficient contribution of primary and secondary education to building entrepreneurial competencies of young people, while only the availability and quality of physical infrastructure - telecommunications and traffic, and the dynamics of the domestic market are being stimulating.

Therefore, the contemporary context of the development of this part of the Republic of Croatia requires primarily the implementation of decentralized measures which will give more powers to local and regional government units, thus creating a space for initiating regional development by involving citizens in strategic planning processes and contributing to development processes. Collaboration between local government and the business sector, including the academic community and civil society, brings faster and more efficient identification and analysis of issues of public importance, formulating policies and solutions, and implementing and evolving policies. Reducing differences in the development of counties and improving competitiveness can be achieved by adequate usage of EU funds, but the institutional capacity for preparing and implementing EU projects needs to be strengthened first through the technical assistance of the European Union. An unfavourable educational structure is undoubtedly one of the limiting factors of the faster regional development of this part of Croatia, therefore it is necessary to invest in science, research and education. The first step is investing in scientific-research organizations that have a good scientific potential and are a solid basis for the development of innovation-based competitiveness of the economy, but cooperation between private companies and the public sector in research and development is insufficiently represented. Therefore, by launching innovation centres, the conditions are created that will bring innovative ideas to the market faster. It is extremely important that eastern Slavonia

[16]Singer S., Šarlija N., Pfeifer S., Oberman Peterka S., (2018): *Što čini Hrvatsku (ne)poduzetničkom zemljom?* GEM Croatia 2017, CEPOR – Small and Medium Enterprises and Entrepreneurship Development Policy Centre, Zagreb

[17] For the purposes of GEM research, the counties and the City of Zagreb were grouped into six regions, according to the criterion of geographic and historical perception of the regional structure of Croatia: Zagreb and its surroundings, Slavonia and Baranja, North Croatia, Lika and Banovina, Istria, Primorje and Gorski Kotar, and Dalmatia.

creates a supportive entrepreneurial environment by removing numerous administrative barriers, shortening the lengthy procedures for establishing and registering companies, creating a fast and efficient judicial system, and making traditional funding sources more favourable and at the same time providing non-traditional financing sources such as business angels and crowdfunding.

5. Conclusion

Regional policy characteristics in the Republic of Croatia are expressed regional differentiation according to which eastern Slavonia is below the Croatian average in most analysed indicators. The reasons why eastern Slavonia keeps such a low level of competitiveness are present for years and are not solved and can be identified as: inefficient public administration, policy instability, corruption, tax rates, underdevelopment of the financial market and so on. The long-standing presence of many obstacles in the business environment, primarily in terms of justice, corruption, public administration, the ability to acquire new knowledge, technology and innovation and labour market efficiency, make it difficult or even prevent the strengthening of competitiveness.

Entrepreneurial economics can be characterized by numerous economic variables such as the increase in production and the number of employees. Precisely because of the perceived importance of entrepreneurship in the economic development of a country, particular emphasis is placed on identifying the ways in which its development in individual countries can be encouraged. However, most of the indicators observed/analysed (such as gross domestic product, employment, unemployment) show the results of *developmental behaviour* rather than factors that influence the *development capacity*. According to the EU's Regional Competitiveness Index (2016), RCI has a broader approach to competitiveness, looking at a number of relevant dimensions that are not strictly related to company productivity, but also covering social well-being and long-term potential. This indicator deviates from traditional discourses that mainly analyse the regional economic performance that comes only from enterprises and is measurable by the indicators of income, but considers the fact that competitiveness should also include other aspects such as health and development of human capital and so on. Consequently, the Regional Competitiveness Index, in terms of methodology and focus, contributes to the enrichment and systematization of the information base on the factors that influence the competitiveness and thus the developmental performance at the sub-national level of eastern Slavonia. Furthermore, the research results (of RCI) should help the national policy and decision makers and sub national authorities a firm ground for shaping the development policies that would result in more equal development of the Republic of Croatia in order to ensure the rise in productivity and competition for certain area as well as the detecting and removing the causes that lead to the unequal development in certain regions.

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ANALYSIS OF EASTERN CROATIA REGIONAL GROWTH: SHIFT-SHARE ANALYSIS

ABSTRACT

The economic structure of each country, including Croatia, is subject to constant changes. This is particularly visible in analyzing national income, productivity, labor costs or employment. In the last two decades, the interest in regional and local economic development has been increasingly growing. The increase in the interest for regional development has been further contributed to by wider social processes that have affected a number of European and other countries, and those processes are moving towards the strengthening of political, economic and cultural positions of the regions. The economy of the regions/counties consists of sectors with different growth potential. The growth rate of individual sectors depends on national, as well as on local conditions and incentives.
The aim of this paper is to identify the sectoral structure of the economy at the level of the five counties of Eastern Croatia. The counties that are included in the analysis are Osijek-Baranja County, Vukovar-Srijem County, Brod-Posavina County, Požega-Slavonia County and Virovitica-Podravina County, in the period from 2009 to 2017. The research includes a shift-share analysis that represents a technique for analyzing employment growth in a region over a specific time period. Shift-share analysis decomposes employment growth (or decrease) into 3 components: a national component, a mix component and a local component. By using this analysis, fast-growing and slow-growing sectors in a local economy can be identified compared to the national economy.

The results show that some counties have relatively smaller local competitiveness compared to the national one, while some have a positive value of a local component, which means that there is growth in local competitiveness. The research results can provide useful guidance for local and regional development policy makers and can provide the basis for decision-making.

Keywords: *regional development, employment, Eastern Croatia, shift-share analysis*

1. Introduction

Over the last two decades the interest for regional and local economic development has been increasingly growing. The increase in the interest for regional development has been further contributed to by wider social processes that have affected a number of European and other countries, and those processes are moving towards the strengthening of political, economic and cultural positions of the regions. Regions, counties, cities and all other local entities in the global economy have both a challenge and an opportunity to shape their own economic destiny (Green Leigh, Blakely, 2016, 1).

The shift in dynamics and structures in regional economies is the subject of interest of many researchers dealing with local and regional development (Knudsen, 2000, 177), (Pike et al., 2015, 185). Regional economies differ in level of development, and the growth and decline dynamics are determined by their sectoral features. A positive sectoral structure is one of the most important factors in regional competitiveness. It is considered that regional competitiveness is comprised of a region's ability to attract and keep companies with stable or growing market shares in a business activity, while also maintaining a stable or growing living standard of the people participating in it (Huggins et al, 2014, 256). Regions with a high share in service sectors in the total economic activity also typically register a higher degree of productivity, as well as a higher rate of activity in innovation (Puljiz, 2007, 116).

It is important to be well informed about the sectoral structure and dynamics, as well as the features of competitiveness of the local economic sectors, in order to be able to make decisions on regional, local and national development policies (Čavrak, 2012, 80). Precise identification of local competitiveness strengths is the basis for implementing good developmental and regional policies. Members of the European Union, including Croatia, are facing regional differences. The European Commission, as part of the Europe 2020 strategy, is focused on reducing the developmental differences between regions. Croatia is still characterised by regional divergence, and it is therefore important to discover the growth/decline potentials of particular sectors which may be the carriers of development.

The basic aim of this paper is to explore and identify the sectoral structure of economy on the level of five eastern Croatian counties using a shift-share analysis. The shift-share analysis includes changes in employment rates compared to national trends, sector trends and local conditions (Knudsen, 2000, 177), (Bilen, Wolf, 2002, 5). The counties included in the analysis are Osijek-Baranja, Vukovar-Srijem, Brod-Posavina, Požega-Slavonia and Virovitica-Podravina, in the period from 2009 to 2017.

The paper is organized as follows. After the introduction, the second section describes the available literature. The third section describes the data and methodology used in the analysis. The fourth section presents the research results and the discussion, and the final section concludes.

2. Literature review

Empirical research of regional development has become numerous over the last few decades. A great number of research is related to researching the presence of the processes of convergence or divergence in the degree of regional development (Puljiz, 2007, 63). Other research focuses on identifying particular and significant factors which contribute to regional development and growth (Goldstein, Renault, 2010, 733).

A large amount of attention is given to studying the structure and growth of local (regional) economy. The typical method used for regional analysis is the shift-share method. It was originally developed by Dunn (Dunn, 1960) as a method for the determination of the components explaining variations in economic variables, mainly employment. Esteban-Marquillas (1972) later expanded the classic method with new points of view, implementing a third, so-called allocation component. Loveridge and Selting (1998) used the shift-share method for forecasting, strategic planning and policy evaluation.

The shift-share method was used to analyze regional growth in countries worldwide. Bilen and Wolf (2002, 5) conducted a regional analysis in eastern Germany (113 counties, NUTS III regions) based on statistical data on employment using the classic shift-share method and shift-share regression. The time period encompassed is from 1993 to 1999. The results confirmed differences in employment between regions and industries. Particular regions have a positive local effect and urbanization effect. In their paper, Mayor et al (2007, 544) predicted regional employment using the dynamic shift-share analysis and ARIMA modelling. Their research was conducted in Spain in the Asturias region characterized by a negative sector and local effect. Batog and Batog (2007, 46) have researched employment in 24 European countries in the period from 1999 to 2005. The results showed that in nearly all researched countries the greatest variation in employment can be explained by the competitive or regional effect, and only a small part through the sector effect. Čavrak (2012, 79) conducted a shift-share analysis in Croatia, for 20 counties and the City of Zagreb in the period from 1997 to 2008. Results point to the differences in total local competitiveness between counties, as well as differences in sector competitiveness. In their paper, Artige and van Neuss (2014, 667) proposed a new approach to the shift-share method which separates the industry-mix effect from the competitive effect. In order to show the positive effect of the new approach, they conducted research on Belgian regions for the period from 1995 to 2007.

Despite numerous reservations and criticism, the shift-share method has so far been one of the most popular and widespread analysis methods for the structure of regional growth (Čavrak, 2012, 81). It is used in the fields of regional economy, political economy, and migration analysis. From this overview, it can be concluded that the shift-share method has broad applications, does not require large financial resources, and uses mostly publicly available data. In addition, policy-makers who often have need of quick, inexpensive analysis tools that are neither mathematically complex nor data intensive also utilize shift-share extensively (Knudsen, 2000, 178).

3. Data description

3.1. Data description

In order to implement the shift-share analysis, we used he available data on employment on the national and regional level. The data was acquired from the Croatian Bureau of Statistics, and it encompasses the time period from 2009 to 2017. Data is typically used for periods of five years or longer because structural changes take place in the mid- or long-term (Čavrak, 2012, 86).

2009 is the first year of recession, while 2017 marks the third year after exiting the recession, as well the third year of GDP growth. The recession period itself contributes to various structural changes, but the analysis aimed to explore the depth of the recession's impact on employment, both nationwide and in the selected counties, as well as what was happening with regional economies three years after the recession. In 2007 the Croatian Bureau of Statistics designed a new National Classification of Economic Activities (NKD 2007) which was harmonized with the European classification and whose application began on the 1st of January 2008. In Croatia, the data based on the NKD 2007 starts in 2009.

3.2. Research methodology

The shift-share analysis is a decomposition technique widely used in regional studies to identify sectoral effects (Artige, van Neuss, 2014, 667). The shift-share analysis assesses the success of local economic sector, which is typically measured in employment growth in comparison with the national economy. This method is considered a relatively simple and effective method of measuring the competitiveness of particular sectors and the total economy.

The shift-share analysis separates: growth which can be attributed to the effects of the national economy (*national effect*), growth which can be attributed to a mix of faster or slower rising sectors (*industry mix effect*), and growth which can be attributed to the competitiveness of local sectors (*local share effect*) (Green Leigh, Blakely, 2016, 194). If a region's employment in a sector rises faster that the national employment growth in the same sector, it is assumed that the local economy has a competitive advantage in that sector.

The calculation for the shift-share components is as follows (Blair, Carol, 2009, 115):

$$\Delta ei = ei\,[(Nk/N)-1] + ei\,[(Nki/Ni)-(Nk/N)] + ei\,[(eki/ei)-(Nki/Ni)]$$

where Δei- is the change in local employment in activity i; ei – local employment in activity i at the end of the period; Nk – total employment on the national level at the end of the period; N – total employment on the national level at the start of the period; Nki – total employment on the national level in activity i at the end of the period; Ni – total employment on the national level in activity i at the start of the period.

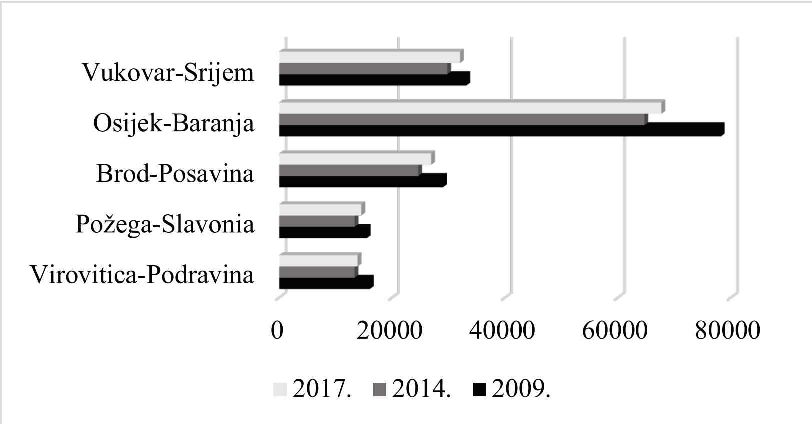
The *national component* shows how much local employment we can expected under the influence of national growth. The *mix component* shows how national growth or decline affects the local growth or decline in a sector. The *local component* shows how local competitive advantages can contribute to the growth of local employment.

4. Results and discussion

4.1. Employment in Croatia in the period from 2009 to 2017

In 2009 there were 1,216,930 registered employed people (National Bureau of Statistics). From then to 2014 the number of employed people was on the decline, at the lowest number was registered in year 2014 – 1,127,051. There is a trend of employment growth in the period from 2014 to 2017.

Figure 1: *Employment rate in selected counties in 2009, 2014 and 2017.*



Source: National Bureau of Statistics

Figure 1 shows that the employment rate in the selected counties follows the trend on the national level. There is a rise in employment in 2017 compared to 2014 in all counties. When comparing counties, the highest number of employed in 2017 are in the Osijek-Baranja County, 67,682 people while the Virovitica-Podravina County has the least number of employed (13,880).

4.2. Shift-share analysis

According to the shift-share analysis, economic growth or decline in a local area is a combination of three components: a *national component*, a *mix component* and a *local component*.

The results of the analysis are presented in Table 1. In the period from 2009 to 2017 all counties registered a decline measured in terms of the number of employed in county economies. The largest decline was in the Virovitica-Podravina County (-13,61%) and in the Osijek-Baranja County (-13,49%). When looking at the decomposition of previous changes, it can be seen that all counties have a negative value for the *national component*. All counties had a decline in employment which can be attributed to the same changes on the national level.

Table 1: *Shift-share analysis of selected counties in Croatia, 2009-2017*

	2009.	2017.	promjena	%	nac	mix	lok
Republika Hrvatska	**1216930**	**1181418**	**-35512**	**-2,92**			
Virovitičko-podravska	16066	13880	-2186	-13,61	-469	-384	-1333
Požeško-slavonska	15532	14539	-993	-6,39	-453	-349	-191
Brodsko-posavska	29022	26916	-2106	-7,26	-847	-908	-351
Osječko-baranjska	78235	67682	-10553	-13,49	-2283	-1180	-7090
Vukovarsko-srijemska	33156	32055	-1101	-3,32	-968	-789	656

Source: Croatian Bureau of Statistics, author's calculation

By analyzing the *mix component*, it can be noticed that the national sectoral changes had a negative effect on employment in all five counties. It can be concluded that the selected counties have a narrow economic structure. The results of the *local component* show that nearly all counties except for Vukovar-Srijem have a negative value for the local share, which indicates a decline in local competitive advantage. The Vukovar-Srijem County registers growth in local competitiveness.

Table 2 reveals the analysis of the *mix component*. Economic activities with a positive *mix component* are indicated with +, and economic activities with a negative *mix component* are indicated with a -.

Table 2: *Analysis of the mix componenet by economic activity*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Virovitica-Podravina	-	-	-	-	+	-	-	-	+	+	-	+	+	+	-	+	+	+	+
Požega-Slavonia	-	-	-	-	+	-	-	-	+	+	-	+	+	+	-	+	+	+	+
Brod-Posavina	-	-	-	-	+	-	-	-	+	+	-	+	+	+	-	+	+	+	+
Osijek-Baranja	-	-	-	-	+	-	-	-	+	+	-	+	+	+	-	+	+	+	+
Vukovar-Srijem	-	-	-	-	+	-	-	-	+	+	-	+	+	+	-	+	+	+	+

Source: Croatian Bureau of Statistics, author's calculation

Analysis of the the *mix component* shows that the national decline in employment did not apply to the local decline in all economic activities. Some of them, E - water supply; sewerage, waste management and remediation activities, I - accommodation and food service activities, J - information and communication, L - real estate activities, M - professional, scientific and technical activities, N - administrative and support service activities, P – education, Q - human health and social work activities, R - arts, entertainment and recreation, S - other service activities, had a positive *mix component*.

Table 3 presents the analysis of the *local component*. The economic activities in which the county economies have a positive local component are indicated with +, and those in which local competitiveness is negative are indicated with -.

***Table 3** Analysis of the local component based on economic activity*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Virovitica-Podravina	-	+	-	+	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-
Požega-Slavonia	+	+	-	+	+	-	+	+	+	-	-	+	+	+	-	+	-	-	+
Brod-Posavina	+	-	+	+	-	-	-	-	+	+	-	+	+	+	-	-	+	-	-
Osijek-Baranja	+	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-
Vukovar-Srijem	-	+	+	+	+	-	+	-	+	+	-	+	+	+	-	+	+	+	+

Source: Croatian Bureau of Statistics, author's calculation

When looking at Table 3, it can be concluded that all counties have positive local competitiveness in economic activity N – administrative and support service activities. A large number of counties shows positive local competitiveness in agriculture, forestry and fishing A, electricity, gas, steam and air conditioning supply D, real estate activities L, professional, scientific and technical activities M and education P. All counties show negative local competitiveness in financial and insurance activities K and public administration and defense O. Manufacturing C has positive local competitiveness only in the Brod-Posavina County and Vukovar-Srijem County.

5. Conlusion

The basic aim of this paper was to identify the sectoral structure of economy on the level of five counties in eastern Croatia – Osijek-Baranja County, Vukovar-Srijem County, Brod-Posavina County, Požega-Slavonia County and Virovitica-Podravina County, in the period from 2009 to 2017. Research was conducted using the shift-share analysis which is the most commonly used technique for analyzing changes in the structure of the local economy in reference to the state or nation.

The results showed that there is a decline in the number of employed people on the level of the country as well as the selected counties in 2017 compared to 2009. The recession started in 2009 which hit Croatia hard and lasted a long time. From 2015 to 2017 employment has a growing trend, but it remains below the level from 2009. By analyzing the components within the shift-share analysis, the *mix component* shows a negative sectoral effect, i.e. specific sectoral trends on the national level have also applied to the local level. This results implies that those counties have a narrow economic structure. By analyzing the *local component*, four out of five counties display a decline in local competitive advantage. Local employment has declined through the impact of specific local factors. Economic activities where the local economy shows competitiveness should be further developed so they could become carriers of local development in the future. In the global economic context, the counties will have to turn to generating knowledge and innovations in sectoral development.

Although the conducted research does not provide an answer for the deeper causes of sectoral changes, the results may provide useful guidelines to the creators of local and regional development policies, as well as provide a basis for decision-making.

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3 Sectoral, Urban and Gender Issues in Regional Development

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ECONOMIC IMPACT OF GOVERNMENT MEASURES: ANALYSIS OF THE CONSTRUCTION SECTOR

ABSTRACT

Every pre-election campaign and later state administration program as its integral part has the economic program that later evolves to state economic policy. Its development and implementation are as well, some of the key tasks of every state government and their impact on economic trends and the development of particular economic sectors can be crucial. Thus, as some of the fundamental objectives of the Croatian Government by 2020, the realization of a stable and lasting economic growth and creation of new and high-quality jobs by building a stimulating, simple and secure business environment in which the private sector is seen as the pillar of the economic development, were defined. According to this aim, the Government, through its economic measures, is planning to stimulate several manufacturing sectors, including the construction. The question is, to what extent is the government succeeding in reaching the goals set by implementing their economic policies? Unfortunately, indisputable performance evaluations of economic policies results are lacking, as they often include the economic progress that has arisen as a result of positive economic trends on a global level. Given the above, the purpose of this paper is to identify economic measures implemented during the last years and to try to assess their impact on individual economic sectors, with emphasis on the results of the construction sector. The aim of this paper is to draw conclusions on the possibility of state administration to stimulate economic growth and to identify the potential impact of economic measures on the economic development of individual economic sectors on the basis of acquired knowledge and analysis of the construction sector.

Keywords: *government development policies, industry trends, construction sector, state incentives, Croatia*

1. Introduction

The government economic policies can have strong positive or even negative impact on the economic trends and development of industry sectors. Here, the “job creation is the primary goal for all direct economic development policies, traditional or new wave, from the perspective of politicians and voters.”(Bartik 1991a, 6) Following, forming and conducting of development measures directed to achieving the economic growth and employment is essential for the success of any government. Even so, often the realistic measures of the government development measures results are lacking. (Bartik 1991b)

The aim of this paper is to determine if development economic measures have a significant impact on individual industry results, where the analysis was conducted on the case of construction sector as mainly domestic oriented or non-export oriented industry. (Bartik, 2017) Based on this statement the research hypothesis states that the government economic measures have a significant impact on construction industry business results. The research includes the analysis of development trends of construction industry of Croatia as a member of European Union and review of the economic state policies, where the conclusions are based on an analysis of government measures, trends and projections of the construction industry in the Republic of Croatia.

One of the fundamental objectives of the Government of the Republic of Croatia, by 2020, is the establishment of stable and lasting economic growth and the creation of new and high quality jobs. Through conducting the development policy Government plans to "build a stimulating, simple and secure business environment in which the private sector is the bearer of economic development" (Government of the Republic of Croatia 2016, 2) In its mandate 2016 - 2020, the Government states that it will base its economic and development policy on the creation of a stimulating, simple and secure business environment in which the private sector is the bearer of economic development and the state guarantees the implementation of the principles of social solidarity, partnership and social sensitivity. (Government of the Republic of Croatia 2016 2) As well, one of the specific goals is the industrial development. Through planned measures the Government wants to encourage several manufacturing sectors, including construction. However, as mentioned above, it seems that realistic assessments of the implemented measures are lacking and the question arises whether the Croatian growth in the construction industry is a result of the overflow of positive economic trends from the European Union countries (especially Germany, Italy etc.).

In this work, the economic policy measures which were conducted during the past five years will be identified and the analysis of the existing orientation of the economic measures on the construction sector will be compared with the results of the sector to which they relate. Within this paper, research on conducted economic measures in the last five years will be carried out, as well as the elaboration of statistical information on the construction sector economic trends in the same period. As well, the results of comparison of the national GDP and its’ share coming from construction industry during last 22 years were presented. The collection of relevant data was mainly conducted through the Eurostat, Croatian Bureau of Statistics and Statista publications as well as published papers on the results of empirical research in the frame of this topic.

The aim of this paper is to draw conclusions on the possibilities of state administration to stimulate economic growth and potential impact of economic measures on the development of the industry sectors. Within the next chapter, an analysis of relevant literature dealing with the field of economic policy is given, while the third chapter provides the research methodology and the analysis of the development trends in the construction industry on the level of the European Union and on the level of the Republic of Croatia. Chapter four provides the data analysis and discussion, while the last chapter gives conclusions, limitations of the research and recommendations for future research within this topic.

2. Literature review

There are numerous researches that present and analyse, through different models, the performance of economic policy measures in developed or developing countries (Šimović 2005; ECLAC, 2016; Baker, Bloom, Davis 2016, Schumpeter 2017). Different surveys also deal with the influence of economic measures on export-oriented or domestic-oriented companies (Bartik 2017) but also the impact of economic measures on individual industries, such as construction (Lenard, Abbott 2001, Hasan 2015), agriculture and fisheries (Vlahinić-Dizdarević and Negovetić 2006), hospitality (Perić, Blažević, Dragičević 2014), environment sustainable economy (Pupavac, 2015), etc.

According to Bartik (1991a) the economic development measures can be considered as those that are providing direct financial and non-financial aid to the companies. Here as a direct financial aid the author lists direct project funding, subsidiaries, tax reliefs, coverage of partial or complete costs of business development, subsidizing employment of certain categories of workers, or works commissioned on the basis of public procurement (Bartik 1991a, 3) while non-financing are those by which the state or government institutions are providing intellectual services, assistance in development of project plans, educations, guarantees, organizing trade fairs etc. Šimović, Ćorić and Deskar-Škrbić (2014) evaluate that the direct fiscal measures, especially income taxes have a long-term and strong effect (even negative) while the effects of indirect taxes on GDP should be evaluated with a caution as their effect is hard to exactly estimate. Bartik (1991a) at the other hand states that those policies that indirectly affect economic development have broader influence (Bartik 1991a, 3) which can manifest itself on a certain industry sector or are on a defined geographic area.

The development policies can be, by Bartik (1991a) divided to Traditional Economic Development Policies and "New Wave" Economic Development Policies where the first are aimed to traditional investments (mainly investments in infrastructure, facilities and equipment) while the last are fostering SMEs and innovation (Bartik 1991a, 6) The author (Bartik, 1991a) states that the development and implementation of a new economic measures can as well be the result of the economic changes, a crises of different kinds (demographic, a decline of living standards, rise of unemployment etc.) on the state or regional level or on the level of different industries (shipbuilding in Republic of Croatia on 2018 to 2019). Per example, Vlahinić-Dizdarević and Negovetić (2006) found that in the modern fishery the economic sector comes as an important development factor. The industry development policies use numerous combinations of measures from a different area: monetary, trade, technological, fiscal, educational, environmental, income policy etc. (Jurčić 2011, 14) Most of the EU members developed a wide specter of monetary and fiscal measures after the beginning of economic crises with the aim of reversing the negative trends. (Novotny, 2011, 4-5)

On the other hand, Schumpeter (2017, 28) argues that the economic crises may be so deep that the industry could not recover itself without the measures and a help from external influence, development economic government measures or unsystematic, random favorable event, where the importance of government activities is necessary for economic recovery. As well, the government can offer indirect incentives, such as Macedonia and Montenegro which provide tax exemptions for capital investments in selected industries, such as construction. (Ott 2009) But Ott argues that "such selective, preferential approaches" could increase market distortions. (Ott 2009)

Here Ott (2009) suggests following: "competitiveness can be improved by creating conditions for open trade and investment and improving efficiency and productivity. Measures can include more flexible labor legislation, more flexible working hours, and in some countries and better basic infrastructure." She argues that it is justifiable to support financial institutions, creditors but the efficiency of direct support to companies and industries in the times of crises in Croatia is questionable as of:

- "It is impossible to predict how long the recession could take nor how much could fiscal stimulus cost taxpayers.
- Is the recession really a cause of the troubled companies or are some of them anyway condemned to ruin?
- Lobbying, corruption and nepotism have already been rooted in the region, so fiscal stimulation could cause additional injustices and inefficiencies, the rise of corruption and protectionism of neighbouring countries." (Ott, 2009, 2)

Aniekwu (2004) in examining the Nigerian construction industry argues that the government measures should be formed not on basis of practitioners (which could be the lobbyists, individuals and the biggest companies) but as the viable economic policy that is fostering technological growth and development of the industry as a whole. (Aniekwu 2004, 11) Fox and Skitmore (2007) led a study on sample of 76 respondents in different countries (developed and developing countries) on the strength of different factors in construction industry in respondents' countries. The authors identified eight crucial variables

(1) "Industry-led better practice and culture;
(2) Financial resources and investor confidence;
(3) Human skills and culture of transparency;
(4) Government policies and strategies supporting construction business;
(5) Research and Development for construction;
(6) Self-reliant construction culture;
(7) Institutional support; and
(8) Supportive attitudes from Aid agencies." Fox, Skitmore (2007, 1)

It was found that there is no difference in importance of variables, in developed and developing countries. When examining the role of government policies and strategies in providing support to construction industry the Fox and Skitmore claimed that "Government policies are needed when considering the amount of support to be given to private industries and the degree of intervention necessary (ILO 1988; Ofori 1994; Wells 1996)". Fox, Skitmore (2007, 17) Here, the effective communication and coordination among government institutions and between government and the private sector, in this case construction industry, is essential as in many cases the government is a major buyer especially in the framework of the implementation of construction infrastructure projects. (Fox, Skitmore 2007) Following, Jurčić (2011) states that when leading the industry development policies, it is important to harmonize organization of public and administration sectors. (Jurčić 2011, 14) Easterly (2001) examines the issue of development trends and possibilities of underdeveloped countries to reach economically strong ones. The author states that skill-based technology gave an advance to developed countries as underdeveloped were even more lacking behind in inability to reach developed countries productivity. (Easterly, 2001, 152- 154) It is economic policy that should be directed towards production and creation of comparative advantages, where “everything begins and ends within the framework of government regulation.” (Drašković, Drašković 2009 617) For examining this thesis the following chapters are giving the analysis of the construction sector development trends on the EU level and on the level of the Republic of Croatia.

3. Construction sector trends

During the literature research it was found that there are numerous surveys and publications on the construction sector, as of its importance for all national economies. At the other hand, often they do not follow the same methodology and are rarely comparable on a global level, which is particularly significant in the case of underdeveloped countries. This is confirmed by analysis the information given in official publications of the Croatian Bureau of Statistic (1999-2018) and the results presented by the Trading Economics (2018a) where differences in presented results were found. As well, this statement is confirmed by Economic Commission for Latin America and the Caribbean (ECLAC) report (2016) which states that “the lack of statistics and basic economic data represents one of the most serious problems which under-developed countries must face in carrying out an effective economic policy. One of the first positive results of a policy aimed at programming would in fact be to encourage an improvement in the data which might be available.” (ECLAC, 2016, 405)

The other issue is the industry specificities, as Lennard and Abbott (2001) for construction industry found that “The industry is large and fragmented and often has not been a high priority for national governments. While this in itself is not a problem, it leaves the industry vulnerable in a rapidly changing marketplace.” (Lennard, Abbott 2001, 1) The last has been showed itself as an issue during the last economic crises when the construction industry was one of the hardest affected industries on which the economic crises had the most serious impact.

The following sub-chapters are giving the insight in the development trends of a construction industry at EU level, and on the level of the Republic of Croatia.

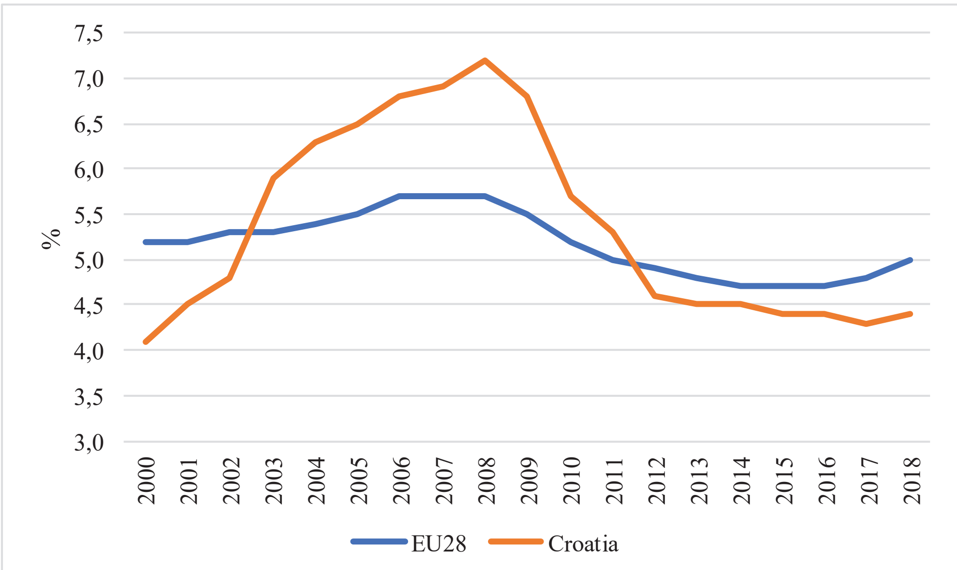
3.1. Construction sector in the European Union

A stronger and more competitive industry is at the heart of the ten Juncker Commission's political priorities. Namely, since 2010 the European Commission has adopted a series of documents in order to promote strong industrial base (e.g. Europe 2020 Strategy (European Commission, 2010a), An Integrated Industrial Policy for the Globalisation Era (European Commission, 2010b), For a European Industrial Renaissance (European Commission, 2014), A renewed EU Industrial Policy Strategy (European Commission, 2017a)) so that the EU member states can handle the industrial challenges more easily.

In that context, the construction sector is of strategic importance for many countries across the world because it delivers the buildings and infrastructure needed by the rest of the economy and society (European Commission, 2016). More precisely, because of its economic importance, the performance of the construction sector can significantly influence the development of the overall economy (European Commission, 2012). On the other side, the sector is affected by several other policies, such as environmental protection, energy efficiency, work safety, taxation, and public procurement (Eurostat, 2019). Therefore, the European Union in 2012 has published a Communication Strategy for the sustainable competitiveness of the construction sector and its enterprises and this Strategy is a part of the Europe 2020 initiative. The Strategy (2012) focuses on five key objectives: (a) stimulating favourable investment conditions;(b) improving the human-capital basis of the construction sector; (c) improving resource efficiency, environmental performance and business opportunities; (d) strengthening the Internal Market for construction; (e) fostering the global competitive position of EU construction enterprises. However, new production technologies are changing Europe's industrial landscape and play an increasingly important role in determining the ability of European business to compete globally (European Commission, 2017b) so the European Commission through a variety of actions aims to help construction sector (by analysing the impact of the EU legislation on the sector, ensuring total application of Construction Products Regulation, by adopting the documents on Resource efficiency opportunities in the building sector adopted in 2014 and the EU Construction and Demolition waste proposal adopted in 2016, by supporting Building Information Modelling, evolution of the construction industry towards a digital era The European Digital Platform for construction etc.).

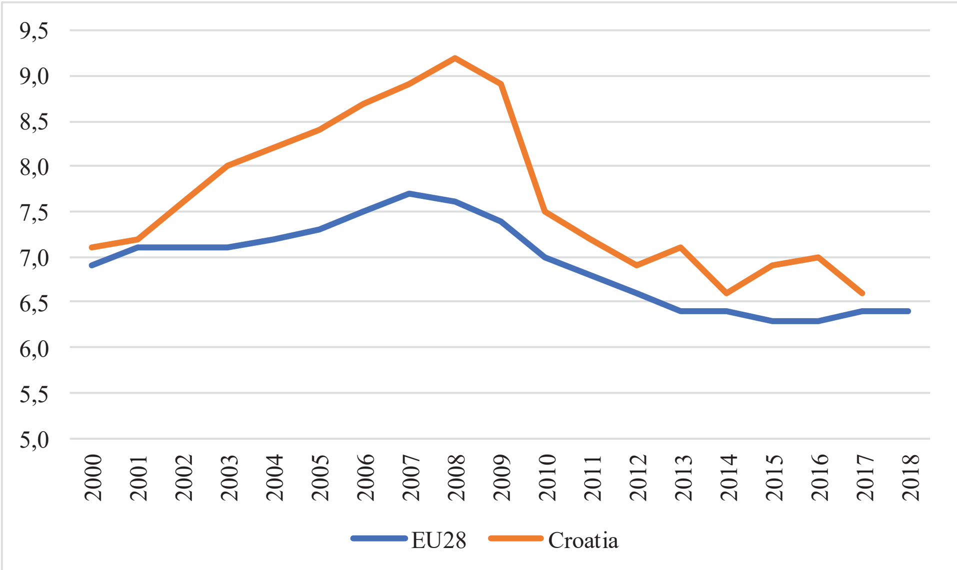
Further, the significance of the sector is confirmed by figures: it generates 9% of gross domestic product (GDP) in the European Union and provides 18 million jobs (European Commission, 2016), and as such is the EU's largest industrial employer. As can be seen on Figure 1, the EU28 construction sector accounts for more than 5% of (gross) value added and 4.4% in Croatia in 2018.However, the values have not yet reached the pre-crisis level either in the EU28 or in Croatia. Similarly, Figure 2 shows the share of employees in the construction industry in total employment in the EU 28 and Croatia for the same analysed period: 2000 – 2018. The exfoliation of the crisis clearly demonstrates the vast fall in the number of employees in Croatia and the data from recent years are also far from pre-crisis levels.

Figure 1: *Percentage of gross value added in the construction sector, for the period 2000 – 2018 in EU28 and Croatia*



Source: authors' work according to data published by Eurostat

__Figure 2:__ The share of employees in the construction sector in total employment in the EU 28 and Croatia, 2000-2018

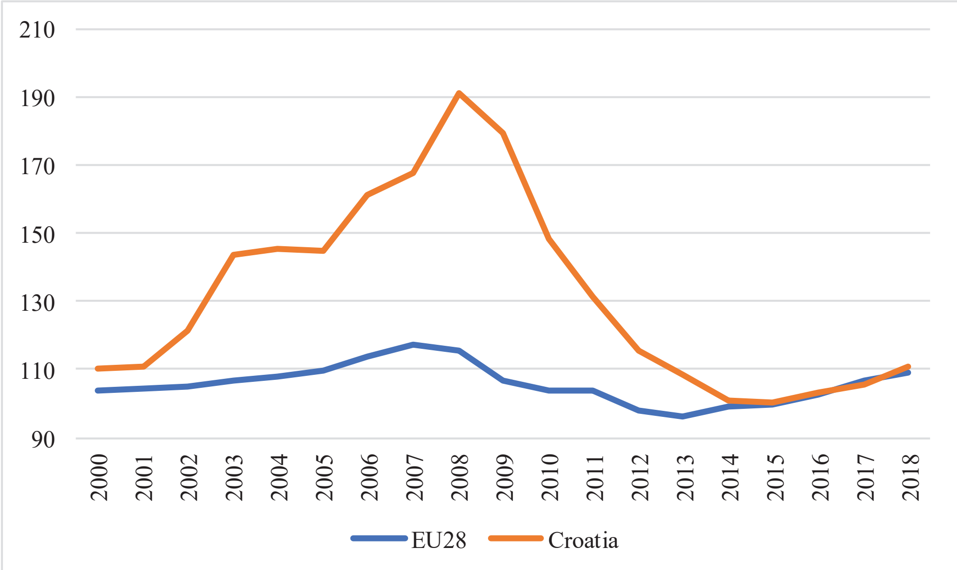


Source: authors' work according to data published by Eurostat

Figure 3 shows the movement of index of construction production for EU28 and Croatia, for the 2000 – 2018 period. Unlike Croatia, construction in the EU went to recover much sooner from the effects of the crisis. After six years of recession (from 2008 - 2014) which was accompanied by a significant decline in industrial production and employment, in 2015 stopped the declining trends in the analysed sector. On the other hand, the recovery of industrial production of the construction sector in the EU28 has been visible already in 2013.

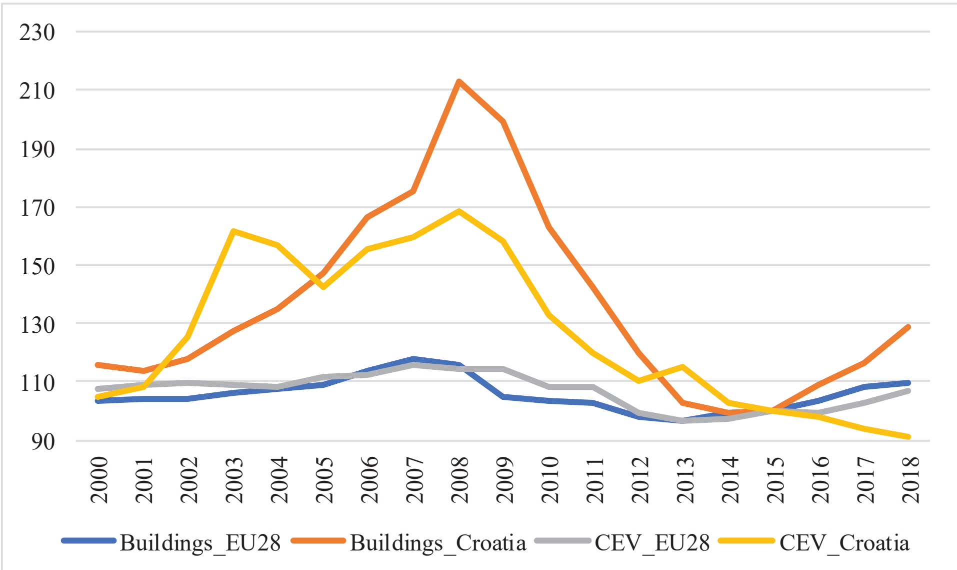
Further, more detailed analysis shows that from 2000 to 2006 construction output in EU28 had grown quite steadily (Figure 3). However, the economic and financial crisis had a significant impact on the decline in the specific sector and in total the index lost more than 30 percentage points. Next, in the period from 2008 to 2013 the level of total construction in the EU28 mainly showed a declining trend. Since the middle of 2013 the value of index of construction production has been increasing and has almost reached 90 % of the former peak level (Eurostat, 2019). However, if we observe the movement of the construction of buildings (residential and non-residential) which accounts for about 77% of total construction and the construction of civil engineering works (e.g. railways, roads, bridges, airport runways, dams) which makes the remaining 23% of total construction in the EU-28 we can conclude that the impact of the crisis was less pronounced in the context the construction of civil engineering (Figure 4)

Figure 3: *Volume index of construction production (2015=100), in EU28 and Croatia, 2000 – 2018*



Source: authors' work according to data published by Eurostat

Figure 4: *Volume index of production in buildings and civil engineering works (2015=100), in EU28 and Croatia, 2000 – 2018*



Source: authors' work according to data published by Eurostat

When analyzing the structure of small and medium-sized (SMEs) enterprises in the EU28 (Table 1) there are 3,4 million enterprises in the sector of which 94,4% are microenterprises (less than 10 employees) and only 0.05% are large enterprises with more than 250 employees. In Croatia, 90,3% are microenterprises with less than 10 employees and 0.12% are large enterprises with more than 250 employees. According to data in Table 1, between 2008 and 2018, in the EU28, 98 thousand new companies were founded, while two and a half million jobs were closed (16%). In Croatia, in the same period, 8,775 enterprises were closed (ie 35%), and 73,108 jobs were lost (ie 55%), which further points to the dramatic consequences of the crisis.

Table 1: *Number of enterprises and number of persons employed at section F: Construction, in EU28 and Croatia*

F: Construction		Number of enterprises		Number of persons employed	
		2008	2018	2008	2018
EU28	0 - 9	3 137 501	3 287 918	6 611 133	6 107 958
	10 - 49	221 465	178 082	4 229 389	3 450 736
	50 - 249	24 993	16 819	2 385 229	1 624 249
	250 +	2 633	1 827	1 896 822	1 504 290
	Total	3 386 594	3 484 644	15 122 577	12 687 228
	All SMEs	3 383 959	3 482 819	13 225 751	11 182 943
Croatia	0 - 9	22 136	14 480	53 462	34 771
	10 - 49	2 290	1 363	42 534	26 675
	50 - 249	344	188	33 295	19 294
	250 +	54	19	33 966	9 409
	Total	24 824	16 049	163 257	90 149
	All SMEs	24 770	16 031	129 291	80 740

Source: European Commission (2018), SME Performance Review

In other words, the construction crisis began in Croatia a bit later than in the world and in the EU, but the recovery is much more late for EU trends. The shorter duration of the crisis in the EU than in Croatia is partly a result of more effective response from European countries to the overall crisis, and the implementation of specific measures by sectors of construction and automotive industry that have been hit hardest (Croatian Chamber of Economy, 2016 11), European countries have helped build the construction sector by increasing investment activity at the state and local level, tax incentives, intensification of social housing construction, more favorable lending and other measures (Croatian Chamber of Economy, 2016 11). In a nutshell, the European construction sector has started the recovery phase but reaching and overtaking pre-crisis levels is still a long-term target that will be accessible just with corresponding financial and regulatory measures and strong policy framework with a holistic environmental and economic approach.

3.2. Construction sector in Croatia

This sub-chapter gives the information on construction industry development trends during the period of 22 years (1995 to 2016) and the industry results in the period and forecasts for the period 2011-2022. In the first part the information was collected on the basis of the official Croatian Bureau of Statistic annual publications while for the second from the Statista reports. Table 2 gives information on the GDP on national level and the share of GDP achieved by the construction industry. As well, it gives the comparison of national GDP and construction GDP through the years.

Table 2: *Gross value-added trends in construction and the Croatian economy from 1995 to 2016.*

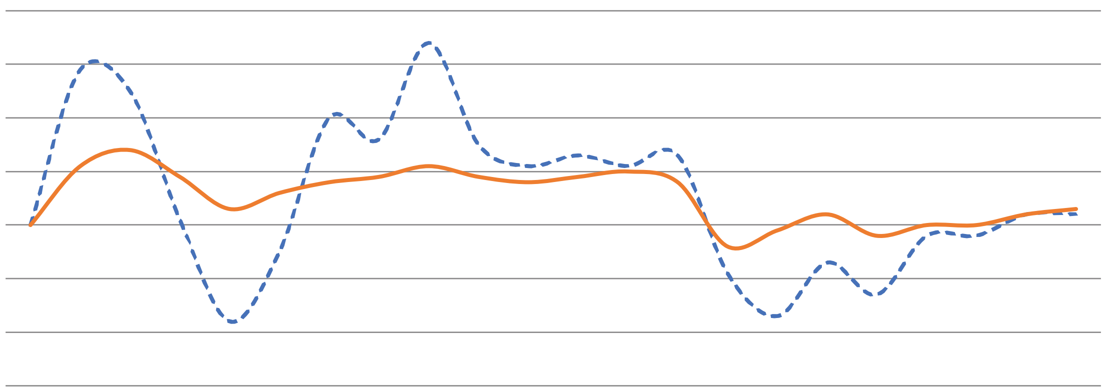
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Value, mil. kuna											
GDP from Construction	**5,742**	**7,420**	**9,278**	**9,396**	**7,702**	**7,302**	**8,788**	**10,227**	**13,725**	**15,826**	**17,622**
Index (n/n-1) - construction		129%	125%	101%	82%	95%	120%	116%	134%	115%	111%
GDP – national level	**97,605**	**108,777**	**123,867**	**135,290**	**139,750**	**148,693**	**160,274**	**174,482**	**193,025**	**209,661**	**226,022**
Index (n/n-1) – GDP national		111%	114%	109%	103%	106%	108%	109%	111%	109%	108%
Share - construction in national GDP	5.88%	6.82%	7.49%	6.95%	5.51%	4.91%	5.48%	5.86%	7.11%	7.55%	7.80%

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Value, mil. kuna											
GDP from Construction	**19,877**	**22,151**	**24,954**	**22,654**	**18,876**	**17,606**	**15,348**	**14,996**	**14,771**	**15,105**	**15,365**
Index (n/n-1) - construction	113%	111%	113%	91%	83%	93%	87%	98%	98%	102%	102%
GDP – national level	**245,998**	**271,325**	**293,630**	**282,637**	**279,470**	**284,725**	**278,689**	**277,416**	**276,951**	**281,905**	**291,358**
Index (n/n-1) – GDP national	109%	110%	108%	96%	99%	102%	98%	100%	100%	102%	103%
Share - construction in national GDP	8.08%	8.16%	8.50%	8.02%	6.75%	6.18%	5.51%	5.41%	5.33%	5.36%	5.27%

Source: authors' work according to data published by Croatian Bureau of Statistic (2004-2018), Statistical yearbooks of the Republic of Croatia 2003 to 2017

Construction is important industry for Croatia, as of its impact on other industries (glass and metal, chemical industries and contributes to the tertiary industries) and the contribution to employment level especially as of rather low employment in Croatia and employment structure as it can, in one part engage and "under-skill" and "middle-skill" working force which are particularly vulnerable categories on the labour market. In these conditions every working place is important where Croatian Chamber of Economy states that one working place in construction additionally employs two working places in other industries. (CCE, 2016, 11) The Figure (5) shows the trends of Croatia GDP and Croatia GDP from construction in the period 2001 to 2019.

Figure 5*: Trends in Index (n/n-1) of GDP of national economy and construction GDP*



Source: authors' work according to data published by Croatian Bureau of Statistic (2004-2018), Statistical yearbooks of the Republic of Croatia 2003 to 2017

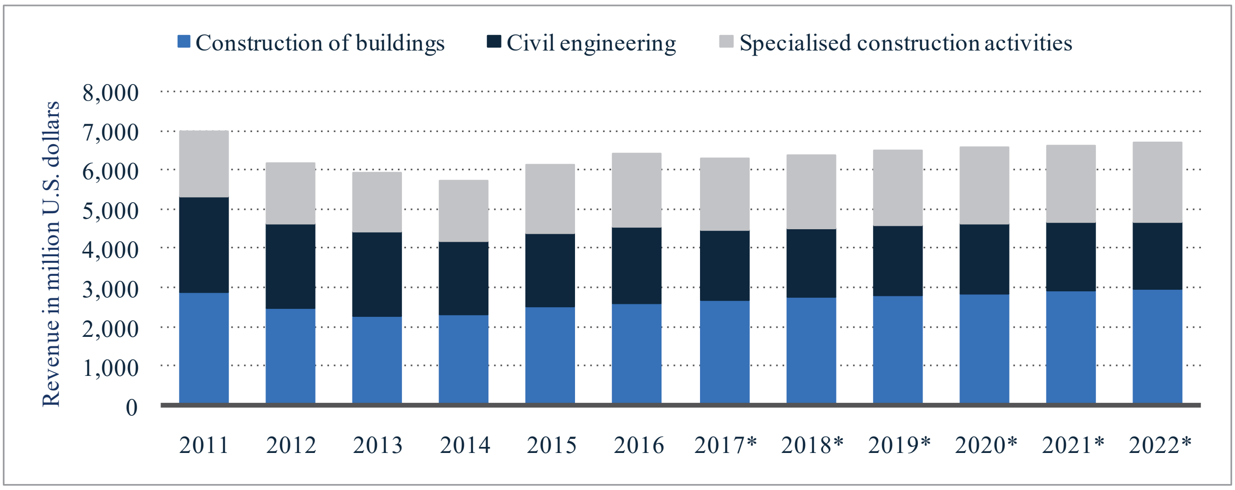
The above presented figure shows that the Croatia GDP form construction and national GDP are correlated but with different intensity of the oscillations. This indicates that during the analyzed period there were no specific measures influencing the construction industry, but the industry was developing according the national economy life cycle and state measures aimed to development of national economy.

When analyzing the composition of construction works value and sales done by types of construction in 2016, it can be seen that major part of the construction sales came from public procurement of infrastructure works launched by the state and with the state-related organizations. The structure of sales in 2016 is following:

- 31.9% - Transport infrastructure
- 31.8% - Non-residential buildings
- 20.8% - Pipelines, communication and electricity lines
- 11.9% - Residential buildings
- 2.2% - Complex construction on industrial sites
- 1.4% - Other civil engineering works (CCE, 2017)

Therefore, it can be concluded that state policy, measures and decisions on conducting infrastructural investments are having significant influence on construction sector results. The Statista (2018) is giving the structure of the construction industry from 2011 with projections of development in the period from 2017-2022.

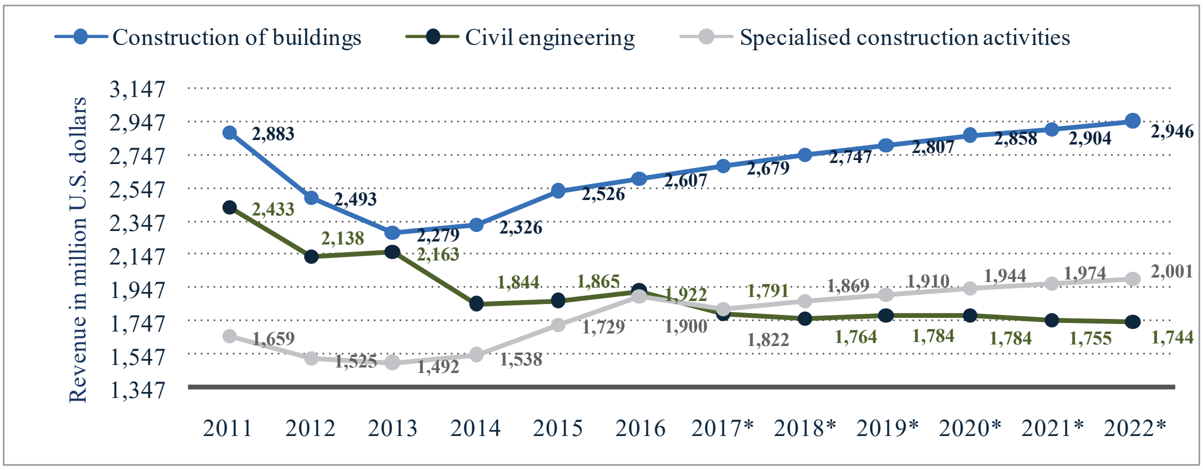
***Figure 6:** Construction revenue in Croatia from 2011 to 2022 (in million U.S. dollars)*



Source: Statista (2018); ID 901594

It can be seen that stabile and very small growth was planned until 2022, where it won't even reach the revenues achieved in 2011. If analyzing the following figure, it can be seen that the growth will be a result of growth in construction of buildings and specialized construction activities while the civil engineering (mainly ordered within state financed infrastructure investments) will face a strong decline and slow down the growth of the whole sector. Figure F gives the value of revenue in the Construction industry in Croatia from 2011 to 2022 by the type of work (construction of buildings, civil engineering, and specialized construction activities).

***Figure 7:** Construction revenue in Croatia from 2011 to 2022 by the type of work (in million U.S. dollars)*



Source: Statista (2018); ID 901594

When talking about the economic government measures in Republic of Croatia during past decade they included direct and indirect measures. Indirect in lowering the real estate transfer tax, programme of subsidised housing loans, simplifying certain processes related to public administration. Direct development measures were conducted but were not aimed exclusively towards construction industry but to all economic sectors equally, regardless of industry (subsidised internships, tax reliefs, increase of the number of public construction works etc.)

As well, the government introduced focused housing policies such as the Programme of State-subsidised Housing Construction, new subsidised loan programme (European Commission, n.d.) with the aim of influencing on affordability of housing offer, demography issues and boosting the construction industry by which influencing employment and housing for individuals under 45 years old, adopted public procurement rules etc. (European Commission, 2018b) As well, the Ministry of the Economy launched Strategic Guidelines for the Development of the Construction Sector whose aim is to “strengthen the institutional and infrastructural support, provision to support research, development of human resources, improve access to finance, and strengthening the societal contribution of the construction sector.” (European Commission, 2018a) At the same time, the financing programmes are lacking behind. (European Commission, n.d.)
The IBRD and the World Bank report states that “Croatia made dealing with construction permits more costly by increasing the administrative fees for building and occupancy permits.” (IBRD/ The World Bank, 2018, 156) where they ranked Croatia on 51st place on the list *Ease of doing business*. The Croatian economic policy is evaluated as a "policy of inaction" with maintenance of a high level of non-productive (social and public administration costs) expenditures which influenced on pro-cyclical nature of fiscal policy during the last financial crises. (Šimović et al. 2014 541)

According to Croatian Chamber of Economy (CCE) report (2016), the crises in construction industry in Croatia started later than in other EU countries and consequently, ended few years later. (CCE, 2016) The reason for this phenomenon CCE found in:

- “Non-existence of effective economic incentives and specific measures aimed to construction sector recovery (tax relief activities, subsidized loans etc.);
- Slowed implementation of public infrastructure investments and reduced housing demand;
- Non-existence of strengthened foreign competition in the domestic market;
- Slowness of the state administration that influenced the intensity and financing of investments from European cohesion and structural funds.” (CCE, 2016)

Lack of economic development measures came as well from budget deficit that led to inability of the government to conduct strategic measures. “Therefore, construction companies shared the fate of the rest of the economy and the general measures taken, whereby part of the measures related to the improvement of the regulations in the area of construction and which enabled the acceleration of the procedure of obtaining the construction permit, only created better quality assumptions for future investment activity” (CCE, 2016, 6) Further the report of Croatian Chamber of Economy suggest that the construction probably had “the greatest benefit from implementing pre-trade settlement arrangements that enabled a substantial part of the companies, some of which are among the largest, to remain on the market” (CCE, 2016, 6) and write off part of the liabilities, usually towards the state.

3.3. Discussion

The research results showed that the theoretical and empirical works recognize state measures as necessary and useful tool in development of industries, geographical regions, reducing unemployment (Bartik 1991a; Lenard, Abbott 2001; Vlahinić-Dizdarević and Negovetić 2006;

Perić, Blažević, Dragičević 2014; Pupavac, 2015; Hasan 2015; Šimić 2015; ECLAC, 2016; Baker, Bloom, Davis 2016, Schumpeter 2017; Bartik 2017 etc.)
As well, it was found that empirical evidence show that the state incentives are oriented towards export-oriented companies where construction is poorly ranked if observing the percentage of incentives per value added (Bartik, 2017). If observing the EU policies it can be seen that there are numerous documents that are promoting and defining the models of construction industry stimulating, but at the level of member states the planned strategies are not in all cases in use, as of limitations of the available state budget, lack of coordination between state administration services, orientation to the export-based industries, the lack of national strategies etc.
The analysis of the Croatian construction industry showed the high level of variability of GDP in construction industry through the last 22 years, with long periods of negative results that are exceeding the negative trends of national GDP that existed during economic crises. As well, it was found that there were no packages of development measures aimed directly towards construction industry stimulating, but there were mainly generic and certain positive measures were as well influencing the construction industry but were not initially aimed exclusively at stimulating the construction sector, but to encourage to other sectors, different categories of companies (ie. SMEs) or to foster the development of the entire national economy.
In the forecast of development trends Hasan (2015) states that "Generally, the European construction market shows a trend of steady growth, although some regions may not experience growth as quickly as others. Measures such as the Construction 2020 Action Plan and eco-innovation policy indicate the EU has and will continue to provide key facilities and incentives to provide stability and encourage growth." (Hasan, 2015, n.p.) Additionally, the growth is "current technological revolution favors those who are already developed, then we could see continuing poor prospects for growth in developing countries." (Easterly, W. 2001 154). This only confirms that government should create a strong development-oriented strategy and conduct measures with the aim of achieving long-term results otherwise the difference in development and growth dynamics between Croatian and EU construction sector will continue to increase.
This claim only confirms that government should intense its efforts towards forming and conducting effective and specific goal achievement-oriented measures.

4. Conclusion

Every year, there is about $10 trillion in construction-related spending globally, equivalent to 13 percent of GDP which makes construction one of the largest sectors of the world economy, but the sector's annual productivity growth has only increased 1% over the past 20 years (McKinsey Global Institute, 2017). However, although the productivity performance of global construction is not uniform, the McKinsey Global Institute points out that „in most cases the industry is extensively regulated, very dependent on public-sector demand, and highly cyclical". Here McKinsey Global Institute suggests following: „action in seven areas (reshape regulation, rewire contracts, rethink design, improve onsite execution, infuse technology and innovation, reskill workers, improve procurement and supply chain) can boost sector productivity by 50–60%". In this context, Croatia could find policy guidelines for the recovery and growth of its construction sector and recognize an opportunity to close the gap in relation to other members of the European Union. Namely, the results of the research presented in this paper suggest that there is no exact proof in the level of positive influence of government measures on development of construction industry in Republic of Croatia. The reason for that is non-existence of result-oriented development government measures and comparable cycle development paths between achieved results (measured by GDP) on national level and the industry level. As well, these results also indicate that the positive trends in this industry are partially resulting of positive economic trends in the neighbouring and European Union countries and increased availability of EU funds infrastructural project financing. In addition, the analysis of trends in selected construction industry indicators, such as the index of industrial production, added value and employment indicates the dramatic and long-term consequences of the crisis, but also points to numerous structural problems and weaknesses of the entire economy. This raises a question of continuation of non-promising trends that are disabling the Croatian construction industry for reaching standards and the degree of importance in other developed countries.

Limitations of the research are that the conclusions were driven from secondary information, the publications and published results of research and not from empirical survey. This could lead to distortions in the conclusions as of differences in research methodologies. Recommendations for future research are arising from the limitations of the research and include conducting broad and more comprehensive primary research on this topic with the aim of determining more exact results of the efficiency of government measures on fostering specific industries.

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ECONOMIC DIMENSION OF SPORTS IN THE DEVELOPMENT OF A REGION: EXAMPLE OF THE DOBRO GYMNASTICS WORLD CUP OSIJEK

ABSTRACT

Sport has become a ubiquitous phenomenon in almost all aspects of social life. Sports activities are part of the modern man's leisure and are practised for the sake of health, entertainment, recreation and the profession. But, sport is not just a game. It has become part of the economic activities of the society. Thus, it becomes an increasingly important part of the offer of tourist destinations. Nowadays, sport has become a global social phenomenon which combines economic and socio-cultural aspects. The paper aims to improve understanding of the impact of sport and major sports events on economic growth and the development of an area. For this purpose, an economic analysis of the DOBRO Gymnastics World Cup Osijek was conducted in order to assess its economic feasibility in the context of economic development of the City of Osijek and the Osijek-Baranja County. The main results of the conducted analysis are related to the increase of income from the provision of catering services and overnight stays, as well as the promotion of the City of Osijek as a tourist and sports destination, the possibility of creating new jobs, starting of new business ventures and the extension of the tourist season.

Key words: *economic feasibility, sport, sports event, tourism.*

1. Introduction

Nowadays, sports activity becomes a dynamic sector of the economy whose growth rates are higher than the average of other sectors, which accelerates the development of the whole economy. For example, in the United States of America in 2007, the sports industry was twice as high as a car industry, and as much as seven times the size of the movie industry (Ratten, 2011, 680). Some authors believe that the sport has long since ceased to be a "game" and has become part of the economic activities of society. (Bartoluci, Škorić, 2009, 39). Furthermore, the term sport has different meanings for different individuals or groups, so for some it presents a means of recreation, a way of socialising, while for the athletes it is a tool for achieving the desired achievements and glory. Governments observe sport through the benefits of tourism and educating people about the importance of healthy lifestyles. Due to the multitude of different meanings, sport is a global social phenomenon that combines economic and socio-cultural aspects (Ratten, 2011, 679).

Sport is a socially useful activity and is regulated in contemporary states by legal regulations that encourage its development. Thus, the Constitution of the Republic of Croatia, as the highest legal act, stipulates that the state encourages and assists in caring for physical education and sports (Article 69 of the Constitution of the Republic of Croatia, Official Gazette No. 56/90, 135/97, 08/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10 and 05/14). Specifying the sport in the constitution of a modern country is significant as the constitutional provisions and rights cannot be abolished by other lower legal regulations (Čizmić, Kačer 2018, 25). Moreover, constitutional values have to be elaborated in laws and other regulations and thus implemented. The sports activities in Croatia are in more details regulated since 2006 by the Sports Act (Official Gazette No. 71/06, 150/08, 124/10, 124/11, 86/12, 94/13, 85/15, 19/16). The Sports Act regulates the system of sport, sports activities, professional activities in sport, sports competitions, financing of sport and other issues of importance to sports.

It is important to point out that the Sports Act determines sports activities as the activities of interest to the Republic of Croatia and are stimulated by, among other things, building and maintaining sports facilities, implementation of economic measures, stimulation of partnerships between government and non-governmental organizations in sport with private entrepreneurship and financing of sports by the state, regional and local public authorities (Article 1, paragraph 4 of the Sports Act).

Sports activities are today of interest to the European Union. In order to understand how sports issues are supported with the European Union legislation, it is important to note that one of the fundamental principles of the European Union is the principle of conferral, which means that the European Union has only the powers explicitly entrusted to it by the Member States (Bačić, 2018, 154). The four fundamental freedoms of the common European market relate to unimpeded flow of: goods, services, capital and personsThe Republic of Croatia has acknowledged the importance of organizing major sports events and their impact on the development of tourism and the economy of the host country, which through media exposure enable and build the image of the host country. For this purpose, the Central State Office for Sport, for the second year in a row, provides funds through the public tender for co-financing the organization of major sports events in the Republic of Croatia. The European Union legislation is fully applicable to sport where the sports activities or activities of athletes meet with these common market freedoms. This will primarily apply to the professional sport and any recreational sports activity that also represents an economic activity (Štefanek, 2016, 18).

After the White Paper on Sport, sport also found its place in the Treaty of Lisbon (Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, Official Journal of the EU No. C 306, 17 December 2007: 1–271). This is the first regulation of the European Union's primary law, which explicitly regulates sport. The Treaty of Lisbon stipulates that the European Union contributes to promotion of European sports, considering the specific nature of sport, its structures based on voluntary action and its social and educational role. Measures that can be taken under this regulation are, however, limited to incentive measures to the Member States. Thus, the Treaty of Lisbon lays down the horizontal alignment which the EU authorities are obliged to establish and to implement policies and activities within their competence.

Apart from the national level, the importance of major international events has been recognized at regional and local levels. According to the Master Plan of Tourism of the Osijek-Baranja County in 2017, one of the strategic goals of the County is the internationalization of the existing structure and the development of two major international events as an essential element of the total attractions structure of continental regions. The observed case study - the DOBRO Gymnastics World Cup Osijek sports event belongs to a range of major international events which are attractive worldwide. Apart from participating countries, this is also proved by the international TV broadcasting report for the competition finals of the DOBRO Gymnastics World Cup Osijek 2018. In addition to direct national TV broadcasting through the Croatian Radio-television, the final day of competitions has been broadcast in 62 countries worldwide (through 11 TV channels) with penetration into more than 550 million households.

The first World Cup in gymnastics in Osijek was organized in 2009 as one of the official stages of the World Challenge Cups of the International Gymnastics Federation (FIG; Fédération Internationale de Gymnastique). Since 2018 this cup is called DOBRO World Cup Osijek. Placing this sports event in the City of Osijek is not a coincidence. Specificity of Osijek is its long-term connection with gymnastics. Back in 1865, the oldest gymnastics association in Croatia was founded in Osijek, the *Prvo Društvo Gombalacah* (The First Association of Gymnasts), whose traditional heirs still successfully lead a great number of recreational and top gymnastics sections. Along with 10 years of the World Gymnastics Cup organization, since 2019 Osijek can also boast with the opening of the most modern gymnastics facility in the region (*Sokol centar*), once again justifying Osijek's epithet – the City of Gymnastics.

The City of Osijek regularly co-finances the DOBRO Gymnastics World Cup Osijek every year through its *Program of Public Needs in Sports*. In the *Program of Public Needs in Sports in the City of Osijek in 2018* the amount allocated for the financing of major sports events, including the DOBRO Gymnastics World Cup in Osijek, amounts to HRK 900,000.00. Namely, this Program supports major sports events, which are also significant events included in the calendars of national sports federations as well as international sports federations. Apart from the importance of sport, such events have a great significance for the promotion of the City of Osijek, its culture, tourism and the economy (*Program of Public Needs in Sports in the City of Osijek in 2018*, Official Gazette of the City of Osijek No. 12 of 27 October 2017).

Apart from the City of Osijek, the Osijek-Baranja County also provides support to the DOBRO Gymnastics World Cup in Osijek. The County co-funds the DOBRO Gymnastics World Cup in Osijek through its *Program of Public Needs in Sport* (*Program of Public Needs in Sport in the Osijek-Baranja County in 2018,* Class: 620-01/17-01/8, Reg. No.: 2158/1-01-01-17-5).

Sports events generate numerous social and economic impacts. In this paper, the analysis refers to the consideration of the direct and indirect, economic and social effects of the organization of a large sports event that contribute to the development of the economy of the host country. Therefore, the aim of the paper is to improve understanding of the impact of sport and sports events on economic growth and the development of a particular area. For this purpose, an economic analysis of the sports event DOBRO Gymnastics Word Cup Osijek 2018 was carried out to assess its economic justification in the context of the economic development of the City of Osijek and the Osijek-Baranja County.

2. Literature Review

The European Commission has first highlighted the importance of sport in achieving local and regional economic development in the White Paper on Sport in 2007, which presented the social and economic dimension of sport. Explaining the economic role of sport, the White Paper emphasizes how sport can make a big contribution to achieving Europe 2020 goals in terms of growth and job creation. Although generally lacking comprehensive and comparable data on the economic importance of sport, "a study presented in 2006 suggested that sport in a broader sense generated value-added of 407 billion euros in 2004, accounting for 3.7% of EU GDP, and employment for 15 million people or 5.4% of the labour force"(Commission of the European Communities, White Paper on Sports, 2007, 12).

Investments in sports projects bring numerous social and economic benefits, such as additional employment, increased spending, increased service provision, promotion of the destination, extension of the tourist season, etc. According to Nakić et al (2015, 3), sport can become profitable activity when sports programs are linked to certain complementary activities such as tourism, catering, sportswear and footwear trade, etc. That is, the organization of major sports events and the development of economic activities are complementary activities. For example, sports events generate tourist activity while visitors of sports events participate in various activities while enjoying their leisure time (Jimenez-Naranjo et al, 2016, 132). Furthermore, the same authors (2016, 132) suggest that promotional activities related to the organization of sports events can serve as a resource for the economic sector. For example, the promotion itself and the organization of a sports event can affect changes in the seasonality and sustainable economic development. According to the authors Skoko and Vukasović (2008: 218), the French economy recorded growth of 3.3% in 1998 thanks to the organization of the Football World Cup. The significant impact of organizing major sports events on job creation is confirmed by the organization of the London Olympics in 2012. Namely, during the London Olympics in 2012, more than 46,000 people worked at the Olympic Park and the Olympic Village, while more than 100,000 new jobs were created in London thanks to the Games (https://www.globalsportsjobs.com/article/the-economic-impact-of-major-sporting-events/).

Organization of major sports events that implies the construction of sports infrastructure requires large investments. Therefore, contemporary states by imposing a legal obligation to co-finance sports infrastructure to administrative bodies and regional and local government units, favour the creation of preconditions for organizing various sports activities.

Mules and Faulkner (1996, according to Gratton, et al. 2006, 44) argues that hosting major sports events is not always an unequivocal economic benefit to the cities that host them. Generally speaking, they point out that organizing major sports events often results in the city authorities losing money. The World Handball Championship in Croatia 2009 is an example of the good and bad effects of the organization of the major world's competitions, both at national and local level. It is certain that with the organization of the World Handball Championship in Croatia handball as sport has earned. Its popularity grew, and Croatia won the silver medal at the Championship with an exceptional sports reach (Dumančić, 2015, 30). In Croatia, a respectable sports infrastructure was built for the purpose of this Championship: Arena in Zagreb (capacity of 15200 spectators), *Spaladium Arena* in Split (capacity of 13000), *Gradski Vrt* Hall in Osijek (capacity of 5000), *Drava* Hall in Varaždin (capacity of 5200), *Kresimir Ćosić* Hall in Zadar (capacity of 9000) and *Žatika* Hall in Poreč (capacity of 3700) (Biti, 2010, 238, according to Žabec 2008). Some economic sectors achieved indirect benefit from the organization, most notably the construction sector. The World Handball Championship however had its dark side due to the unrealistic and megalomaniac planning and construction of large sports halls - arenas, which proved to be unprofitable and expensive for the maintenance and paying of the financial arrangements which they were built with. The City of Osijek has also built a new sports hall - the *Gradski vrt* Sports Hall. This hall was built according to the previously made project and was planned realistically in accordance with the existing needs of the sports in Osijek and not just for one big competition. The *Gradski vrt* Sports Hall consists of five different sports halls that are today in full function for sports, recreation, teaching and commercial activities. The DOBRO Gymnastics World Cup Osijek has been held in this hall for ten years.

It can be concluded that if investing in the organization of a major sports event does not include infrastructure investments then it is very economically profitable for the host country. According to Gratton et al. (2006, 57) European model of attracting major sports events to cities that do not require additional infrastructure investments in order to host the event can generate significant economic benefits to the host cities.

The hosting of major sports events is often justified by the host city in terms of long-term direct or indirect economic impacts of the sports event (Mules & Faulkner, 1996, according to Gratton et al, 2006, 44). Calculating the economic impact of a major sports event is not easy. According to Gratton et al. (2006, 44) it is not a straightforward job to establish a profit and loss account for a specific event. Furthermore, the economic and social impacts that are being considered and evaluated arise in days before, during and after a major sports event, which also contributes to the complexity of calculating the economic impact of the event. Namely, several international analyses and researches suggest that the demand stimulating effect of the sports events prevails in the given country's tourism before, during and after the event (Müller, Biro, Ráthonyi-Odor, Ráthonyi, Széles-Kovács, Boda, Macra-Oşorhean, Andras, 2016, 90).

Organization of sports events is appropriate for various forms of entrepreneurship due to its media popularity. Entrepreneurial ventures can be linked to various sport events. Such entrepreneurship is community-based as an institutional and social entrepreneurship (Nakić, Stilin, Tomljenović, 2015: 4). Bartoluci and Čavlek (2007, 361) point out that the organising of a sporting event is a process involving the coordination of several stakeholders of various activities, from transportation through the information system to accommodation and the like. Therefore, the organization of a major sport event is an opportunity for numerous entrepreneurial endeavours.

3. Sports Event

According to Ritchie (1984, 3) an event "is a one-time or recurring happening of limited duration, which is held no more frequently than once a year, has a program, an organizing body, a number of participants, it is open to the public, and apart from the intrinsic objectives (e.g. sports, cultural, religious) is held primarily to enhance awareness, appeal and profitability of the host region/country as a tourist destination".

The organizers of sports events observe the event as a project and use the available project management tools (Müller, 2017, 239) including budget calculations, funding sources, implementation controls and the like. However, sports events are the events of great influence on society, the local community, on the behaviour of citizens and guests. Therefore, sports events need to be analysed not only on a project basis but to be seen more broadly in the context of their immersion in society. Thus, on major sports events the host countries and cities can successfully build themselves as a destination brand (Skoko, Vukasović, 2008, 224). Some of the examples of countries that have a rich sports tradition and are recognized as the hosts of important sports events are England (Wimbledon), Monte Carlo (Formula 1 street race), United States (Super Bowl) etc.

Croatia also keeps the tradition of organizing world-class sports events. The most significant sports events which have been organized in Croatia are: Blue Lagoon Croatia Open Umag (one of the world's most prestigious tournaments within ATP World Tour), the slalom race Audi FIS Ski World Cup “Snow Queen Trophy” 2019 - Zagreb/Sljeme and the DOBRO Gymnastics World Cup Osijek as part of the World Challenge Cups of the International Gymnastics Federation (FIG). The City of Osijek, apart from gymnastics, stands out as the organizer and host of the extreme sports festival Pannonian Challenge, the Osijek Ferivi Half-Marathon and the European Shooting Championship - EPSO.

Sports events have complex organizational forms and their social impacts and values are very difficult to determine. We have already pointed out that the prerequisite for organizing sports events is the existence of infrastructure - sports facilities. The planning and building of sports facilities is expensive and today is almost unthinkable without the participation of the public authorities. Obviously, the building costs of sports facilities exceed the value of the income that a single sports event can accomplish. However, sports facilities should not normally be built for the purpose of organizing one sports event, but to be used for different purposes, both sport and other social gatherings of citizens, such as cultural events and concerts. Therefore, the economic effects of sports events should be seen in the wider meaning of their immersion in the social community of the hosting city (Müller, 2017, 239).

Organizing sports events often leads organizers to the position of *incidental entrepreneurs* (Veal, 2010, 116). Organizers are primarily guided by sports goals, but because of the multidimensionality of a sports event and its involvement in the society they are necessarily involved in providing different services to participants and visitors. The organizers can provide these services independently or, what is often more efficient and cost-effective, through contracted service providers i.e. institutions and entrepreneurs from the local community in which the event is organized. On the other hand, the entrepreneurs should recognise these organizational circumstances as their own business opportunity.

4. Economic Aspects of the Osijek-Baranja County and the City of Osijek

According to the data shown in the Regional Competitiveness Index 2013, the area of Osijek-Baranja County is ranked as the 11th out of 21 counties. The Osijek-Baranja County has a high unemployment rate (the average annual rate for 2017 amounted 12.1%)[1] and the weak dynamics of working-age population. The County is worse than the rest of Croatia when comparing the numbers of long-term unemployed persons, direct foreign investment, the number of small and medium-sized enterprises in relation to the number of inhabitants, the realized profit of small and medium-sized enterprises compared to their total income and exports.[2]

[1] http://www.hzz.hr/UserDocsImages/HZZ_Godisnjak_2017.pdf, accessed on 20 March 2019
[2] http://konkurentnost.hr/wp-content/uploads/2018/01/RIK2013_finalno_07072014.pdf, accessed on 25 March 2019

Table 1: *Population and average number of unemployed by the educational degree and gender, January 2019 – for the City of Osijek and the Osijek-Baranja County*

No.	***Population***	***Osijek-Baranja County***	***City of Osijek***
Population according to 2011 census		**305,032**	**108,048**
1	**Total unemployed in January, 2019**[3]	**19,024**	**5,534**
2	**Unemployed women**	**11,050**	**3,252**
3	Non-qualified workers	1,716	206
4	Lower qualification	4,212	863
5	Qualified and highly qualified	5,492	1,458
6	High school education	5,630	1,938
7	Higher school education	760	357
8	University education	1,214	712

Source: Monthly Statistical Bulletin, Croatian Employment Service, Regional Service Osijek, January 2019

There are 12,328 legal entities registered[4] in the Osijek-Baranja County, out of which 7,302 are active. The most legal entities have been registered for performing activities in the wholesale, retail trade and other service activities. According to the data of the Financial Agency (FINA), in the County in 2016, among the active companies there were 387 in the field of agriculture, forestry and fisheries, 574 in the manufacturing industry and 487 companies in the construction industry, while 1,011 were in the trade sector.[5]

In the year 2017, the Osijek-Baranja County had revenues of HRK 24.8 billion, of which the largest shares were generated by the industry (32.6%), the agriculture (20.5%) and the trade sector (19.6%).[6]

According to the data shown by FINA[7], in 2016 the Osijek-Baranja County's economy had a negative result of HRK 1.316 billion. Only the businesses dealing with agriculture, forestry and fisheries were positive, while food and beverage producers had a negative result. In the same year, the activity of agriculture, forestry and fisheries also had the highest investments in long-term assets (in relation to food production and beverage production), employed a larger number of employees and had more average net wages. On the other hand, only the companies in the field of agriculture, forestry and fisheries had a negative balance of export-import coverage.

The expert assessment of the development of agriculture in the Osijek-Baranja County indicates the need to accelerate the process of restructuring, development and increase of agricultural production by sowing and planting more profitable crops, fruits, vegetables, medicinal herbs and encouraging the organized organic production.[8]

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[3] HZZ, Regional Service Osijek, January 2019
[4] Croatian Bureau of Statistics, Statistical Yearbook 2017.
https://www.dzs.hr/Hrv_Eng/ljetopis/2017/sljh2017.pdf , accessed on 20 March 2019
[5]https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf, accessed on 23 March 2019
[6] https://www.hgk.hr/zupanijska-komora-osijek/gospodarski-profil-zupanije, accessed on 23 March 2019
[7] https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf accessed on 23 March 2019
[8]https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf, accessed on 23 March 2019.

With regard to livestock production, it is necessary to intensify the production of milk and meat which do not meet the needs of the national market. The manufacturing industry accounts for 33% of total County revenues[9], and along with the food industry, there are the chemical, wood and paper industry, production of metal and metal products, mechanical engineering, textile industry, and construction materials and building industry.

The Osijek-Baranja County has enormous potential for the development of various forms of continental tourism – wine tourism, ecotourism, rural, hunting and fishing, hiking, health, cultural and cyclo-tourism. According to FINA data for 2016, there were 329 taxpayers - entrepreneurs who were engaged in accommodation and food preparation services. According to the data of the Bureau of Statistics, in July 2017 there were 7,472 arrivals and 15,685 overnight stays in the Osijek-Baranja County, which presented an annual increase of 12.3% in the category of arrivals, with an 18.4% increase in the number of domestic guests' arrivals, and further by 2.8% in the category of overnight stays. In 2016, there were 89,060 arrivals and 172,945 overnight stays. By comparing the annual data of the years 2016 and 2015, the increase in tourist traffic amounted to 11.9% in arrivals and 9.3% in overnight stays.[10]

The Osijek-Baranja County is rich in natural resources and tourist attractions, among which are especially worth of mentioning: Kopački rit (17,700 ha of flood-wetland protected area) visited by 28,756 visitors in 2012, Bizovačke toplice (a natural source of saline thermo-mineral bath with the temperature up to 96 degrees Celsius), which had 127,000 customers in 2012, the State Stud Farm Đakovo (one of the oldest in Europe, with about 160 horses) had 15,157 visitors in 2012; and 12 tourist and wine roads and 4 mini-museums in four vineyards (Drenje, Feričanci, Dalj and Zmajevac) [11]. These data show that the tourist capacities of the Osijek-Baranja County are still insufficiently utilized, which is confirmed by the County's total tourism income, which amounted to HRK 351 million in 2017, accounting for only 1.7% of the County's revenues.[12]

The City of Osijek[13]

The economy of the City of Osijek has until now had the characteristics of the traditional structure, with only a few industrial sectors that have a market orientation outside the local area. Trade, manufacturing industry and construction industry play a key role, according to the criteria of total income, employment and export orientation.

The most important economic property of the City is the knowledge of educated people. It is precisely for this reason that the determinant of the City of Osijek in the future, set out in the City's Development Strategy - *From an Industrial to an Intelligent City* – is to attract young people to create opportunities for the development and application of their own knowledge. The aim is to create innovative projects in the economy and stimulate the realization of ideas through supporting institutions, economic zones, benefits, incentives and so on.

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[9] Ibidem

[10] https://www.hgk.hr/documents/stanje-gospodarstva-obzrujan-201759ef01f2cf62d.pdf, accessed on 23 March 2019

[11] https://www.hgk.hr/zupanijska-komora-osijek/turizam-i-ugostiteljstvo, accessed on 24 March 2019

[12] https://www.hgk.hr/zupanijska-komora-osijek/turizam-i-ugostiteljstvo, accessed on 24 March 2019

[13] http://www.osijek.hr/index.php/cro/Gospodarstvo/Gospodarstvo-grada-Osijeka/Gospodarstvo-u-brojkama, accessed on 24 March 2019

The establishment of low-tariff lines within the operations of the Osijek Airport further opens the City towards Europe. Using the model of public-private partnership, domestic and foreign investors are given the opportunity to actively participate in the development of economic activities, whose ultimate goal is to raise the quality of life in Osijek.

5. Methodology

There are different methods for estimating the potential benefits of hosting major sports events, including multiplication analysis, input-output calculations, monitoring of decision makers in relevant sectors, and computable general equilibrium models. Other rarely used methods are the social accounting matrix, the direct expenditure approach, and the cost-benefit analysis (Davies, Coleman & Ramchandani, 2013: 32). The latter methodology is used in this paper: a cost-benefit analysis, also called economic analysis. Generally, cost-benefit analysis is a process/tool that is used for assessing the social benefits and social harms that are expected to occur through the realization of a project.

According to Jiménez-Naranjo et al. (2016, 133) cost-benefit analysis is "the most appropriate approach for assessing the impact of a sports event, because it enables the application of measures such as internal rate of return, net present value of costs and benefits and cost/benefit ratios, allowing to choose those alternatives that provide the biggest social benefits". Also, other authors such as Hurtado, J. M., Ordaz, J. A., & Rueda, J. M. (Jiménez-Naranjo et al., 2016, 133) argue that cost-benefit analysis can be "very useful method for assessing socio-economic impacts originated by organization of sports events, becoming an important tool for the decision-making by those who are responsible for the organization".

There are those who object to the use of economic criteria for assessment of certain events, on the grounds that there are values that are not measurable being intangible or simply priceless. However, consumers also make decisions on what to spend on the intangible things such as pure enjoyment in the event. Finally, the meaning of the term value is the amount of money an individual or the community are willing or able to pay. (Veal, 2010, 321). The cost-benefit analysis allows estimation of such values.

In addition to the cost-benefit analysis carried out, a table research methodology was used, mostly in the literature review section.

6. Economic Impact of the DOBRO Gymnastics World Cup Osijek in 2018.

The Croatian Gymnastics Association and the Gymnastics club Osijek - Žito have been organizers of the DOBRO Gymnastics World Cup Osijek since 2009. The DOBRO Gymnastics World Cup Osijek is one of the official stages of the World Gymnastics Challenge Cup[14].

According to the official data of the organizers of the DOBRO Gymnastics World Cup Osijek, more than 1,600 contestants from 70 countries around the world have participated so far, including the world's greatest gymnasts of all times, such as: Chen Yibing, Zhang Hongtao, Arthur Zanetti, Epke Zonderland, Aljaž Pegan, Mitja Petkovšek, Flavius Koczi, Diego

[14] The World Gymnastics Challenge Cup, apart from Osijek and Croatia, also includes the following stations: WC Melbourne / AUS, WC Baku / AZE, WC Doha / QAT, WCC Koper / SLO, WCC Mersin / TUR, WCC Guimaraes / POR, WCC Szombathely / HUN, WCC Pariz / FRA i WC Cottbus / GER.

Hypólito, Oleg Vernajev, Manrique Larduet, Krisztian Berki, Denis Abljazin, Aleksander Šatilov, Elissa Downie and Zsofia Kovacs.
During all these years at DOBRO Gymnastics World Cup Osijek, since 2009, other than athletes, there were more than 3,200 officials - trainers, medical staff, hundreds of top judges, representatives of the International Gymnastics Federation (FIG - Fédération Internationale de Gymnastique), foreign media and thousands of guests. Hundreds of volunteers and official staff from the Organizing Committee of the DOBRO Gymnastics World Cup Osijek took care of all of them. In 2018, there were 121 athletes from 37 countries[15] participating at the DOBRO Gymnastics World Cup Osijek and 118 accompanying persons (trainers, judges, medical and media staff). The 38 external associates and 82 volunteers took care of them.

Although the goal of the DOBRO Gymnastics World Cup Osijek is promoting the popularisation of gymnastics as the most common form of physical exercise for children and youth with the aim of encouraging an active and healthy lifestyle beginning form the earliest age, promoting sports values and popularising sport among the citizens, improving sports systems and international sports promotion of the Republic of Croatia, its influence on the development of economic activities and the promotion of Croatia as a tourist destination is indisputable.

Namely, apart from directly contributing to the promotion of sport, it simultaneously initiates the strengthening of tourism potential and the diversification of tourist offer both of the Republic of Croatia and the City of Osijek. The direct impact on employment is reflected in the promotion of volunteering and acquiring of experience, knowledge and skills of the volunteers and their preparation for the labour market. 82 volunteers were involved in the organization of the sports event DOBRO Gymnastics World Cup Osijek 2018 who achieved the total of 2,000 volunteering hours.

The media coverage of the said sports event influences the recognition and image development of the destination and therefore the DOBRO Gymnastics World Cup Osijek belongs to a number of major international events attractive worldwide (as evidenced by the report on the international TV broadcast of the final days of the competition, when the image from Osijek (in addition to the direct national TV broadcast via the Croatian Radio-television program) went to 62 countries of the world (via 11 TV channels) and with the penetration into 552.495,227 households.

Below there is an overview of income from the economically and socially measurable benefits of the sports event DOBRO Gymnastics World Cup Osijek 2018.

[15] In 2018 athletes from Argentina, Austria, Azerbaijan, Belgium, Belarus, Brazil, Bulgaria, Guatemala, Canada, Colombia, Croatia, the Czech Republic, Dominican Republic, Finland, Great Britain, Germany, Hong Kong, Netherlands, Norway, Poland, Portugal, Romania, South Africa, Russia, Slovenia, Serbia, Slovakia, Sweden, Turkey, Ukraine, Venezuela and Vietnam participated in the DOBRO Gymnastics World Cup Osijek.

Table 2: *Revenues from socio-economic measurable benefits of the DOBRO Gymnastics* World Cup Osijek 2018

No.	*Item*	*Amount in HRK*
1	**Revenues from the provision of catering and other services, i.e. sales of alcoholic and non-alcoholic beverages, hot and cold drinks, meals, desserts and the like:**	**1,550,000.00**
	Gymnastics World Cup (two days): 5,000 visitors × HRK 50.00 = HRK 250,000.00	250,000.00
	Public draw of starting numbers: 4,000 visitors × HRK 70.00 = HRK 280,000.00	280,000.00
	Gastro & Wine & Music Festival FEELGOOD WEEKEND – 2 festival days: 12,000 visitors × HRK 85.00 = HRK 1,020,000.00	1,020,000.00
2	**Income from providing accommodation:** **2,000 nights** × HRK **300.00 / night** = HRK **600,000.00**	**600,000.00**
TOTAL REVENUES FROM MEASURABLE ECONOMIC AND SOCIAL BENEFITS		**2,150,000.00**

Source: authors' calculations

As shown in the Table 2, the revenues from the socio-economic measurable benefits of the DOBRO Gymnastics World Cup Osijek 2018 include revenue generated from catering and other services (sales of alcoholic and non-alcoholic beverages, hot and cold drinks, meals, desserts, etc.) over the two final days of the event with a total of 5,000 visitors who spent on average HRK 50.00 per day. In addition, the accompanying event of the sports event was the Public Drawing of Starting Numbers as a novelty in the organization of similar type of gymnastics competitions that was organized outside the sports arena, in the beautiful ambience of the city parks - King Petar Krešimir IV Gardens - where the athletes and citizens had the chance to meet informally and enjoy a gastro offer together. At the opening ceremony, there were 4,000 visitors who spent on average HRK 70.00 per person.

At the same time as the sports event, different side events were organized. We highlight the Gastro & Wine & Music Festival FEELGOOD WEEKEND, visited during 2 days by 12,000 foreign and domestic guests who had the opportunity to enjoy a gastronomic and entertainment event and spent on average HRK 85.00 per person.

The familiarisation of sports activities to young people and socialisation was inspired by organized exercises and open-air training for sport-amateurs, athletes and Croatian sports national teams' members. These activities were held before and during the DOBRO Gymnastics World Cup Osijek. The members of sports clubs gathered on the Osijek Promenade and the Pedestrian Bridge to make the longest gymnastics split in the world. Last year 450 participants made a 600-meter-long split.

The estimated number of overnight stays during the final days of the sports event was 2,000, and the average price of overnight stays in the City of Osijek was HRK 300.00 per night. As a

result, revenues from socio-economic measurable benefits of the sports event DOBRO Gymnastics World Cup Osijek 2018 amounted to HRK 2.150,000.00.
Apart from the measurable effects of the sports event, the analysis also includes non-measurable effects i.e. those that cannot be expressed in monetary units. The non-measurable or indirect effects (non-economic effects) or the effects of the expected satisfaction from the sports event DOBRO Gymnastics World Cup Osijek 2018 are those that increase customers' satisfaction and directly affect:
- the motivation of tourists in choosing a particular tourist destination before taking a trip,
- the return of a guest to a tourist resort,
- the arrival of new guests,
- the extension of the tourist season,
- better capacity occupation outside the main season
- better use of catering facilities and services, change of tourist structure and tourist demand structure
- new business opportunities and job creation.

The project is in line with the *Regional Development Strategy of the Republic of Croatia for the period up to the end of 2020*, respectively: *Strategic objective: 1. Increasing the quality of life by promoting sustainable territorial development; Priority: 1.1. Raising the level of knowledge and abilities to improve the quality of life; Measure name: 1.1.1. Improvement of regional and local development capacities in education, training and sports - Improvement of the sports support system and the activities encouraging the vertical coordination of activities (cooperation of key stakeholders at all levels)*.

The financially non-measurable social benefit of the organization of the DOBRO Gymnastics World Cup Osijek is also the increase of the income of citizens with regard to the indirect increase of economic activities and increase of employment. Namely, the indirect effects on employment increase are related to the development of economic activities in the area of trade and service activities.

The financially non-measurable social benefits and social costs of the project were assessed in accordance with the established criteria and regarding the socio-political impact of the project on the local community and the economic impact of the project on the closer and wider environment:

	Criteria	**Weight**
A	Socio-political impact of the project on the local community	0.40
B	Economic impact of the project on the closer environment	0.25
C	The economic impact of the project on the wider environment	0.25

As shown in Table 3, there is a positive relationship between the non-measurable social benefits and costs of the project DOBRO Gymnastics World Cup Osijek 2018

Table 3: *Estimation of non-measurable benefits and costs of the DOBRO Gymnastics World Cup Osijek 2018*

Factor	**Criterion**			**Overall weighted rating**
	A 0.40	**B 0.25**	**C 0.25**	
Benefits				
Influence on the development of tourist destination and development of tourist offer	10	10	8	*8.5*
Integration into the Regional Development Strategy of the Republic of Croatia for the period up to the end of 2020	10	10	10	*9.0*
Impact on economic development of the Republic of Croatia	8	8	6	*6.7*
Social standard of local population	8	8	5	*6.45*
Total non-measurable benefits				***30.65***
Costs				
Creating larger quantities of garbage and waste	5	8	0	*4.0*
Noise	5	7	0	*3.75*
Total non-measurable Costs				***7.75***
DIFFERENCES OF SOCIAL BENEFITS AND COSTS				***22.90***

Source: authors' calculations

7. Conclusion

Sport is of a great social interest due to its role in maintaining the health and psychophysical abilities of citizens. The impact of sports on the economic activities' development of the host country of major sports event is certain. It can be concluded that sport has long since ceased to be just a game or athletes' competition and has become one of the significant economic drivers of host cities and countries. At the same time, the organization of major sports events provides the opportunity to promote the country and the host city to the world. Also, in this regard it provides the positioning of the country and the city as a tourist destination as well as the creation of conditions for starting economic activities (stimulation of foreign trade and increase of foreign investments). The hosting of major sports event is of great benefit to every country or city which organizes it if it is planned realistically and within the framework of possibilities.

The Osijek-Baranja County and the City of Osijek have significant natural and socio-economic potentials for the development of various forms of tourism, as well as the economy as a whole. The organization of the major sports event, namely the DOBRO Gymnastics World Cup Osijek as the stage of the World Gymnastics Challenge Cup, surely contributes to these potentials.

The investments in sports projects bring numerous social and economic benefits, such as increase of employment, services consumption and spending, hotel services and overnight stays, promotion of the destination, extension of the tourist season, etc. If a sports event uses the existing sports infrastructure, as in the example from this paper, the acquired benefits are more valuated, and the return period of the investment is shorter. Namely, construction of sports infrastructure regularly requires large investments. The security requirements for sports events are becoming more demanding. The legal system imposes upon the state administrative bodies, as well as on regional and local public units, the obligation to build sports structures. In this way, the legal framework significantly influences the development of sports. By building sport facilities, the basic prerequisite for organizing various sports events is fulfilled. Many regional and local units have already issued their own normative frames for the construction and maintenance of sports facilities. As a result, infrastructure is created to organize major sports events whose performance affect the economic activities of the city and the region where they are held.

The undertaken qualitative economic analysis that included financially non-measurable economic and social effects, along with financially measurable economic effects, proves the economic viability of the DOBRO Gymnastics World Cup Osijek 2018. Furthermore, this paper shows that the media exposure associated with the organization of a large sports event provides the ability to position the city and the host country as a tourist destination.

The innovative entrepreneurial activities in sport include all activities that use sport as a motive or means for achieving measurable benefits. Such activities should be encouraged by involving entrepreneurs in the organization of sports events as well as by including various accompanying events along with the main sports event.

The period for undertaking the economic analysis provided in this paper was only one year and this has been recognised by the authors of this paper as its limitation. It would be useful to analyse the economic validation of the DOBRO Gymnastics World Cup Osijek over a longer period of time, but also to conduct an economic analysis of others sports events in the City of Osijek and Osijek-Baranja County. Doing it would make it possible to measure the overall impact of sport on the economy of this region. This is also a recommendation for further research.

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THE INFLUENCE OF URBAN COMPONENTS ON CITY GROWTH

ABSTRACT

There are numerous influences on city growth as well as factors that affect urban erosion and smaller or larger migrations from cities to other major national centers or urban areas in the region and beyond. This paper analyzes basic components, which influence the city growth and the way their trend could affect the psychology of population about the future perception of events and lives in a particular urban environment. Eastern Croatia faces great migration challenges and the ageing of local population. The theoretical and empirical challenge of this paper, which needs to give an overview of the situation and point out certain problems but also to provide certain possible solutions, is to feature the economic revitalization in a certain extend and to amortize the mentioned trends. In this paper, secondary data with a primary character will be used. Considering the nature of the research, the survey method will be used to show the research problem more realistically as well as trends arising from the research problem. Aware that there is no uniform solution, an analysis of the current situation and recommendations for future actions are given.

Key words: *urban economy, growth, city, management*

1. Introduction

The today's society is called the "Knowledge Society". It has been built for years, and with the emergence of the society, we know today we witness the development of living environments people live in. People moved from villages to cities and started new lives. Cities have become extremely attractive places to live in because they meet offers and requests as well as opportunities for personal development. With the development of cities urban management has developed. The new urban management can be seen as one of the instruments of a city by which a pleasant living environment is made as well as personal development of its inhabitants enabled.
In order to analyze each component, a hypothesis has been set:
H1: The development of urban environment is directly dependent on key urban components.
The goal of urban management is to create new places, attract investments, to improve the quality of life of citizens and so on. In order to achieve the above-mentioned goals, quality and close cooperation between local authorities, entrepreneurs and the public sector is needed. By managing the key components, it is necessary to establish and enable sustainable development and further prosperity of the city itself. By implementing the urban management, cities can improve its infrastructure, increase domestic and foreign investments and generally improve the lives of its citizens – they can establish sustainable development.

2. Literature review

In order to understand the importance of the city and the necessity of a continuous development of cities for the development of a society, the term city will be defined, and characteristics of the city will be explained through a review of relevant literature on urban economics and urban management.

According to Šimunović (2007), "the city is an essential phenomenon in urban economy. It is a place of big and different concentration of people and goods. There are strong market forces in the city that affect its development, and many spatial-economic laws." In other words, cities are smaller areas in which a large number of people lives and works. Considering the concentration of people and goods, it is considered that cities are places where strong market forces operate, which are ultimately drivers of the preservation and development of the cities themselves. Cities, due to their infrastructure and the concentration of people they gather on a daily basis, make a kind of self-sustaining mechanism. Therefore, citizens and the local administration work continuously on the development of various interesting contents that attract both domestic and foreign visitors and investors**.** The development of different contents in cities improves the lives of its people that lead to the development of a society.

"Cities represent a great concentration of consumers, workers and companies that are networked with formal and informal institutions and have the potential to ensure positive social benefits and increase incomes." (Lamza-Maronić, Glavaš and Mavrin, 2015: 55)

Personal development of people greatly influences the development of cities. By getting new knowledge and using personal skills, people influence the development of cities because they develop new technologies and modes of work, and thus contribute to the development of the society and cities.

„The city is a territorial, relatively independent, very functional community established by long-lasting social processes in a certain space in order to meet certain needs through which a person, according to limitations of the sight, experiences the entire society" (Bjelajac and Vrdoljak, 2009: 04, according to Bjelajac, 1992: 19). Unlike rural areas, cities provide more opportunities for people for professional and personal development. Cities are places with great concentration of people sharing continuously-during 24 hours different knowledge and skills. Thus, all involved in the exchange processes are progressing and gaining some benefit.

"The city provides many opportunities. People pervade knowledge, share ideas and develop new products and production techniques. The city is a kind of social and spatial structure in which the accumulation and synergy of social and economic institutions provide power for creativity and innovation. "(Šimunović, 2007: 18, according to Feldman, 1994) Of course, urban life differs greatly from rural life. Moreover, while life in the village is somewhat more peaceful and relaxed in the city an accelerated pace of life is visible. "A city makes a social community in a region that represents a central settlement of a socially heterogeneous concentration of people, resources and social relations as well as productive, political and cultural institutions based on it. This creates a specific way of life that is different from the rural one that creates, because of the social differentiation of living conditions, subcultural units "(Bjelajac and Vrdoljak, 2009: 04, according to Bjelajac, 1992: 21).

Throughout centuries, cities developed in different areas and speeds. In fact, the areas in which they developed and the speed of development make every city special. Each city is a special individual. Cities differ by their particularities, people, sights and customs that they have and care for.

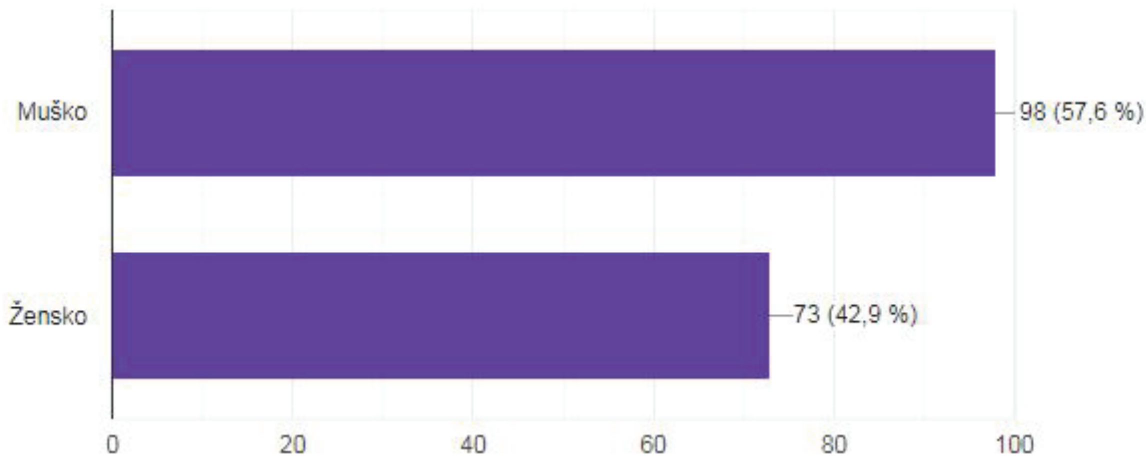
"The development of cities rests on a different economic structure. Some cities base their development on only one strong productive activity, the other on a mixed economic structure, and others only on service activities, etc. Every city makes its case almost in nuances. "(Simunovic, 2007: 36)

Even though rural areas are places in which numerous cash and non-exchange exchanges of goods and services take place, cities are not far behind. Moreover, it can be said that nowadays more exchanges occur in cities than in the villages.
"The city is a place of gathering of buyers and sellers or the center of production and exchange of many goods and services, as exchange and production are much more successful in places of higher density of people and goods. Industry contributed most to the rapid growth of cities and attraction of rural population. Cities are places of high and different consumption of goods and services. Consumption in cities is growing not only from the point of view of necessity, but also from the point of view of diversity and usability. "(Šimunović, 2007: 18)
Given that there is a greater concentration of people in cities and that something is happening continuously, it is not surprising that cities and its residents, compared with rural areas, are bigger consumers and develop faster than rural areas. What are the components that directly affect the growth and development of cities, the sustainable development of cities and other factors were analyzed in the research presented in this paper.

3. Empirical research - urban components and city development

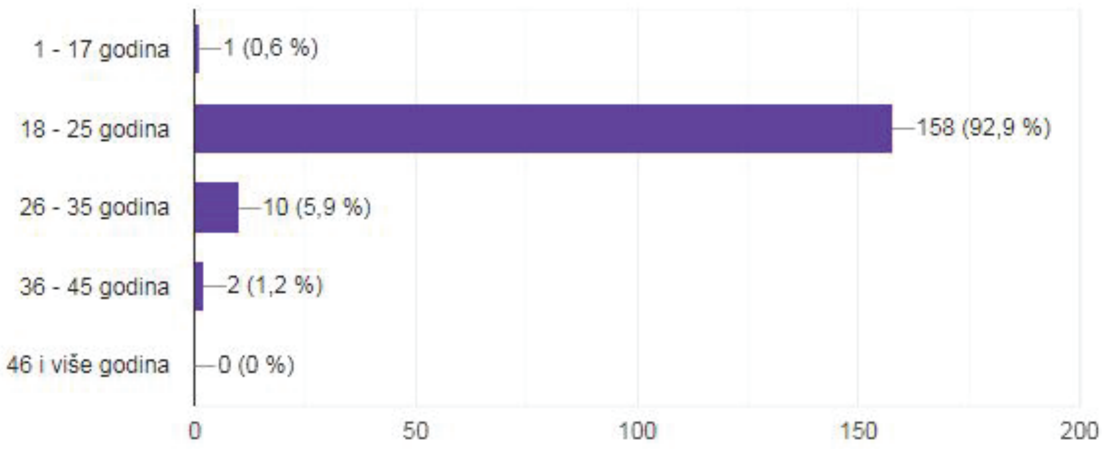
Based on theoretical settings and previous researches a questionnaire was created. The survey method examined the perception of students in the third year of studies at the Faculty of Economics in Osijek and students in the third year of studies at the Faculty of Electrical Engineering, Computing and Information Technologies Osijek on crucial components of urban development of the city. The survey was conducted through a closed group on the social network Facebook and through Loomen's remote learning system from February 2 - February 28, 2019. 171 students answered the questionnaire. Most of the students are domiciled from the city of Osijek while a minority of students (14%) come from outside the Osijek – Baranja County. The Likert scale (from 1 to 5, where: 1 = I completely disagree; 5 = I completely agree) was used as a scale.
Data on the sex and the age of the respondents were segregated by the analyses of demographic data.
Demographically, 57.6% of males and 42.9% of females answered the survey.

Graph 1: *Demography - Gender*



According to the age, it was logical to expect that the majority of respondents were between 18 and 25 years old. Still, 7.7 respondents differ from the given rank.

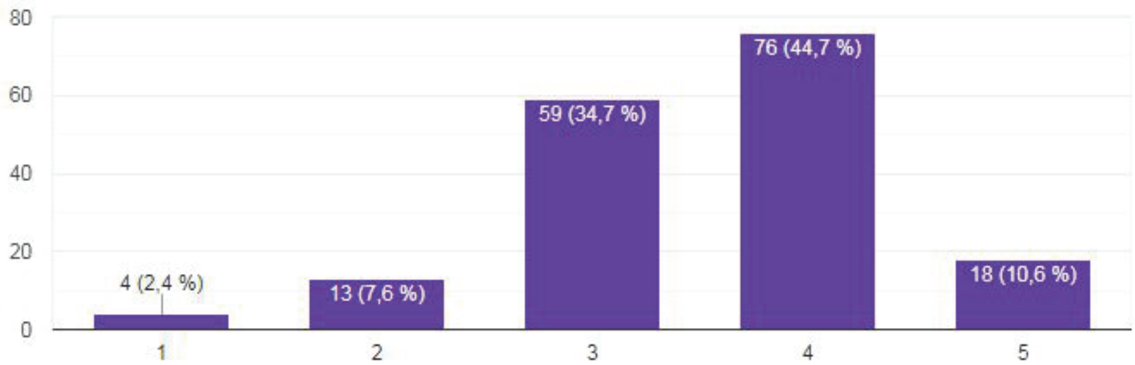
__Graph 2:__ Demography - Age



3.1. Satisfaction with the urban environment

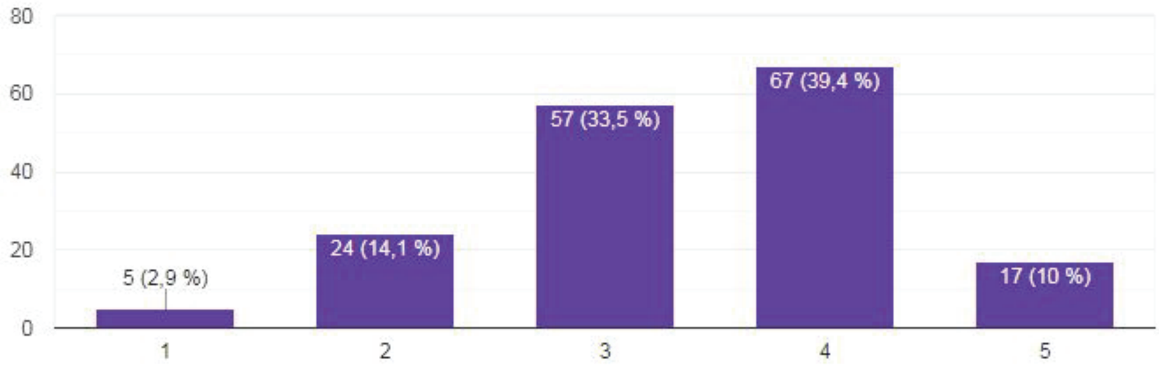
In recent decades, a number of projects and programs have been launched in the world to improve living conditions in cities. Such researches are indicators of the desire to measure, understand and value the quality of life in the city. Their main objective is to systematically measure and evaluate trends in the urban space through a series of specific indicators relevant for everyday quality of life of people. As students make, according to estimates, 1/4 of the inhabitants of Osijek, it is important to examine the perception of this category of citizens about the satisfaction with the urban environment in which they study and the environment which they come from.

__Graphic 3:__ Assess your overall satisfaction with the city / municipality / place you live in



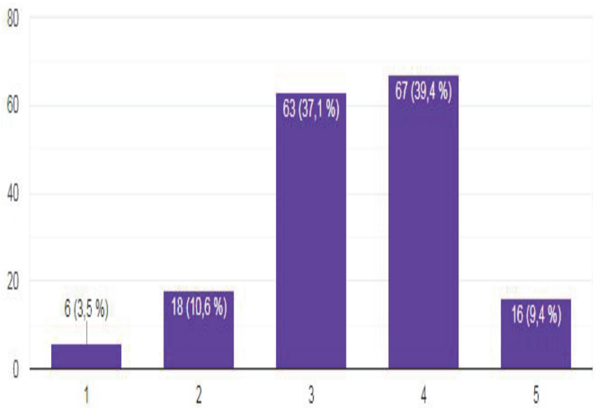
An average rating of the place they lived in was given by 34.7% of respondents while an above average satisfaction was cumulatively expressed by 55.3% of the respondents. A similar situation can also be seen when questioning the satisfaction of urban development components, in this case public transport. The respondents have chosen a similar percentage for the optimal satisfaction of the same.

Graphic 4: *Satisfaction with public / urban transport*

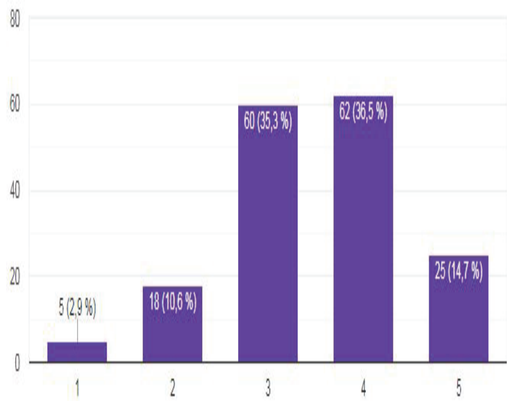


The quality of the health care service and the satisfaction with the sporting goods have been above the average rating. About 50% of the respondents agree that these components are at a satisfying or very satisfactory level, while about 37% of respondents think that the components are at an average level (so there is still room for bigger additional improvements).

Graphic 5: *Quality of Health Care Services*

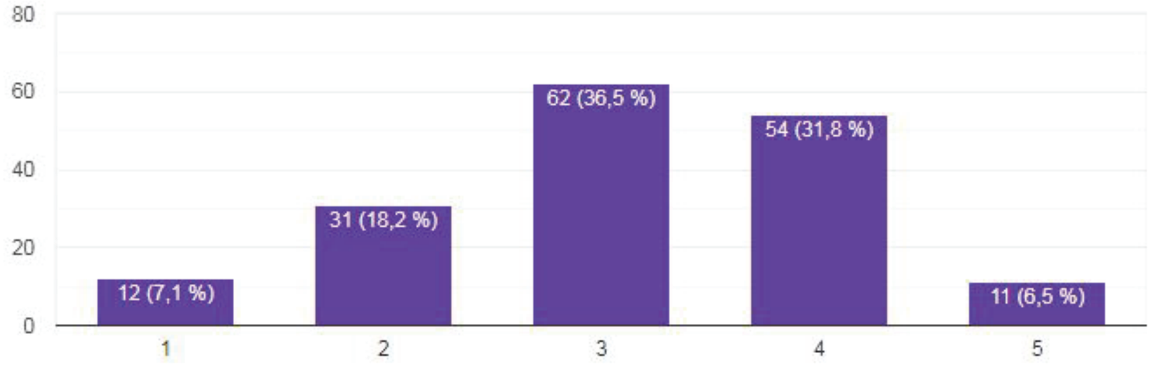


Graphic 6: *Satisfaction with sports facilities and the general state of the sport in the city / municipality / town*



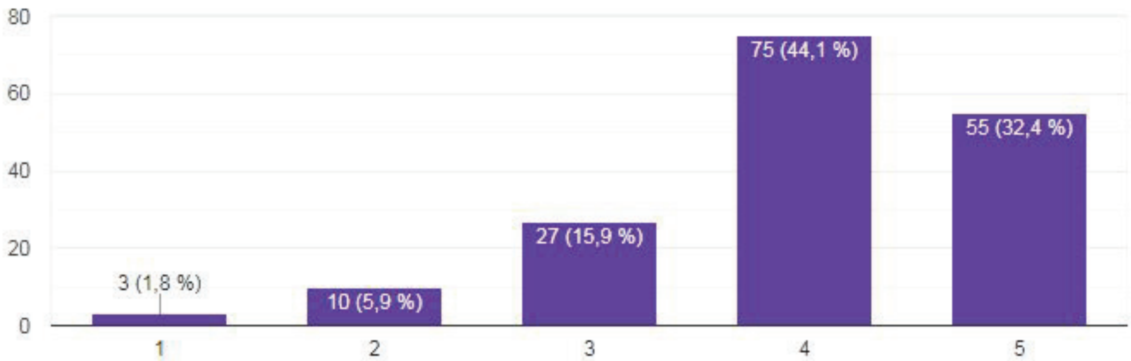
The component of cultural contents and events are crucial to the social and economic life of the urban environment today and its development. In theory and practice, it can also be seen in the selection process for the European Capital of Culture in the European context. Its importance can be read from the respondents' opinion that the situation is average or even more, that an improvement in the area of culture and the organization of the events is needed.

Graph 7: *Satisfaction with cultural content and events (events)*



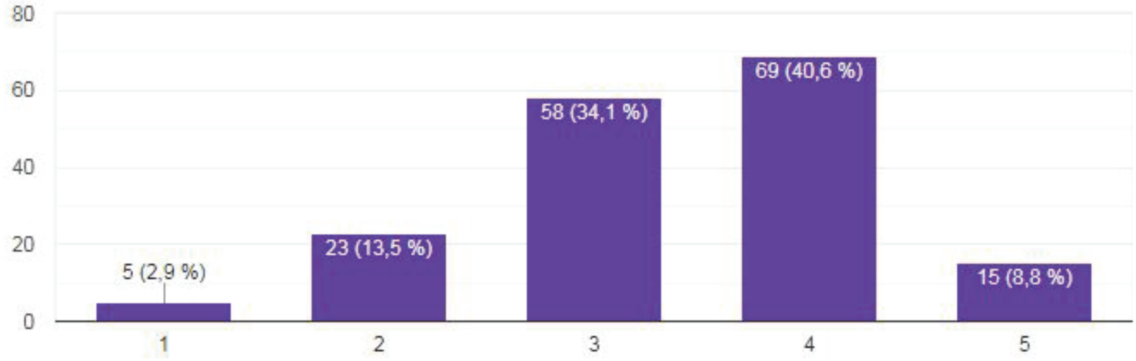
Urban environments themselves provide certain benefits regarding the stability of educational institutions. The answers to the question of accessibility and the state of educational content show that the respondents expressed a level of satisfaction that was above or above the average with the urban component.

Graph 8: *Status and availability of schools and educational contents*



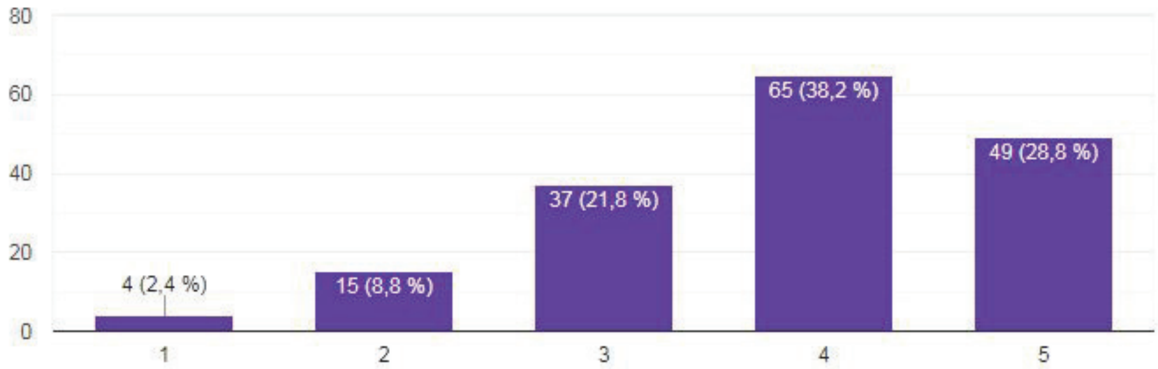
A city or a particular urban environment is crucial to the development of certain economic and non-economic activities, but also because of the enjoyment of living in a particular environment. Only less than 10% of respondents are fully satisfied with streets and city looks while 1/3 of respondents report their average rating, and 40.6% of respondents think the condition is very good.

Graphic View 9: *General layout of streets and buildings*



Even 67% of respondents believe that shopping centers, squares and pedestrian zones are the keys for urban development, which is also recognized by the respondents in their environment.

Graphic 10: *Availability of spaces such as shopping malls, squares and pedestrian zones*

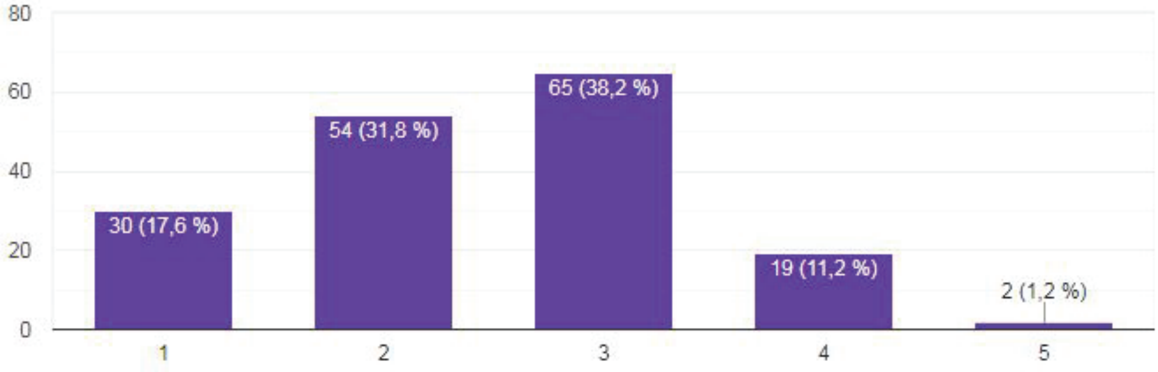


3.2. Specificity of the urban environment

Certain specificities of each urban environment play a major role in its development.and have an exclusive influence of a particular component studied in this paper and through the conducted research.

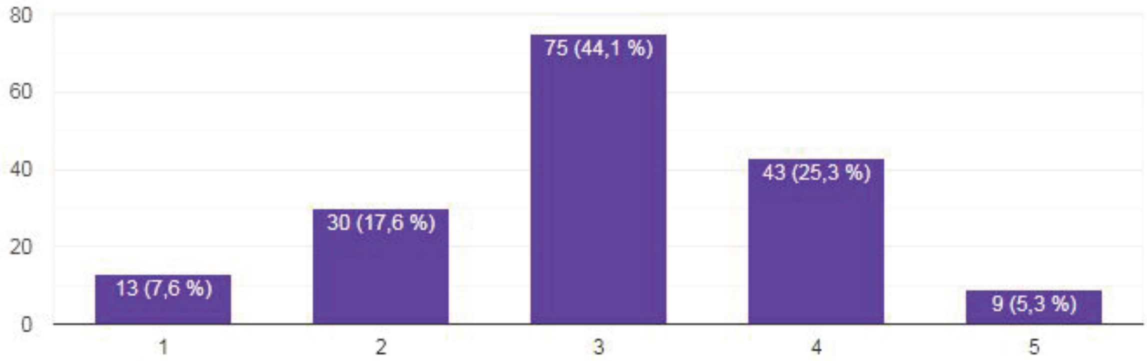
The answer to the maybe most important question nowadays about getting a job in the environment you study or you come from was from most of the respondents answered as being a crucial problem. Getting a job is very hard and collides with the opinion and general situation in eastern Croatia. This component represents the main obstacle for urban and economic growth, meanwhile it is the beginning of urban erosion.

__Graphic View 11:__ A job is found in the city without bigger problem



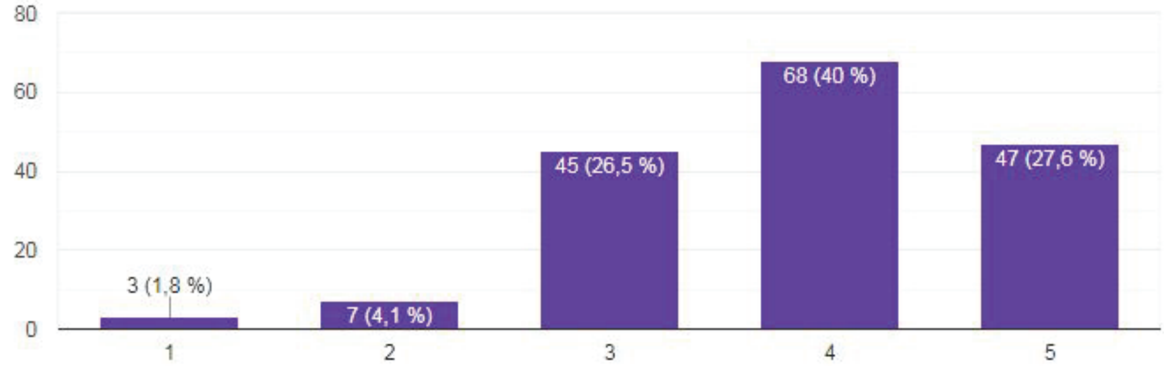
As for housing, respondents are undecided and almost 45% of respondents have an average opinion on this claim while one third of respondents are dissatisfied, and again a third of respondents are satisfied with the price of housing. It is a very significant data because it is about the part of the population that mostly requires "temporary housing".

__Graphic 12:__ It is possible to find a living space at a reasonable rental price



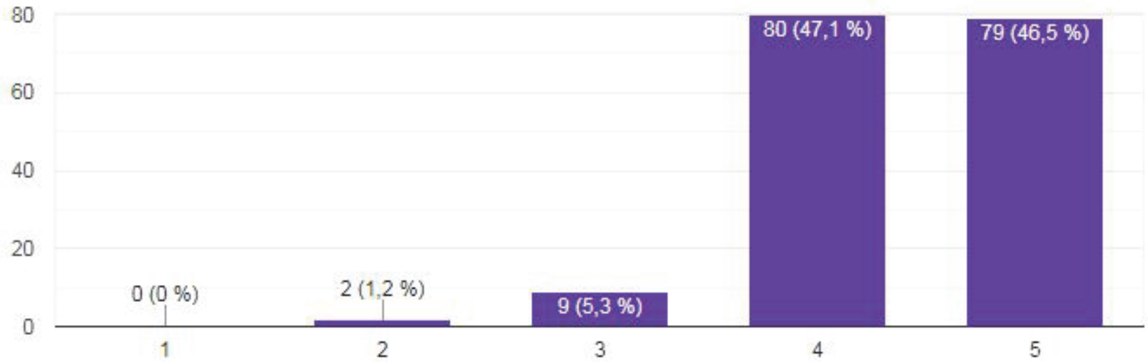
The fact that Osijek and a smaller number of other cities and municipalities that the respondents (students) come from represent multicultural and European cities with a rich history was shown by the given answers. The respondents feel that foreigners and national minorities are welcomed in the environment they live in.

Graphic 13: *Foreigners and minorities are welcomed to the city / municipality / place*



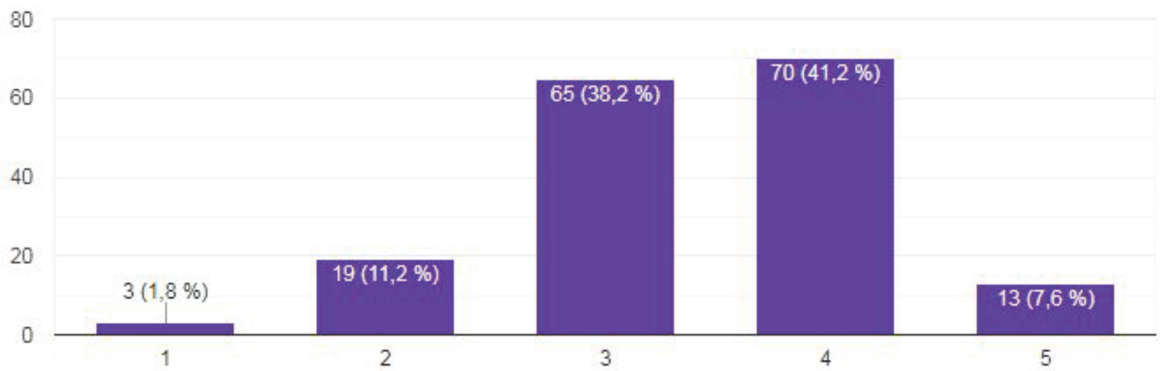
Security is one of the most important living conditions in a given space and it has become the privilege of individual states and cities. Even 93.6% of respondents believe that their living environment is very safe or safe for living. This research confirms that living safety in a given environment is one of the key components for urban growth and sustainable development.

Graphic view 14: *City / municipality / place is safe for housing / life*



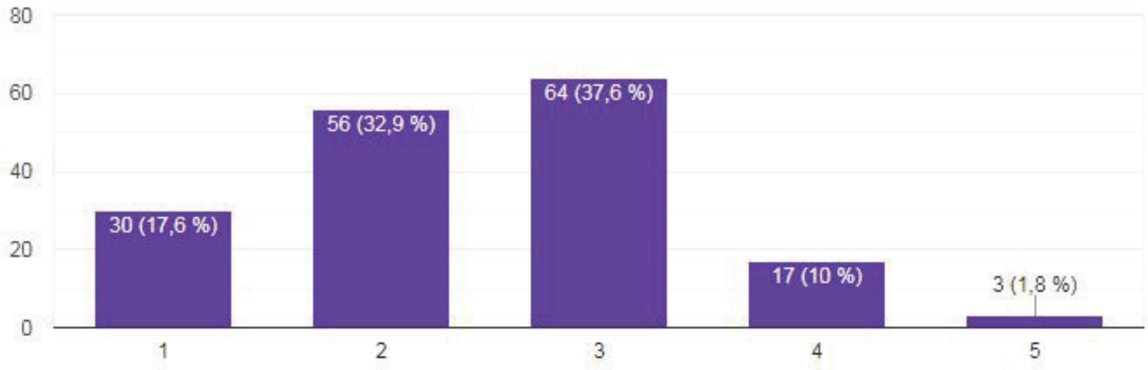
When asked about confidence in fellow citizens, 48.8% of respondents believe that the level is high or very high, which is a very good indicator and collides with the opinion about the safety of living in the city and coexistence with foreigners and minorities.

Graphic 15: *Confidence in fellow citizens is high*



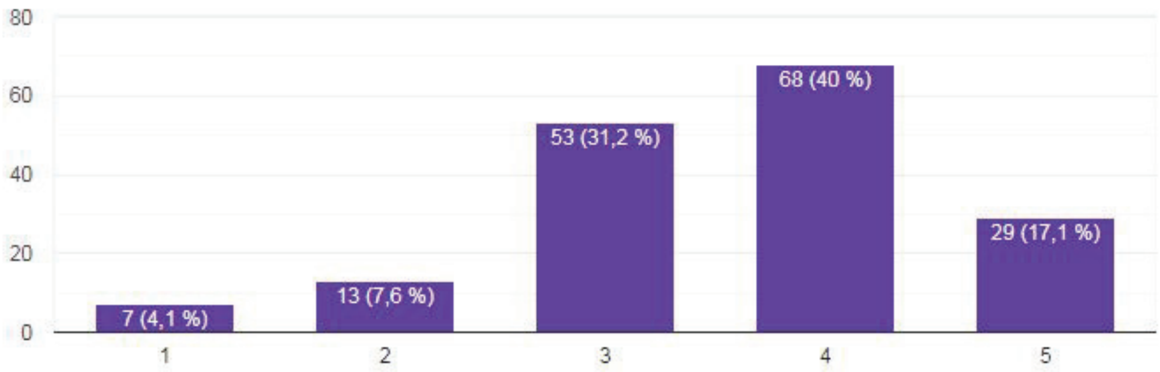
Regardless of the all the above analyzed and outlined, it is apparent from the research that as many as 88.1% of respondents have no confidence in the city / municipal authority and that it is at a low or very low level. The current situation in the country and region as well as the trend of emigration from Eastern Croatia and the uncertainty about future employment and future have certainly a great impact on the respondents' responses.

Graphic view 16: *Confidence in city power is at a high level*



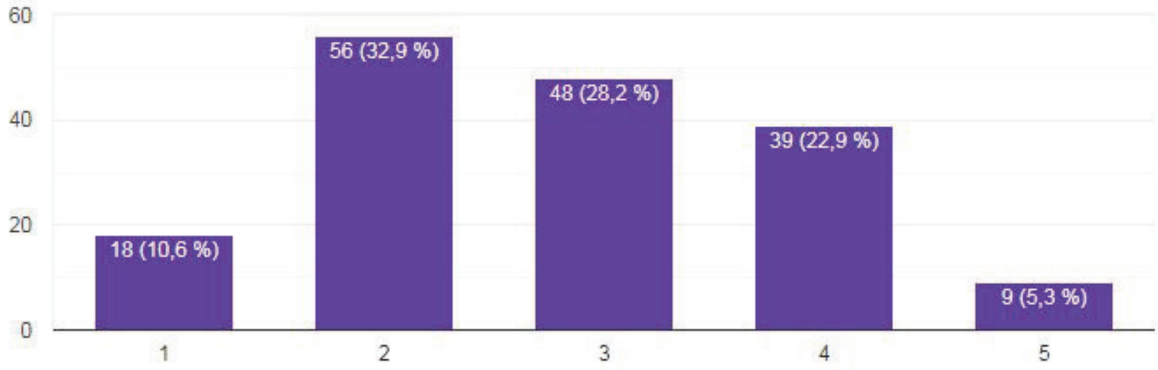
Opposite of certain economic and political impacts, one of the key components for urban development is the quality and purity of air in a certain environment. According to the study, 88.3% of the population perceives their environment as the medium in which air quality is high or relatively high.

Graphic illustration 17: *The quality of air in the city is high*



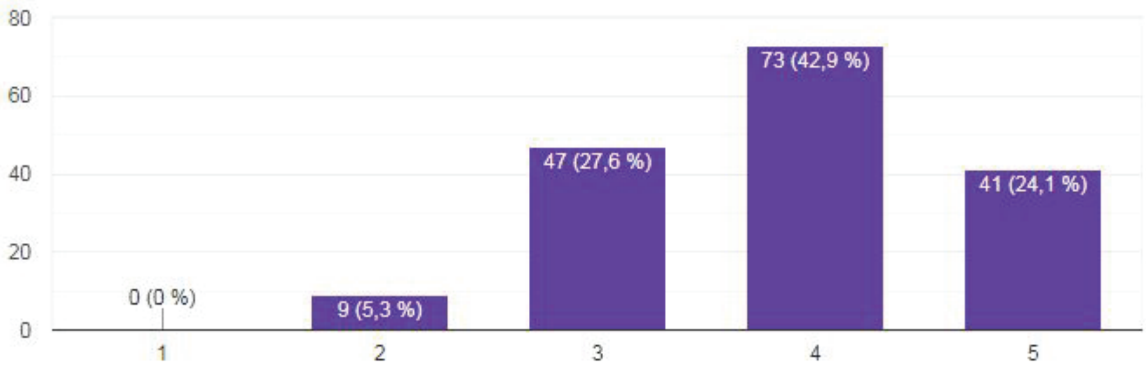
When it comes to the purity of the city, the respondents mostly agree on the fact that their environment is mostly pure or pure, while a third of the respondents are not entirely sure about their estimation.

Graphic representation 18: *The purity of the city / municipality / place is at a low level*



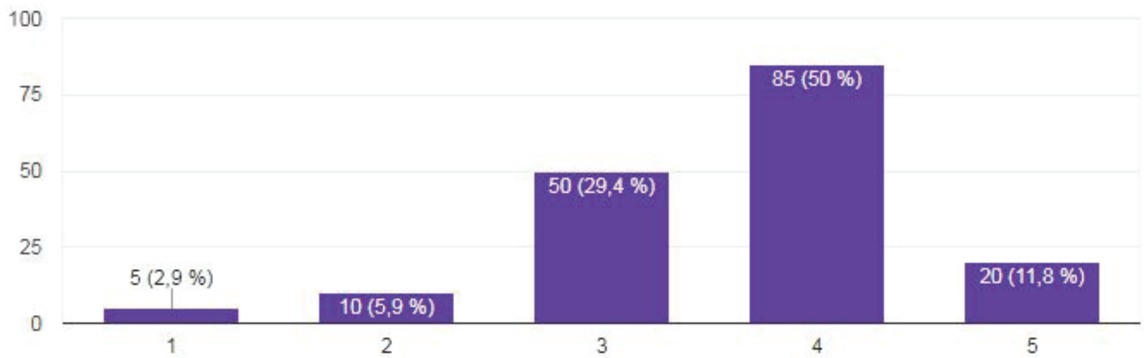
Almost all respondents consider the availability and persistence of green areas at a high or very high level. The fact that the city of Osijek was in the past one of the greenest cities in the region and retained its distinctiveness in a larger segment contributed to that fact.

Graphic 19: *Availability and durability of green areas is high*



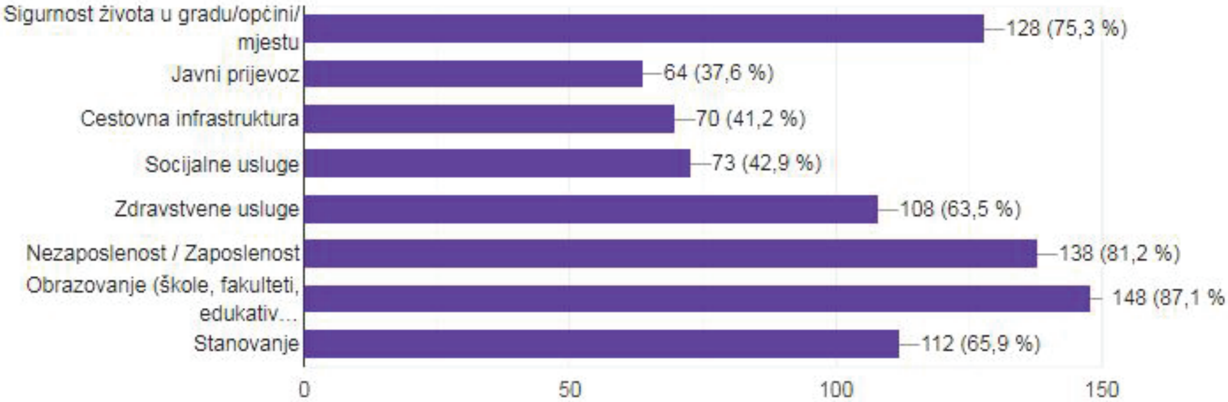
By analyzing urban components, key causes of the existing situation are visible as well as possible opportunities for further development of the urban environment and sustainable development. Based on the results analysis, 61.8% of respondents are satisfied or very satisfied with their lives in their environment.

Graphic 20: *General satisfaction of life in the city / municipality / place*



Finally, the relevance of certain key components and their impact on the quality and development of the urban environment are examined.

Graphic 21: *The most important components (in your opinion) that affect the quality and development of the urban environment (more responses possible)*



Based on the analysis, it can be concluded that life safety in the city (128 respondents), unemployment / employment (138 employees) and education - schools, faculties, educational centers (148 respondents) were identified as key components for further urban development. Housing and health services are components of secondary character but also very important for urban development as well as public transport, road infrastructure and social services. Components such as job opportunities and pleasant living attracted people to the city or to another urban environment, even today. According to the research carried out it is evident that the correction of certain components of urban development will appear when the whole situation stabilizes and the forces and the law of the external economies began to act which would surely influence an economic and social growth of the city.

4. Conclusion

The role of cities in global processes is unavoidable, and all changes in lifestyles and behaviors in relation to natural and human resources have to start from cities. Without changing the concept of urban development, it is impossible to achieve sustainable development of cities. There is a need to focus on addressing social issues, reducing energy consumption and exhaust gases and moving to a carbon-neutral economy (Ministry of Regional Development and EU Funds, 2015).

The development of urban environment is based on connected development systems of a society but also on activated inhabitants in the creation of "healthy" settlements, thereby ensuring the human worthy quality of life. That is why the goal of modern European politics is to recognize and realize levels of activities that create conditions for better health of the population.

According to the Sustainable Development Program by the end of 2030 that was adopted by the UN General Assembly, the goal is to provide everyone with access to adequate, safe and cheap accommodation and basic services. Furthermore, it is necessary to provide an affordable and sustainable transport system by improving public transport and addressing the needs of vulnerable groups, women, children, people with disabilities and the elderly.

The opinion of the respondents in this survey went in the same direction- components of life security, employment and education is crucial for the development of urban environment. Key components are also residential and health care facilities.
The theoretical approach and research in this paper has proved the hypothesis set in the paper:
H1: The development of urban environment is directly dependent on key urban components.
The mentioned components were analyzed in the paper and represent a precondition for the survival of the urban environment. The increase of individual components efficiency leads to urban prosperity, to the increase of activities in the city, reduction of unemployment, increase of revenues and affects other components. Their functioning results in urban growth and sustainable development of the city.

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THE ROLE OF ENTREPRENEURIAL ZONES IN ECONOMIC DEVELOPMENT OF EASTERN CROATIA

ABSTRACT

The purpose of this paper is to investigate the role of entrepreneurial zones in improving the economy of eastern Croatia. Despite many potentials, economic indicators show eastern Croatia as one of the least developed regions in Croatia (economic indicators, demography, etc.). During the last few years, entrepreneurial zones have been intensively developed in Croatia as the main indicator of economic development. Today's entrepreneurial zones include manufacturing facilities, entrepreneurial incubators, distribution centers, etc. The goal of this paper is to conduct a comparative analysis of entrepreneurial zones in Osijek-Baranja County and to determine their effectiveness. This analysis shows two entrepreneurial zones: Zone Nemetin (Osijek) and Zone Antunovac (near Osijek) as positive examples of economic development. This kind of analysis includes an overview of individual companies which are situated in mentioned zones and the role of local authorities in their advancement. This paper uses a desk research methodology in order to process secondary data sources, SWOT analysis, method of analysis and synthesis, comparative methodology, as well as case analysis.

Key words: *Eastern Croatia, Osijek, Antunovac, entrepreneurial zones, economic development of eastern Croatia*

1. Introduction

The purpose of this paper is exploring the role of entrepreneurial zones in the economic development of Eastern Croatia. Based on a conducted analysis of the state of economic development in Eastern Croatia, the aim of this paper is to explore how the economy can be driven by entrepreneurial zones. Statistical data (economy, demography, fiscal policy ...) clearly show that Eastern Croatia is among the least developed regions of Croatia, despite the many unused potential for economic development. Given that in the past 20 years most of the former successful companies have been in bankruptcy, Eastern Croatia is turning to new economic ventures with the goal of economic and social development. This paper presents the economic role of entrepreneurship in economic development. A comparative analysis of two entrepreneurial zones in the Osijek-Baranja County was carried out: the industrial zone Nemetin in Osijek and the economic zone of Antunovac in the vicinity of Osijek. These are successful examples of entrepreneurship that may be indicative of other cities in the area of Eastern Croatia.

2. Entrepreneurship in developing entrepreneurial zones

According to Grgić et al. (2010) entrepreneurship is an important driver of the economic growth of the economic sectors, industries and the whole economy. Although entrepreneurial activities differ from country to country, their role in shaping the economic environment is unquestionable. From a macroeconomic point of view, entrepreneurship affects the level of employment, technological progress of the country and, in general, encouraging the development of the country knowledge. From a microeconomic point of view, entrepreneurial activity means opening up new businesses, creating new products or services, discovering market niches.[1]

Numerous economists such as Drucker P. (1992), Getz D., Carlsen J. (2005), Getz D, Petersen T. (2005), Lordkipandize M., Brezet H ., Backman M. (2005), Baletić Z. (1990), Gorupić D., Gorupić D. Jr. (1992), Vujić V. (2010), Fig. N. (2001), Kolaković M. (2006.), Bačac (2011) and many others have written about entrepreneurship as a fundamental factor of economic development. Most authors emphasize the role of entrepreneurship in development, especially small and medium-sized enterprises in various sectors of economic activity.

In microeconomics entrepreneurship can be explained through the process of investing resources into a specific business activity with the aim of achieving certain economic effects.[2] Thus, it represents the economic activity of an individual or multiple partners who, with a certain capital investment and risk taking, enter into a business venture with the purpose of generating profits. Three forms of entrepreneurship can be distinguished: traditional, corporate and social entrepreneurship. Traditional entrepreneurship refers to micro, small and medium-sized enterprises (SMEs) that, by implementing innovative methods and taking risks, carry out activities that lead to making profit. Their significance is evident in the fact that they make up 99.7% of the Croatian economy and employ nearly three quarters of all employees in business entities in Croatia in 2017 (CEPOR: Small and Medium Sized Enterprises in Croatia - 2018). According to the GEM[3] survey measuring the entrepreneurial activity of the TEA index[4] in Croatia in 2017, which represents a significant progress in the last 7 years, although it is

[1] Grgić M., Bilas F., Franc S. (2010) „Poduzetništvo u međunarodnoj ekonomiji“, Sinergija, Zagreb

[2] Bartoluci, M., Škorić, S. (2009.) „Menadžment u sportu“, Kineziološki fakultet Zagreb, str. 155

[3] GEM – Global Entrepreneurship Monitor, dostupno na: https://www.gemconsortium.org/ (10.03.2019.)

[4] TEA (Total Early Entrepreneurial Activity), dostupno na: https://tcdata360.worldbank.org/indicators/aps.ea.total (10.03.2019.

accompanied by the EU average (8.3%), it is significantly behind the average of countries whose economies are based on efficiency, whose group it belongs from all countries included in GEM research (18.5% in 2017). There is no entrepreneurial development without innovativeness and research and development, and according to GII - Global Innovation Index in 2017, Croatia took 41st place out of a total of 127 countries where the level of innovation of the economy was measured. The level of innovation is determined by five components that enable innovative activities: institutions, human capital and research, infrastructure, market and business sophistication, while two components that determine the actual level of innovation are knowledge and technology, and creative results. Although this result represents progress from 2016 for 6 places, Italy is ranked 29th, Slovenia 32nd and Hungary 39th from the neighboring countries. Montenegro on 48, Macedonia on 61, Serbia on 62, and Bosnia and Herzegovina on 86th place take place after Croatia.

The GEM survey also monitors regional differences in the activities of starting a business venture. In 2017, a significant growth of entrepreneurial activity measured by the TEA index in the region of Dalmatia was recorded, from 7.7% in 2016 to 11.2% in 2017, which is also the highest index value among all Croatian regions in 2017. Following are the regions of Istria, Primorje and Gorski Kotar, and the region of Zagreb and the surrounding region, which had a lower index than in 2016. The Northern Croatia region marked a slight increase in entrepreneurial activity, measured by the TEA index, while in the Lika and Banovina regions as well as Slavonia and Baranja the lowest level of TEA index was measured, which will be further detailed below. Entrepreneurship is the economic activity of an individual or multiple partners that, with a certain capital investment and risk taking, with uncertainty, enters a business venture with the aim of generating profits. It is a way of economic activity in which an entrepreneur decides what, how, and whom to produce for, and placing on the market by entering into an entrepreneurial venture at his own expense and risk in order to gain profits.

Entrepreneurship is the foundation of a better society development and implies equally social and private entrepreneurship. Entrepreneurship requires knowledge, research, skills, courage and networking.

The basis of entrepreneurship is in constant search for new ideas, imagination in finding new business opportunities, trusted intuition and assessment.

Social entrepreneurship, unlike private entrepreneurship, does not aim to increase profits, but to create social values, including helping those groups in a society that are at risk of social exclusion.[5] Schools, hospitals, the Internet, lighting, roads, bridges, are the result of social entrepreneurship. The values of social entrepreneurship differ from the values that with brought with the neoliberal period of the economy. Entrepreneurial activities of social economy are based on solidarity, trust, and social justice and are key to this type of activity.

2.1. Entrepreneurial zones

According to the Law on the Promotion of Entrepreneurial Infrastructure, entrepreneurial infrastructure is the totality of all spatially specific forms of various entrepreneurial activities arising as a result of the thoughtful and organized spatial development concept of local and regional self-government units, i.e. the Republic of Croatia. Entrepreneurial infrastructure consists of entrepreneurial zones and entrepreneurial support institutions, and their activity should be in the function of balanced regional development of the Republic of Croatia, better entrepreneurial growth and increase of investment and employment within the area where entrepreneurial infrastructure is planned or built. Among the entrepreneurial support institutions are development agencies, entrepreneurial centers, business incubators, science and technology

[5] Škrtić, M. (2008.) Osnove poduzetništva i menadžmenta, Veleučilište u Karlovcu, page 16-17

parks, competence centers and free zones. The Law on the Promotion of Entrepreneurial Infrastructure also stipulated the establishment of the Single Business Register of Entrepreneurial Infrastructure (JRPI) - an integrated electronic database of Entrepreneurship Infrastructure Entities. In October 2018 380 Entrepreneurship Infrastructure Entities in Croatia were registered in the Registry, beneficiaries of grants, incentives, grants or privileges granted by the relevant ministry (Ministry of Economy, Entrepreneurship and Crafts) or other state administration bodies. The registry is run by the relevant ministry. (Report on Small and Medium-Sized Enterprises in Croatia - 2018).
In accordance with the Law on the Promotion of Entrepreneurial Infrastructure, entrepreneurial zones are infrastructurally equipped areas that are defined and defined by spatial plans, and are intended for performing certain types of entrepreneurial, economic activities. Their basic common feature is the use of existing infrastructure and space for all entrepreneurs, who seek to use the available resources of the zone, thereby rationalizing the costs of doing business. Entrepreneurial zones are mainly built at the local level in order to encourage the development of small and medium-sized enterprises and solve the problem of business premises of entrepreneurs. Business zones often offer certain benefits that can be expressed through more favorable annuities or rental fees, deferred payments, tax policy benefits, easier access to venture capital, organized marketing appearances, export assistance, and more.[6] In 2018 207 entrepreneurial zones were recorded.
Founders and managers of entrepreneurial zones according to the Law on the Promotion of Entrepreneurial Infrastructure are individual legal entities or consortium composed of the following legal entities:
• The Republic of Croatia alone or in cooperation with the units and bodies of local and regional self-government or other legal entities,
• units and bodies of local and regional self-government,
• higher education institutions, scientific institutes and scientific organizations,
• other legal entities based in the Republic of Croatia that are registered for activities that promote the development of entrepreneurial infrastructure and / or which are engaged in and / or promote research, innovation and technological development in the business sector.[7]
Entrepreneurial zones are classified according to three different criteria, and within the size of the area, type of activity and intensity of activation of the entrepreneurial zone. From this it can be concluded that there are several different types of entrepreneurial zones in Croatia with regard to certain conditions. According to the data of the Ministry of Economy, Entrepreneurship and Crafts 220 entrepreneurial zones are registered within the single register of entrepreneurial infrastructure. Their growth trend is on everyday basis, and in the coming period their further growth is expected.

2.2. Entrepreneurial zones in Eastern Croatia

Starting from the purpose of this paper, the analysis of entrepreneurial zones was carried out in Eastern Croatia, which consists of five counties. The counties included in this research are: Virovitičko-Podravska, Požeško-slavonska, Brodsko-posavska, Osiječko-baranjska, Vukovarsko-srijemska.
The reason for the selection of these counties in the research stems from the fact that economic development and the development of small and medium-sized enterprises are at the minimum

[6] Petković D., Serdarević N., Bejić J., Vodič za poduzetništvo – Teorija i praksa, treninzi i ključni indikatori poduzetništva, Univerzitet u Zenici, Zenica, 2011.

[7] Zakon o unapređenju poduzetničke infrastrukture, Narodne novine br. 57/2018., članak 5

point at this part of the Republic of Croatia. Other counties in Croatia have a higher share in exports and a GDP per capita.

Table 1: *Overview of Entrepreneurial Zones in Eastern Croatia*

Entrepreneurial zone	Year of establishment	Founder	County	Municipality
City of Nova Gradiška	1992	City of Nova Gradiška	Brodsko-posavska	Nova Gradiška
Special economic zone Bjeliš-West	1993	City of Slavonski Brod	Brodsko-posavska	Slavonski Brod
Small business zone Kolonija	1993	City of Slavonski Brod	Brodsko-posavska	Slavonski Brod
Entrepreneurial zone Jaričište	2008	Municipality Sikirevci	Brodsko-posavska	Sikirevci
Economic zone Cernik	1993	Municipality Cernik	Brodsko-posavska	Cernik
Production-business zone	2005	Municipality Okučani	Brodsko-posavska	Okučani
Economic zone Dragalić	2004	Municipality Dragalić	Brodsko-posavska	Dragalić
Entrepreneurial zone Slavonski Šamac	2003	Municipality Slavonski Šamac	Brodsko-posavska	Slavonski Šamac
Economic zone Rižino polje	2010	Municipality Brodski Stupnik	Brodsko-posavska	Brodski Stupnik
Small business zone II Valpovo	2015	City of Valpovo	Osječko-baranjska	Valpovo
Economic zone Antunovac	2005	Municipality Antunovac	Osječko-baranjska	Antunovac
Industrial zone 'Janjevci'	2004	City of Donji Miholjac	Osječko-baranjska	Donji Miholjac
Business-residential zone Josip Juraj Strossmayer Valpovo	2015	City of Valpovo	Osječko-baranjska	Valpovo
Business zone Valpovu	2015	City of Valpovo	Osječko-baranjska	Valpovo
Industrial zone Valpovo	2010	City of Valpovo	Osječko-baranjska	Valpovo
Zone of Economic Business Purpose K – VI Valpovo	2015	City of Valpovo	Osječko-baranjska	Valpovo
Small business zone Valpovo	2015	City of Valpovo	Osječko-baranjska	Valpovo
Zone of Economic Business Purpose K-III Ljudevit Gaj street Valpovo	2015	City of Valpovo	Osječko-baranjska	Valpovo
Economic Zone for Small and Medium Entrepreneurship	1994	Municipality of Petrijevci	Osječko-baranjska	Petrijevci

Entrepreneurial zone	Year of establishment	Founder	County	Municipality
Entrepreneurial zone Tržni centar	2005	City of Belišće	Osječko-baranjska	Belišće
Business zone 'North' Bilje	2002	Municipality of Bilje	Osječko-baranjska	Bilje
Business zone Trnava	2008	Municipality of Trnava	Osječko-baranjska	Trnava
Economic zone North	2013	City of Belišće	Osječko-baranjska	Belišće
Business zone 'Kod pruge' Belišće	2013	City of Belišće	Osječko-baranjska	Belišće
Business zone South-east	2010	Municipality of Donja Motočina	Osječko-baranjska	Donja Motičina
Business zone Beli Manastir - West	1993	City of Beli Manastir	Osječko-baranjska	Beli Manastir
Entrepreneurial zone Lipik 2	2004	City of Lipik	Požeško-slavonska	Lipik
Entrepreneurial zone Lipik 3	2011	City of Lipik	Požeško-slavonska	Lipik
Entrepreneurial zone Lipik 4	2011	City of Lipik	Požeško-slavonska	Lipik
Industrial zone 'Lipovac' Čačinci	2015	Municipality of Čačinci	Virovitičko-podravska	Čačinci
Industrial zone 'Boćine' Čačinci	2008	Municipality of Čačinci	Virovitičko-podravska	Čačinci
Entrepreneurial zone Novaki 1	2015	Municipality of Sopje	Virovitičko-podravska	Sopje
Entrepreneurial zone Duga Međa	1993	Municipality of Zdenci	Virovitičko-podravska	Zdenci
Entrepreneurial zone 'Bjeljevina'	2005	Municipality of Suhopolje	Virovitičko-podravska	Suhopolje
Entrepreneurial zone Otok	2003	City of Otok	Vukovarsko-srijemska	Otok
Entrepreneurial zone Nijemci	2007	Municipality of Nijemci	Vukovarsko-srijemska	Nijemci
Economic Zone for Small and Medium Entrepreneurship 'Ambarine'	1998	Municipality of Gradište	Vukovarsko-srijemska	Gradište
Entrepreneurial zone 'Zagrađe' Cerna	2002	Municipality of Cerna	Vukovarsko-srijemska	Cerna
Entrepreneurial - industrial zone 'Jošine'	1993	City of Vinkovci	Vukovarsko-srijemska	Vinkovci
Business zone Ivankovo	2003	Municipality of Ivankovo	Vukovarsko-srijemska	Ivankovo
Entrepreneurial zone Ilok 2	2014	City of Ilok	Vukovarsko-srijemska	Ilok
Business zone Velebit	2008	Municipality of Gunja	Vukovarsko-srijemska	Gunja
Gospodarska zona u Privlaci	2007	Municipality of Privlaka	Vukovarsko-srijemska	Privlaka
Industrijska zona 'Zalužje'	1993	City of Vinkovci	Vukovarsko-srijemska	Vinkovci

Entrepreneurial zone	Year of establishment	Founder	County	Municipality
Vukovar business zone Ltd.	2007	City of Vukovar	Vukovarsko-srijemska	Vukovar
Entrepreneurial zone Tečine	2004	Municipality of Babina Greda	Vukovarsko-srijemska	Babina Greda
Business zone Krčevine	2010	Municipality of Babina Greda	Vukovarsko-srijemska	Babina Greda

Source: author's proceedings according to data from the Single Business Register of Entrepreneurial Infrastructure of the Ministry of Economy, Entrepreneurship and Crafts

In the area of Eastern Croatia, 47 entrepreneurial zones were registered in the Register, which were established in the period from 1992 to the present day. Based on the data presented in Table 1, the number of entrepreneurial zones in the Brodsko-posavska County is 9, in Osječko-baranjska 17, in Požeško-slavonska 3, in Virovitičko-podravska 5 and Vukovarsko-srijemska 13. The founders are local units and bodies and regional (regional) self-governments - cities and municipalities.

Further in the paper entrepreneurial zones in Eastern Croatia are elaborated in more detail. A comparative analysis aims to show an example of good practice in the development of the entrepreneurial zones of the selected county.

3. Comparative analysis of entrepreneurial zones in Eastern Croatia

Entrepreneurial zones have a great influence on the local and regional development of these areas, attracting foreign investors and raising efficiency and competitiveness. In order to attract entrepreneurs into entrepreneurial zones, local authorities provide entrepreneurs with various benefits. For example, entrepreneurs can achieve an exceptionally favorable price for leasing land parcels within the zone on the principle that the price of the hectare of land is reduced if the employer employs a certain number of people (more employees - the lower price of land). Of the other benefits that entrepreneurs can realize is a prominent business purpose. Thus, entrepreneurs earn a greater discount on land lease if they open a production facility, a business entity in the IT sector, or something similar that is rapidly evolving.[8]

The entrepreneurial zones themselves can give an exceptional contribution to economic development in the following way. Local entrepreneurs employ local people, tax and community surcharges generate additional income, products manufactured in entrepreneurial zones are suitable for export, etc. In order to suppress administrative barriers to investors, local authorities strictly define deadlines for issuing the necessary permits.

The infrastructural equipment of the zone creates the preconditions for faster economic development of the County, municipalities and cities, and a long-term solution to the issue of business or production space is achieved, which is also the main objective. Specific objectives of development of business zones can be: creation of new jobs, rationalization of resource use (space, energy, infrastructure), higher efficiency of production processes, increase of local self-government revenue, balanced development of the County through the creation of new business zones, increase of exports, construction operatives in the repair of the zone, encouragement of

[8] Gospodarska zona Antunovac, opće informacije (2019.), dostupno na: http://gz-antunovac.com/ (02.03.2019.)

better utilization of natural resources, inclusion of natural and cultural value in economic development etc.[9]
Projects of construction and infrastructure equipment of entrepreneurial zones are many years of projects whose realization requires significant financial investments. Taking into account the need for a balanced development of the County and taking care of the needs of local and regional self-government units, the priorities in the construction of entrepreneurial zones are: a higher stage of completion with a higher degree of infrastructure equipment, explored entrepreneurial potential, size and importance of the economic and social development zone of local and regional units the availability of a variety of land that meets the needs of investors, providing new employment, existing spatial planning documentation, resolved property and legal relations within the zone, the degree of documentation preparation, deadlines and dynamics of construction, the availability of workforce in the environment, flexible conditions of use and the possibility of extending the site , other amenities (strategic location, highway connection, proximity to airport, area of special state concern, etc.).[10]
Other local communities in Croatia have also recognized the benefits of entrepreneurial zones in economic development. For example, the Municipality of Križ in the feasibility study of the of building an entrepreneurial zone highlight the following advantages. The role of local units is to impose the establishment of an environment that will, through the stimulation of the establishment of business zones, enable and encourage the development of the private sector while the public sector will be strengthened and changed at the same time. Their key role is to encourage private sector co-operation and to ensure that the development of infrastructure and incentive measures create preconditions for the development of entrepreneurship.[11]
Companies that are potential beneficiaries of the mentioned zones should provide favorable conditions according to a certified recipe that has been tested by other cities and municipalities. In order to be attractive to entrepreneurs, the local self-government must offer a more favorable price of land, and companies that come to the economic zone to release communal contributions for a certain period. Entrepreneurs often refuse a system that is not fast enough and efficient in relation to the demands of the entrepreneur. Favorable conditions and fast administration are attracting a lot more investors.[12]
All this suggests that entrepreneurial zones lead to numerous benefits for entrepreneurship development, especially for small and medium-sized businesses, ultimately leading to faster economic growth and development.
This chapter presents a comparative analysis of two successful entrepreneurial zones in County Osiječko-bararanjska: the industrial zone Nemetin and the economic zone Antunovac.
The area of Antunovac municipality is part of a wider area in the far eastern part of the Republic of Croatia, or its natural-geographical unit of Eastern Croatia. The municipality consists of two settlements: Antunovac and Ivanovac. According to the population census in 2011, 3,703 inhabitants lived in the municipality (Antunovac 2,181 inhabitants, Ivanovac 1.522 inhabitants)

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[9] Osječko-baranjska županija (2013.) „Plan razvoja poduzetničkih zona na području Osječko-baranjske županije za razdoblje od 2013. do 2017. godine", dostupno na:
http://www.obz.hr/hr/pdf/propisi/2013/Plan%20razvoja%20poduzetni%C4%8Dkih%20zona%20na%20podru%C4%8Dju%20OB%C5%BD%20za%20razdoblje%20od%202013.%20do%202017.%20godine.pdf (02.03.2019.)
[10] Osječko-baranjska županija (2013.) „Plan razvoja poduzetničkih zona na području Osječko-baranjske županije za razdoblje od 2013. do 2017. godine", dostupno na:
http://www.obz.hr/hr/pdf/propisi/2013/Plan%20razvoja%20poduzetni%C4%8Dkih%20zona%20na%20podru%C4%8Dju%20OB%C5%BD%20za%20razdoblje%20od%202013.%20do%202017.%20godine.pdf (02.03.2019.)
[11] Općina Križ (2016.) „Studija opravdanosti izgradnje poduzetničkih zona", dostupno na: http://www.opcina-kriz.hr/ok/kriz_uploads/2016/10/Studija-opravdanosti-izgradnje-Poduzetni%C4%8Dke-zone-Kri%C5%BE-III.pdf
[12] Mirakul (2017.) „Potencijali poduzetničkih zona u Hrvatskoj", dostupno na:
http://www.mirakul.hr/bizdirekt/potencijali-poduzetnickih-zona-hrvatskoj/ (02.03.2019.)

and accounted for 1.08% of the population of the County. The municipality is in the zone of favorable geographical position, the most important road is the state road D-518 (Osijek - Jarmina).[13]

Municipality of Antunovac is one of the few municipalities in Eastern Croatia with positive demographic trends, which is proven by the fact that over the past few years about 60 young families have moved to Antunovac. There are many reasons for this, from favorable communal infrastructure, to a well-organized educational system to new jobs within the entrepreneurial zone.[14]

The project of construction of the Economic zone Antunovac as one of the capital projects in the function of the holders of economic development is of the highest priority for the Municipality of Antunovac. The focus of further economic and social development of the community is focused on the optimal and efficient realization of the construction, arrangement and availability of the available capacities of the Economic Zone. The numerous advantages of the mentioned economic zone should be emphasized as follows: attractive location of the Economic zone Antunovac that extends on the land of 140.000 m2, the size of individual parcels in accordance with the individual needs of the investor from 1.500 - 10.000 m2, the principle of lump-sum turnkey project - assured permanent maintenance of the zone etc.[15]

Of the business entities operating in the Antunovac Economic Zone, the following should be mentioned: Perutnina Ptuj Pipo (food industry), Mlakar viličari, Crodux plin, ZVG l.t.d. for manufacturing, services and trade and the Consortium.[16] By August 2019, the Entrepreneurial Incubator and Accelerator could be started with various business subjects.[17]

Osijek is a town in eastern Croatia located in a plain on the right bank of the river Drava between the 16th and 24th kilometer from the mouth of the Danube. It is the largest city in Slavonia, the fourth largest city in Croatia, and the industrial, administrative, judicial and cultural center of the County Osiječko-baranjska. Osijek consists of 7 town districts: Tvrđa (The Old Town), Upper town, Lower Town, New Town (including Senjak settlement), Industrial quarter, Retfala and South II. Osijek is the city with the highest number of greenery and green areas in Croatia; in the area of the city there are 17 parks in the total area of 394,000 m^2.[18]

The Industrial Zone Nemetin (Osijek) is the first green industrial zone in the Republic of Croatia. The use of alternative energy sources enables the production of electricity as well as the production of heat energy distributed free of charge to users of the zone for the needs of heating or cooling of their industrial plants.[19]

The industrial zone itself contains the following proportions: 76 ha of production purpose, 5 ha of business purpose, 10 ha of total area and 2,500 - 50,000 m2 of plot. From businesses that are located in the Nemetin zone should be listed as follows: Kandit, Messer Croatia gas, Inspecto Lab, Lagermax, Solon etc.[20]

In the conducted analysis, 4 business entities were processed: Kandit d.o.o., Inspecto d.o.o. (Nemetin area), Perutnina Ptuj Pipo and Mlakar viličari (Zone Antunovac).

Kandit d.o.o. is an Osijek candy manufacturing company whose production facility was moved to the Nemetin zone in 2014. Thanks to an investment of € 20 million, a modern production

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[13] Općina Antunovac – opće informacije (2019.) dostupno na: http://www.opcina-antunovac.hr/ (20.01.2019.)

[14] Općina Antunovac – opće informacije (2019.) dostupno na: https://lokalni.vecernji.hr/opcine/grade-biciklisticke-staze-imaju-cipirane-kante-za-smece-a-otvorili-su-i-novi-vrtic-532 (20.01.2019.)

[15] Gospodarska zona Antunovac – opće informacije (2019.) dostupno na: http://gz-antunovac.com/#about (20.01.2019.)

[16] Ibidem

[17] Poduzetnički inkubator i akcelerator Antunovac – opće informacije (2019.) dostupno na: http://www.opcina-antunovac.hr/poduzetnicki-inkubator-i-akcelerator-u-gospodarskoj-zoni-antunovac/

[18] Grad Osijek, opće informacije (2019.) dostupno na: www.osijek.hr (05.03.2019.)

[19] Industrijska zona Nemetin, opće informacije (2019.) dostupno na: http://www.osinvest.hr/en/ (05.03.2019.)

[20] Ibidem

facility was built, the company received quite good business conditions from the City of Osijek and the business of the company was quite advanced.[21]
Inspecto d.o.o. is a Company from town of Đakovo that is specialized control house with 20 years of experience in providing complete services for the control of goods and laboratory tests in the Republic of Croatia and abroad. In 2018, a new laboratory in the Nemetin area was opened with state-of-the-art equipment designed to test the quality of food products.[22]
Perutnina Ptuj Pipo is a company from Čakovec that manufactures meat products. Thanks to its long tradition and successful business results, today it is considered one of the strongest meat-processing companies in Croatia.[23] A few years ago, in the Antunovac zone, their distribution center was opened, further enhancing the company's business. The primary purpose of this subsidiary is to facilitate the distribution of its own products to nearby markets, given that the municipality of Antunovac is situated directly along the border with Serbia, Hungary and Bosnia and Herzegovina.[24]
Mlakar viličari is a company from Brestov (near Zagreb) whose main activity is the distribution and sales of Jungheinrich brand forklifts. Like Perutnina Ptuj Pipo, in the Antunovac zone there is a sales and distribution branch.[25]
According to the financial statements of 2017, all four business entities are operating with profits. Although we do not have accurate business information of these companies, it is clear from the available financial statements that they do business positively.[26]
On the example of Kandit d.o.o. it is possible to establish that the company operates successfully, which greatly contributes to a suitable location and favorable conditions within the entrepreneurial zone Nemetin.
Affordable operating conditions in the entrepreneurial zone are manifested through the lower operating costs of the company, which opens space for greater profitability and new investments.
The SWOT analysis below shows the opportunities, threats, strengths and weaknesses of the business of business entities in these entrepreneurial zones.

[21] Kandit d.o.o., informacije za novi pogon (2019.) dostupno na: http://sib.rtl.hr/predstavljamo/gospodarstvo/13373-kandit-nova-tvornica-i-nove-ambicije.html (05.03.2019.)
[22] Inspecto lab, otvorenje novog laboratorija (2018.) dostupno na: https://www.agroklub.com/poljoprivredne-vijesti/u-osijeku-otvoren-inspectolab-najveci-laboratorij-u-regiji-za-kontrolu-hrane-i-agroekologije/41815/ (05.03.2019.)
[23] Perutnina Ptuj Pipo, opće informacije (2019.) dostupno na: www.perutnina.hr (05.03.2019.)
[24] Gospodarska zona Antunovac – opće informacije (2019.) dostupno na: http://gz-antunovac.com/#about (05.03.2019.)
[25] Mlakar Viličari, opće informacije (2019.) dostupno na: https://mlakar-vilicari.hr/ (05.03.2019.)
[26] FINA, Godišnji registar financijskih izvještaja (2018.) dostupno na: www.fina.hr (05.03.2019.)

Strengths	Weaknesses
• new production facilities • close to the demand market • a long tradition of production • successful business results • HR • historical and cultural heritage • preserved an indigenous way of life • favorable climatic conditions • favorable security situation	• Poor demographic image of eastern Croatia • affirms business conditions from the rest of Croatia • lack of expert workforce • land ownership issues • high indebtedness of business entities • administrative obstacles
Opportunities	**Threats**
• good business conditions within the entrepreneurial zone • good traffic connections • privileges given by the local community • connection with the European transport corridors • increase in foreign investment • development of new products • attract new demand segments • improving the business image of Eastern Croatia	• slow administration • poor purchasing power of the local population • a little local market • interference with politics • slowness of the legal system • regulating ownership relations • the possibility of corruption • strong competition • possible environmental contamination

Source: author's proceedings according to conducted analysis (March 2019)

Based on the SWOT analysis it is possible to conclude that the analyzed entrepreneurial zones provide numerous opportunities and advantages but also threats and weaknesses for the development of entrepreneurial zones in the area of Eastern Croatia. The main opportunities arising from the SWOT analysis are: good business conditions within the entrepreneurial zone, good traffic connections and increase in domestic and foreign investment. As a main force it is possible to distinguish new production facilities, close to the demand market and human potential. However, it is necessary to analyze the most important threats and weaknesses, such as: poor purchasing power of the local population, a little local market, poor demographic image of Eastern Croatia and a more difficult business environment. Although there are no precise indicators of the impact of each variable, it is clear that the opportunities and strengths outweigh the current weaknesses and threats to the development of this form of entrepreneurship. Namely, this form of entrepreneurship in the area of eastern Croatia provides new opportunities for economic development, more as the current weaknesses can be eliminated and it is possible to influence the threats coming from the market.

To determine the conclusion on the impact of the entrepreneurial zones on economic growth and the development of a particular area, a large number of cases should be analyzed. However, even on the basis of the analysis of these examples, it is possible to assess that entrepreneurial zones can have an additional impact on the development of small and medium-sized enterprises with numerous effects of the local economy's economic development.

4. Conclusion

The subject of this paper was to investigate the role of entrepreneurial zones in the economic development of Eastern Croatia. Based on the conducted analysis of the state of economic development in Eastern Croatia, the aim of this paper was to explore ways in which entrepreneurial zones can be driven by the economy. Given that in the last 20 years most of the former successful companies have been in bankruptcy, Eastern Croatia is turning to new

economic ventures in order to improve the overall social situation. In addition to the overview of the general role of entrepreneurship in economic development, a comparative analysis of two entrepreneurial zones in Osijek-Baranja County is also presented: the industrial zone Nemetin in Osijek and the economic zone of Antunovac near Osijek. From the analyzed examples, it is possible to conclude that entrepreneurial zones provide numerous benefits in the business of the company, which can be an additional "back wind" for new entrepreneurs and investors.
Entrepreneurial zones have a great influence on the local and regional development of these areas, attracting foreign investors and boosting efficiency and competitiveness. In order to attract entrepreneurs in entrepreneurial zones, local authorities give entrepreneurs various benefits. Research has shown that entrepreneurs can achieve an extremely favorable price of leasing land parcels within a zone, on the ground that the land price per hectare is reduced if the entrepreneur occupies a certain number of people (more employees - lower land prices).
The same entrepreneurial zones can make an extraordinary contribution to economic development as follows. These entrepreneurs employ local people, with local taxes and prizes earning additional income, products produced in entrepreneurial zones are suitable for export etc. The paper presents four business entities from the mentioned entrepreneurial zones: Perutnina Ptuj Pipo and Mlakar Viličari from the Antunovac area and Kandit Ltd. and Inspecto d.o.o. from the Nemetin zone. According to financial indicators, all four companies are operating positively.
At the end of the work, a SWOT analysis was carried out, from which it is possible to determine that the analyzed entrepreneurial zones provide numerous opportunities and advantages but also have the threats and weaknesses for the development of entrepreneurial zones in the area of Eastern Croatia. Although there are no precise indicators of the impact of each variable, it is clear that the opportunities and strengths outweigh the current weaknesses and threats to the development of this form of entrepreneurship. This form of entrepreneurship in the area of Eastern Croatia offers new opportunities for economic development, more than the current weaknesses can be eliminated and it is possible to influence the threats coming from the market.

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ENCOURAGING INVESTMENT IN INDUSTRIAL HEMP FARMING AS A FACTOR OF ECONOMIC DEVELOPMENT OF EASTERN CROATIA

ABSTRACT

In the Republic of Croatia, currently about 857 hectares of land have been planted with industrial hemp and 69 planting permits were issued. The cultivation of industrial hemp in the Republic of Croatia is regulated by the Ordinance on the conditions for hemp growing, the method of poppy farming, the conditions for the possession and circulation of narcotics in veterinary medicine and the Law of narcotics abusers. With Croatia joining the EU, Croatia has accepted a sort base from the EU but has not regulated the processing of industrial hemp. In Croatia, therefore, hemp can only be used for the production of seed for human and animal food. Stem cells need to stagnate, which is not the practice in other EU countries. In 2012, the Ministry of Agriculture made changes to the Ordinance on conditions for hemp cultivation, the method of poppy breeding and the conditions for possession of narcotics in the veterinary sector, thus creating the opportunity to return industrial hemp to our areas. *The aim of the paper is to evaluate the profitability of investments in industrial hemp farming and to point to the various investment opportunities offered by this "queen of plants". The paper will also discuss the possibility and necessity of amending the Act or the Ordinance regulating the cultivation of hemp in the Republic of Croatia. The work is structured in a way that encompasses a comprehensive investment analysis and an assessment of the investment efficiency in industrial hemp by applying dynamic methods of assessing the efficiency of the investment - net present value, the internal rate of profitability, the period of return, the index of profitability etc. The results of this analysis should enable conclusions of investment* efficiency.

Key words: *Industrial hemp, Dynamic investment analysis, Net present value, Internal rate of return, Period of return*

1. Introduction

It is said that industrial hemp is the oldest and most healthy plant in the world. It can also be said that industrial hemp follows the development of human civilization, since it is believed that people used it 5000 years ago. The biggest problem that follows this plant is stigmatization and its physical similarity to Indian hemp, which is used as a drug, so unfortunately its farming in many countries is illegal or legally limited. For example, industrial hemp in the Republic of Croatia can only be used for the purpose of producing food for humans and animals, so only seeds and flowers may be used, while the remaining part must be destroyed. The very idea of this final paper is based on the assumption that it is worth investing in industrial hemp. Financial viability will be shown by financial analysis of investment in industrial hemp cultivation. The data in the paper are based on author's own research of available scientific and professional literature, and on the example of economic-financial investment analysis. All the calculations and tables presented in this paper are based on author's own research. The most commonly used method is the secondary method, i.e. the compilation method, acquisition of quotations of other authors, i.e. their observations, attitudes and knowledge, and the appropriate statistical and mathematical methods applied in the presentation of the results of this research paper. The basic starting point of the paper is to present a project proposal based on the industrial hemp farming, i.e. investment in farming and planting. It is well known that agriculture in the Republic of Croatia is based on traditional crops, wheat and maize, especially in the region of Slavonia and Baranja, which is currently lagging behind the average macroeconomic indicators for the Republic of Croatia (more in Štavlić, 2018). Existing developmental disparities are one of the reasons for encouraging investment in industrial hemp farming as a potential factor for the development of eastern Croatia. The aim of this paper is to show the financial viability of investments in industrial hemp farming using dynamic project efficiency analysis. The described project can be carried out in the Republic of Croatia if there is a change in the existing legislation on industrial hemp farming.

2. Legislation on hemp farming in the Republic of Croatia and in surrounding countries

In the Republic of Croatia, production and planting of industrial hemp is regulated by the Ordinance on conditions for the cultivation of hemp, method for applying for poppy farming and the conditions for the possession of narcotic drugs in veterinary medicine, hereinafter referred to as "Official Gazette No 18/2012" and the Suppression of Narcotic Drug Abuse Act, hereinafter referred to as Official Gazette 107/2012. The aforementioned Ordinance defines who can farm and plant industrial hemp. At the end of 2018, the Ministry of Agriculture announced on its official website that the Draft Act on Amendments to the Suppression of Narcotic Drug Abuse Act will soon be on the agenda of the Croatian Parliament. Thus, the following is stated: "restriction that hemp may only be used for the purpose of food and feed production, has placed domestic agricultural producers in an unfavourable position with respect to producers in the European Union. The current legal regulation prohibiting the use of the entire plant of industrial hemp is a limiting factor and makes it impossible for our farmers to realize the investments and to further develop their farms." (Tolušić, 2018, url) It is suggested that industrial hemp be defined as "industrial hemp listed in the EU Commonwealth List with a THC content of 0.2% and below and is not included in the list of plants from which drugs can be obtained, and foresees the abolition of the obligation to submit a request for farming and the issuance of a decision on hemp farming license. Farmers will have to be entered in the register without the additional requirement of criminal records." (Tolušić, 2018, url) The new legislative proposal will allow stem processing. This opens a wider spectrum of use.

Table 1 below presents a brief overview of the comparison of the above mentioned three legislation, legislation in force in the Republic of Croatia, Serbia and Slovenia.

Table 1: *Difference between the Ordinance on industrial hemp farming in Croatia, Serbia and Slovenia*

State	Croatia	Serbia	Slovenia
Purpose of farming	Production of food and feed	Production of food and feed, production of fibres and production of seeds for further reproduction	Production of seeds for further reproduction, for the production of food and beverages, for the production of cosmetic preparations, for the production of fibres and other industrial purposes
Deadline for submission of applications	May 31st of the current year	April 30th of the current year	from March 15th to August 31st
The amount of THC in dry matter	0.2%	0.3%	0.2%

Source: author's research, according to OG no. 18/2012; OG 107/2012; RS No. 64/13; RS No. 99/10; RS No. 40/11; RS No. 36/15 and RS No. 33/18

From the table above, we can see the differences in the purpose of production. While industrial hemp in Croatia can only be used for production of food and feed, in Serbia it can be used for fibre and seed production for further reproduction. While the application in Slovenia is far larger than in Croatia and Serbia, in Slovenia industrial hemp can be used for seed production for further production, food and beverage production, cosmetics production, fibre production and other industrial purposes. Compared to Serbia, in Slovenia industrial hemp can be used for producing beverages, cosmetics and other industrial purposes. All three countries have different deadlines for applying for sowing, and regarding the THC content, Croatia and Slovenia have a rate of 0.2% while Serbia has a rate of 0.3%. In Croatia, the production is limited to several products, while the potential for production and use of industrial hemp is far greater than that.

3. Industrial hemp farming in the Republic of Croatia

Authors Obranović and Ozmec (2014: 14) and (Anonymous, 2014, url) state that industrial hemp has, alongside flax, been the main industrial plant in Croatia for centuries. The first hemp and lax weaving mills were opened in Ozalj in 1728. They also mention that there were hemp weaving mills in Osijek, Črnkovci and Viškovci near Đakovo. Thus, it is well known that industrial hemp in Croatia has been cultivated for nearly 291 years. From 1992 until 2012, hemp farming was prohibited, and in 2012 the Ordinance regulating the farming and use of industrial hemp was passed. Legal regulations are explained in more detail in the previous chapter. Table 2 below shows the surface area in hectares of industrial hemp and the number of planting applications issued by the Ministry of Agriculture of the Republic of Croatia in 2016, 2017 and 2018. From the data shown, there are visible oscillations occurring between the number of hectares planted and the number of issued permits per county over the past three years. In 2016, the most hectares were planted, while the maximum number of licenses was issued in 2017. Over the past three years, the number of hectares of industrial hemp has been reduced, and it is particularly interesting in 2017, where a significant increase in the number of permits has been recorded, but with a large reduction in the surface area. The average surface area per license issued in 2016 was 12.42 hectares, in 2017 it was 2.76 hectares per license, and in 2018 it was 11.82 hectares per license.

Table 2: *Area of hectares planted and number of licenses issued by counties*

Year	2016		2017		2018	
County	Number of licenses	Number of hectares	Number of licenses	Number of hectares	Number of licenses	Number of hectares
Bjelovar-Bilogora	7	22.96	6	10:18	4	12.76
Brod-Posavina	3	17,20	0	0	0	0
Dubrovnik-Neretva	0	0	0	0	0	0
Istria	13	144.21	13	7.31	4	9.78
Karlovac	4	8.27	7	5.81	2	2.30
Koprivnica-Krizevci	4	7.90	7	7.31	3	26.07
Krapina-Zagorje	6	39.32	5	2.71	0	0
Istria	0	0	0	0	0	0
Međimurje	4	24.46	18	7.74	3	3.93
Osijek-Baranja	17	182.95	41	143.77	9	51.18
Požega-Slavonia	2	7.70	1	3.73	0	0
Primorje-Gorski Kotar	1	20,29	0	0	0	0
Sisak-Moslavina	18	404.68	75	309.70	11	378.60
Split-Dalmatia	1	5.10	4	3.95	1	4.21
Varaždin	6	17.52	21	14.89	4	23.85
Virovitica-Podravina	18	348.80	56	187.83	14	303.42
Vukovar-Srijem	15	222.19	10	27,04	6	19,79
Zadar	0	0	5	1.47	0	0
Zagreb	8	183.16	19	60.23	5	12.78
Šibenik-Knin	0	0	0	0	0	0
City of Zagreb	7	9.88	29	88.47	3	8.60
Total	132	1,560.25	320	882.14	69	857.27

Source: by the author, according to: https://www.apprrr.hr/agronet/

Table 3: *Calculation of base indices and rates of change according to sowed hectares in 2016, 2017 and 2018 in Croatian counties*

Year	2016 = Yt	Yb = 2017, 2016 = 100			Yc = 2018, 2016 = 100		
	Surface in ha	Surface in ha	It 1	St1	Surface in ha	It 2	St 2
County							
Bjelovar-Bilogora	22.96	10:18	44.34	-55.66	12.76	55.57	-45.43
Brod-Posavina	17,20	0	-	-	0	-	-
Dubrovnik-Neretva	0	0	-	-	0	-	-
Istria	144.21	7.31	5.25	-94.75	9.78	2.7	93.98
Karlovac	8.27	5.81	70.25	-29.75	2.30	27.81	-72.19
Koprivnica-Krizevci	7.90	7.31	92.53	-7.47	26.07	330.00	230.00
Krapina-Zagorje	39.32	2.71	6.89	-68.36	0	-	-
Istria	0	0	-	-	0	-	-
Međimurje	24.46	7.74	31.64	-68.36	3.93	16:07	-83.93
Osijek-Baranja	182.95	143.77	78.58	-21.42	51.18	27.97	-72.03
Požega-Slavonia	7.70	3.73	48.44	-51.56	0	-	-
Primorje-Gorski Kotar	20,29	0	-	-	0	-	-
Sisak-Moslavina	404.68	309.70	76.53	-23.47	378.60	93.56	-6.44
Split-Dalmatia	5.10	3.95	77.45	-22.15	4.21	82.55	-17.45
Varaždin	17.52	14.89	84.99	-15.01	23.85	136.13	36.13
Virovitica-Podravina	348.80	187.83	53.85	-46.15	303.42	86.99	-13.01
Vukovar-Srijem	222.19	27,04	12:13	-87.87	19,79	8.88	-91.12
Zadar	0	1.47	-	-	0	-	-
Zagreb	183.16	60.23	74.28	-25.72	12.78	15.76	-84.24
Šibenik-Knin	0	0	-	-	0	-	-
City of Zagreb	9.88	88.47	895.45	795.45	8.60	87.04	-12.96
Total	1,560.25	882.14	56.54	-43.46	857.27	54.94	-45.06

Source: calculation by the author

According to data from Table 3, the total area on which industrial hemp is planted is reducing every year. No county in Croatia has recorded continuous growth, and that the area of planted hectares is growing every year. According to the data presented, it can be seen that the total farming area on which industrial hemp was planted in 2017 decreased by 43.46% compared to the area planted in the base 2016. The year 2016 was taken as the base year because in that year hemp was planted on the largest surface area. In addition, taking into account 2018, it is apparent that the surface area on which industrial hemp was planted decreased by 45.06% compared to 2016. The above data may indicate that farmers are abandoning planting industrial hemp for various reasons, which may be the subject of some future research.

4. Economic - financial analysis of investment profitability in industrial hemp

According to Cingula, Hunjak and Ređep (2004: 80), every business process should also be considered as a possibility of returning funds in some accounting period. The ability to repay the invested funds can be considered after a business plan is made, with an emphasis on the financial plan and the financial performance of a project or investment based on the projection of the profit and loss and cash flow.

Below is an analysis of the financial viability of investing in farming and processing industrial hemp for producing seeds, thermal insulation boards and bio-plastics. This processing and production is possible with the amendment of the existing legal framework regulating farming and processing of industrial hemp in the Republic of Croatia.

From the point of view of the project, profitability analysis should always begin with the presentation of long-term and short-term material and immaterial assets. I.e., with presenting what we need to get started with the project. The projection of required investments is shown in the following table.

Table 4: *Projected project investments*

No.	Project investment structure	Total investment	%
1	Fixed assets	2,120,000.00	78.42
1.1	Founding investment	00:00	0
1.2	Land and buildings	1,550,000.00	57.34
1.3	Equipment	570,000.00	21.09
1.4	Research and development	0.00	0
2	Working assets	583.333.33	21.58
Total investment in the project		2.703.333.33	100

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

The above table shows that HRK 2,120,000.00 is amount of fixed assets, i.e. long-term assets. The value of land and buildings accounts for 57.34% of the total investment, while the fixed assets account for 78.42%. Working assets amounted to HRK 588,333.33, which amounts to 21.58% of total investments.

Table 5: *Sources of funding*

No.	Sources of funding	Amount	%
1	Fixed assets owned by others	1.003.333.33	37.11
2	Other sources of funding	0.00	0.00
3	Own sources of funds	1,700,000.00	62.89
IN TOTAL		2.703.333.33	100.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

The data in Table 5 show that 37.11% of the total investment in the project is capital owned by others, i.e. that 37.11% of the project value is financed from long-term loans.

Table 6. *Calculation of credits*

Repayment year	Quarter	Amount of debt	Amount of interest	Payment	Annuity	Annual interest	Annual annuity
1	1	1,003,333.33	12541.67	44,468.12	57009.79	46,803.68	228,039.16
	2	958,865.21	11,985.82	45,023.98	57,009.79		
	3	913,841.23	11,423.02	45,586.78	57,009,79		
	4	868,254.45	10,853.18	46,156.61	57,009.79		
2	1	822,097.84	10,276.22	46,733.57	57,009.79	37,570.57	228,039.16
	2	775,364.27	9,692.05	47,317.74	57,009.79		
	3	728,046.54	9,100.58	47,909.21	57,009.79		
	4	680,137.33	8,501.72	48,508.07	57,009.79		
3	1	631,629.25	7,895.37	49,114.42	57,009.79	27,867.09	228,039.16
	2	582,514.82	7,281.44	49,728.36	57,009.79		
	3	532,786.47	6,659.83	50,349.96	57,009.79		
	4	482,436.51	6,030.46	50,979.33	57,009.79		
4	1	431,457.18	5,393.21	51,616.58	57,009.79	17,669.25	228,039.16
	2	379,840.60	4,748.01	52,261.78	57,009.79		
	3	327,578.82	4,094.74	52,915.06	57,009.79		
	4	274,663.77	3,433.30	53,576.49	57,009.79		
5	1	221,087.27	2,763.59	54,246.20	57,009.79	6,951.89	228,039.16
	2	166,841.07	2,085.51	54,924.28	57,009.79		
	3	111,916.79	1,398.96	55,610.83	57,009.79		
	4	56,305.96	703.82	56,305.97	57,009.79		
		TOTAL	136,862.48	1,003,333.33	1,140,195.81	136,862.48	1,140,195.81

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

Table 6 shows the calculations of loans with equal annuities. The above table shows the calculation of loans by equal annuities. The loan amount is HRK 1,003,333.33. The loan is valid for five years with an interest rate of 5%. The total value of interest rates represents the total cost of the loan, which amounts to HRK 136,862.48.

The following three tables present the operating costs for the next five years of the project. The tables include material costs, service costs, and costs that do not fall under one of the categories mentioned since they are neither material costs nor service costs.

Table 7: *Material costs*

Name	Year 1	Year 2	Year 3	Year 4	Year 5
Energy Costs	165,000.00	165,000.00	165,000.00	165,000.00	165,000.00
Transportation costs	60,000.00	60,000.00	60,000.00	60,000.00	60,000.00
Fuel costs	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
Raw materials	5,394,917.00	5,394,917.00	5,394,917.00	5,394,917.00	5,394,917.00
Cost of materials	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Seed procurement costs	8,250.00	8,250.00	8,250.00	8,250.00	8,250.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

Table 8 shows material costs in projection in five years of business. The table included costs of energy, transportation, fuel, raw materials, materials, procurement.

***Table 8**: Service Costs*

Name	Year 1	Year 2	Year 3	Year 4	Year 5
Marketing Costs	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00
Bookkeeping costs	24,000.00	24,000.00	24,000.00	24,000.00	24,000.00
Service Costs	65,000.00	65,000.00	65,000.00	65,000.00	65,000.00
Utility costs	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00
Maintenance costs	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00
Harvest costs	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
Insurance costs	8,870.00	8,870.00	8,870.00	8,870.00	8,870.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

Table 8 shows the cost of services. The table included costs of marketing, bookkeeping, services, utilities, maintenance, harvest and insurance.

***Table 9**: Other costs*

Name	Year 1	Year 2	Year 3	Year 4	Year 5
Educations	75,000.00	75,000.00	75,000.00	75,000.00	75,000.00
Professional literature	25,000.00	25,000.00	25,000.00	25,000.00	25,000.00
Extraordinary expenses	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00
Socially responsible business conduct	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

Table 9 shows the costs of professional literature, extraordinary expenses, education, and costs for socially responsible business conduct.

***Table 10**: Name and unit price of planned products*

Name	Service	Year 1	Year 2	Year 3	Year 4	Year 5
Seed	Not	15,00	15,00	15,00	15,00	15,00
Thermal Insulation Board 100 x 1200 x 600 mm	Not	70.00	70.00	70.00	70.00	70.00
Thermal insulation boards 200 x 800 x 625 mm	Not	280.00	280.00	280.00	280.00	280.00
Bio-plastics	Not	70.00	70.00	70.00	70.00	70.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

The table above shows products with their unit prices expressed in HRK. It should be emphasized that seeds and bio-plastics are sold per kilogram, and insulation boards are sold per piece.

***Table 11:** Planned sales volume*

Name	Year 1	Year 2	Year 3	Year 4	Year 5
Seed	7,500	7,530	7,575	7,613	7,651
Thermal insulation boards 100 x 1200 x 600 mm	10,417	10,469	10,512	10,574	10,627
Thermal insulation boards 200 x 800 x 625 mm	4,167	4,188	4,208	4,229	4,251
Bio-plastics	416,667	418,750	420,844	422,948	425,063

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

The table below shows sales volumes for a five-year projection. Every year, sales are expected to increase, as shown in Table 11.

Table 12 shows the revenue projection. These amounts have been obtained by multiplying prices listed in Table 10 and planned sales volumes from Table1, thus calculating projections of revenue for each year.

***Table 12:** Revenue projection*

Product name	Year 1	Year 2	Year 3	Year 4	Year 5
Seed	112,500.00	113,070.00	113,625.00	114,195.00	114,765.00
Thermal Insulation Boards 100 x 1200 x 600 mm	729,190.00	732,830.00	736,470.00	740,180.00	743,890.00
Thermal insulation boards 200 x 800 x 625 mm	1,166,760.00	1,172,640.00	1,178,240.00	1,184,120.00	1,190,280.00
Bio-plastics	6,250,005.00	6,281,250.00	6,312,660.00	6,344,220.00	6,375,945.00
Total revenue from products	8,258,455.00	8,299,790.00	8,340,995.00	8,382,715.00	8,424,880.00
Total revenue from services	0.00	0.00	0.00	0.00	0.00
Overall revenues	8,258,455.00	8,299,790.00	8,340,995.00	8,382,715.00	8,424,880.00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

The table below shows a projection of revenue for five years. It is also apparent that revenues are increasing every year, and the cause for that is evident in Table 11, as the sales volume has risen each year, so do the revenues.

The above-mentioned project requires three highly skilled employees; the monthly salary cost for each will amount to HRK 8,000.00 gross. The labour costs of employees who will work as flower pickers and stalkers during harvesting season, based on seasonal employment contracts, which is usually in August and September. The gross salary will amount to HRK 3,000 per employee per month, and the project will require 10 employees to be employed for three months every year.

***Table 13:** Depreciation costs*

Name	Type of property	Value	Durability (years)	Amortization (%)
Tractor Sonalika DI 75 4WD P / S	Material property	98.000,00	10	10,00
Olt pneumatic sowing machine	Material property	30,000.00	10	10,00
Plough Rabewerk	Material property	14,000.00	10	10,00
24 Disk Harrow Olt	Material property	4,000.00	10	10,00
Harrow Eberhard	Material property	4,000.00	10	10,00
Buildings	Material property	1,500,000.00	20	5.00
Plastic processing plant	Material property	200,000.00	10	10,00
Hemp chopper	Material property	20,000.00	10	10,00
Other equipment	Material property	200,000.00	5	20,00

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

This table shows the type of asset amortized, its value and the depreciation percentage amortized each year. It is calculated by deducting a percentage of the total asset value. Specifically for buildings, the value is HRK 1,500,000.00, therefore 10% of the total value amounts to HRK 150,000.00. In the income statement, depreciation will be calculated in this way.

***Table 14:** Income statement*

Items	Amount per project year				
	Year 1	Year 2	Year 3	Year 4	Year 5
Total income	8,258,455.00	8,299,790.00	8,340,995.00	8,382,715.00	8,424,880.00
Product Income	8,258,455.00	8,299,790.00	8,340,995.00	8,382,715.00	8,424,880.00
Service Revenue	0.00	0.00	0.00	0.00	0.00
Total expenditures	6,649,037.00	6,649,037.00	6,649,037.00	6,649,037.00	6,649,037.00
Material costs	5,738,167.00	5,738,167.00	5,738,167.00	5,738,167.00	5,738,167.00
Service Costs	302,870.00	302,870.00	302,870.00	302,870.00	302,870.00
Other business expenses	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
Cost of permanent workers	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00
Cost of seasonal workers	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
Operating Profit before depreciation (EBITDA)	1,609,418.00	1,650,753.00	1,691,958.00	1,733,678.00	1,775,843.00
Amortization	152,000.00	152,000.00	152,000.00	152,000.00	152,000.00
Operating Profit (EBIT)	1,457,418.00	1,498,753.00	1,539,958.00	1,581,678.00	1,623,843.00
Financial expense - interest	46,803.68	37,570.57	27,867.09	17,669.25	6,951.89
Profit / Loss Before Taxation	1,410,614.00	1,461,182.00	1,512,091.00	1,564,009.00	1,616,891.00
Income tax 18%	253,911.00	263,012.76	272,176.38	281,521.62	294,040.38
Profit / loss after taxation	1,156,703.00	1,198,169.24	1.239.914.62	1,282,487.38	1,322,850.62

Source: by the author, authors to the Business Plan Creation Tool https://app.budiuzor.tera.hr/

Table 14 presents income statement. Operating profit i.e. earnings before interest, taxes and deprecation are calculated by deducting income from expense. It was already explained how amortization is calculated. Operating profit after depreciation is calculated by deducting amortization from EBITA. This gives the operating profit from which the annual interest from Table 9is deducted. This gives us a pre-tax gain to which 18% profit tax is applied, when the value of the tax on pre-tax profit is deducted, income statement after taxation is obtained.

Table 15: *Project's economic flow*

Number	Items of receipts and expenditures, net receipts and their cumulative	The observed years of the project (activation and exploitation)						Total
		0.	1.	2.	3.	4.	5.	
I.	**Total receipts**	**0**	**8,258,455**	**8,299,790**	**8,340,995**	**8,382,715**	**9,734,880**	**43,016,835**
1.	Total income		8,258,455	8,299,790	8,340,995	8,382,715	8,424,880	**41,706,835**
2.	Remaining value of fixed assets							**0**
3.	Remaining value of working capital						1,310,000.00	**1,310,000**
II.	**Total expenditures**	**2,690,000**	**6,704,144**	**6,722,479**	**6,741,346**	**6,760,889**	**6,781,125**	**36,399,984**
4.	Investment in fixed assets	2,120,000						**2,120,000**
5.	Investments in permanent working assets	570,000						**570,000**
6.	Expenditures without interest and depreciation		6,450,233	6,459,466	6,469,170	6,479,368	6,490,085	**32,348,323**
7.	Income tax		253,911	263,013	272,176	281,522	291,040	**1,361,662**
III.	**Net receipts / expenses** *(I - II)*	**-2,690,000**	**1,554,311**	**1,577,311**	**1,599,649**	**1,621,826**	**2,953,755**	**6,616,851**
IV.	**Cumulative Net Payments / Expenditures**	**-2,690,000**	**-1,135,689**	**441,622**	**2,041,271**	**3,663,096**	**6,616,851**	

Source: by the author

Net economic flow shows how real economic value is generated through the project in certain periods. Due to taking into the budget of initial investment, but not the sources of funds for these investments, the value of the economic flow will be negative in the beginning. The moment when the cumulative of net receivables of economic flow becomes positive is the point of return on invested funds from which the repayment period can be read directly. Only then can the project really create a new economic value.

Table 16: *Results of the dynamic analysis of the project*

	YEAR				
DYNAMIC ANALYSIS INDICATOR	1	2	3	4	5
Period of return on investment	1.74				
Yield rate	43.00%	44.54%	46.09%	47.68%	49.29%
Discounted return period for return on investment	1.87				
Net present value	4,367,466.73				
Internal profitability rate	55.24%				
Profitability index	1.62				
Average profitability of the project	49.20				

Source: by the author

From the previous table it is apparent that the project is efficient and thus cost-effective for investment. The return period of the investment is 1.74 years, which represents a very rapid return of the invested funds to the project. The yields are very high and show a steady growth year after year. The net present value of the project must be positive for the project to be profitable. In this project, the current present value is as high as HRK 4,367,466.73, which is more than satisfactory. The internal rate of profitability is higher than the discount rate, which is estimated at 9% and amounts to 55.24%. Profitability index is greater than 1, and given this criterion the project is financially viable for investment, the average profitability of the project is high 49.20%. Given all indicators of dynamic analysis, this project is efficient and financially viable for investment.

An additional criterion for project efficiency analysis is sensitivity analysis. The sensitivity analysis examines what would happen if there were some imbalances in the market that could affect a business plan in the context of revenue cuts or increase of expenditures. The following table will show a specific example of this investment project as sensitivity analysis is performed.

***Table 17:** Sensitivity analysis*

		Amount per years of project				
		1	2	3	4	5
A	Revenue -10%	7,432,609.50	7,469,811.00	7,506,895.50	7,544,443.50	7,582,392.00
B	Expenses + 10%	7,313,940.70	7,313,940.70	7,313,940.70	7,313,940.70	7,313,940.70
C	Gain (modified)	118,668.80	155,870.30	192,954.80	230,502.80	268,451.30

Source: by the author

According to sensitivity analysis, it can be seen that if revenue decreases 10% and expenditures increase by 10%, the project would remain profitable and financially profitable.

5. Conclusion

Based on the conducted research for the purpose of this paper, it can be concluded that the current state of industrial hemp farming in the Republic of Croatia is far from ideal. Changing legal regulations is crucial for further development of this culture in the Republic of Croatia and a kind of industry based on the production of biodegradable and environmentally acceptable products. Serbia and Slovenia have far better conditions for industrial hemp farming than Croatia, and better and more transparent legislation. Throughout the data presented in this paper, there have been fluctuations in hemp farming for the last three years on the territory of the Republic of Croatia, especially the trend of decreasing farmed surface area. This is apparent from the base index values on how much production in 2017 and 2018 has decreased compared to the 2016 (base year). Thus, it is noticeable that production dropped by 43.46% in 2017, while in 2018 it declined by 45.06%. Through economic-financial analysis and cost-effectiveness analysis, it is apparent that the investment project presented is profitable. All dynamic analysis parameters indicate that it is profitable to invest in an industrial hemp. Again, everything is dependent on current legal regulations in the Republic of Croatia, which prohibits the use of hemp stems. This analysis has proved it is worth investing in stem processing. All these calculations represent a sizeable paradox because they prove how much money industrial hemp farmers in the Republic of Croatia lose. With this legislation, they cannot be competitive on the EU market, and without the change of the legislation governing industrial hemp farming in the

Republic of Croatia larger investments for cultivating and processing this culture cannot be expected, hence the greater economic development of eastern Croatia cannot be expected.

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THE IMPORTANCE OD SECTION 08- OTHER MINING AND EXTRACTION IN SLAVONIA AND ITS STATUS IN 2017

ABSTRACT

Despite common belief, mining of sand, gravel and even stone is possible and exists in Slavonia. Based on the National Classification of Activities (NKD 2007), section 08 – Other mining and extraction, there are fourteen companies registered mainly for that business taking into account all five counties of Slavonia. Their business is mining, processing and selling final products of stone, sand and gravel. The business is hard as a lot of legal requirements have to be fulfilled - the capital barriers are high, and the market for the final products is very unstable and cyclical. Most importantly, there are not a lot of areas in Slavonia that have mineral reserves suitable for extraction. Although the business is almost insignificant based on its share of revenue of all companies in Slavonia, their significance is great and almost strategic for Slavonia because their products are important for other, much larger industries, especially construction. Construction of roads, embankments, houses, other buildings, etc. would not be possible without their products, so they hold the key for producing immovable goods in Slavonia.
The aim of this paper is to analyse the available data on the precise performance of companies conducting such business in Slavonia based on the figures for 2017, as well as their importance for regional development and construction industry of Slavonia and the perspective for future development of such business in Slavonia. The research was conducted using monitoring, comparison and compiling of the available data.

***Key words**: Slavonia, mining of stone, sand and gravel, construction material, revenue, profitability*

1. Mining as an economic activity

Mining is one of the oldest known human activities and even today, mining of mineral resources plays a significant role in the economy of most countries. It includes activities pertaining to exploration, extraction and processing of mineral resources.

Exploration of mineral resources includes exploration of the location and form of resource deposits, their quality and quantity, as well as the requirements for exploitation of resources. As part of the activity, mining also includes the construction of underground chambers, stripping layers of bedrock, drilling and blasting, geophysical exploration, research in rock and soil mechanics, hydrogeological works, ventilation and drainage, as well as similar surface and underground works. Mining supplies raw materials to many other industrial sectors.
Mineral resources include:

- Energy – coal, oil, natural gas, uranium, mineral and geothermal waters;
- Non-metallic – for use in construction – dimension stone, crushed stone, sand and gravel;
- Non-metallic – for industrial processing – quartz sand, raw materials for production of cement and lime, all types of salt, gypsum, calcite, quartz, etc.
- Metallic – for metal production. (Vujec, S., 1996)

Different classifications of mining can be found in the theory, but the main division of mining techniques would be the division into surface and underground exploitation of mineral resources.
Surface exploitation refers to mining minerals found on the surface or very close to the surface, whereas underground exploitation refers to extraction of mineral resources from deeper parts of the Earth's crust.
Surface exploitation is considered to be the oldest type of mining; it is much less difficult to perform than underground exploitation. With underground exploitation, a series of measures must be introduced in order to ensure safety in the mine because miners work in extremely difficult conditions.
Over the years, with technical and technological developments, mechanization has been introduced into mines, safety conditions have been improved, occupational health and safety have been increased and the miners' work has thus been made easier and will continue to be made easier. However, working conditions are still specific and involve life-threatening risks and hazards as the most common economically justified approach to exploitation is still drilling and blasting with dynamite.

2. Mining in Croatia

Mining in the Croatian economy plays an important role by supplying it with a substantial part of the necessary raw materials for energy production, complete raw materials for construction and industrial nonmetallic raw materials.(Vujec;1996). Minerals for energy production whose reserves have been found in Croatia include coal, oil and natural gas. Other energy mineral reserves (uranium, charcoal) have not been found.

"The series of solutions put into place by the Law on mining that is currently in effect (passed on April 26th 2013, on the 8th meeting of the Croatian parliament) aims to address the flaws of the Law on mining (Official gazette of Croatia, issues 75/09 and 49/11) observed in the routine

practices of the bodies in charge of mining in Croatia, i.e. granting concession rights, the exploitation of which is conducted under a single tendering in a singular four-phase process, which is entirely within the boundaries proscribed by the new Law on concession rights (Official gazette of Croatia, issue 143/12). This guarantees legal security to the listed mining subjects, with the goal of encouraging significant investments into the mining business, specifically research and exploiting raw mineral resources.
Aside from the afore mentioned, the standing Law on mining allows efficient control over the amounts of mineral resources that get exploited as well as charging concession fees, it describes the process of stripping an area and performing mining operations under special conditions (environmental regulations and/or construction laws), it adjusts regulations for special circumstances for exploitation (for example sea salt, construction-grade sand and shale, storing methane, and the permanent disposal of gases in geological structures), clearly defines inherited rights, i.e. the necessary steps to make existing regulations match the outlines set by the standing Law on mining, and defines the steps for making subsequent adjustments for enforcing the Law. In conclusion, the standing Law on mining will allow for the more efficient and transparent issuing of concessions in mining, i.e. exploiting mineral resources, which should reflect positively on larger investments, strengthen economic activity, increase general tax gains and concessionary income of the state, and create new jobs."(Klasić;Mikulić;2013.)

On 31 December 2017, the Ministry of Economy published a document listing the balance of total reserves of mineral resources in the Republic of Croatia.

Table 1: *Overview of exploitation reserves of mineral resources found in the Republic of Croatia with the number of exploration areas and exploitation fields.*

Type of mineral resource	**Exploitation reserves in 1,000 m^3**	**Total exploration areas**	**Total exploitation fields**
Dimension stone	25,410,241	2	86
Bauxite	790,664	0	2
Brick clay	29,122,946	0	16
Gypsum	41,856,824	0	4
Construction sand and gravel	138,958,728	1	50
Carbonate minerals for industrial processing	250,132,386	0	13
Ceramic clay and fireclay	1,605,035	0	2
Quartz sand	19,475,923	0	5
Mineral resources for cement production	398,836,579	0	4
Sea salt	0	0	2
Silicate minerals for industrial processing	452,159	0	1
Crushed stone	568,557,675	5	218
Tuff	3,926,132	0	1

Source: https://www.mingo.hr/page/kategorija/rudarstvo (as at 24 February 2019)

The Table above shows that crushed stone has the largest number of exploitation reserves of all mineral resources in Croatia; there are 5 exploration areas and 218 exploitation fields for crushed stone. It is followed by mineral resources for cement production and carbonate minerals for industrial processing.

There are only 8 exploration areas in total, which is a very low number at the level of the entire country. There is a total of 406 exploitation fields, but there are large differences between the numbers of exploitation fields for individual mineral resources.

Šebečić (1996) suggested that Mining Authority within the State has to be reconstructed, or to establish the Mining and Geological Administration, for the better affirmation of mining entrepreneurship.

2.1. Monitoring of mining in Croatia

Monitoring of mining activities through history depends on current knowledge, interest and valid legal regulations.
We can find information on the history of mining activities in a certain area or at a specific deposit in documents kept in archives, libraries, etc., which are publicly, and occasionally privately, owned.
For mining in the current territory of the Republic of Croatia, archival documents and books dating back to the operation of the former Imperial and Royal Mining Captaincies in Zagreb, Zadar, Split and Klagenfurt represent particularly important sources (Šebečić, B., 1996).
Since financial investments into exploration of deposits were extremely short-lived and low, there is no relevant data in Croatia regarding which ore deposits can be exploited and to what degree they have been explored.
Such information is of extreme importance for mining companies because they make the decision on investing capital into exploitation. Likewise, tax incentives should be provided to mining companies in high-risk areas in order for them to undertake such projects.

2.2. Mining in Slavonia

According to the data of the Ministry of Economy as at 31 December 2017, a list was made in regard to exploration areas and exploitation fields in each county, with a calculated balance of mineral resource reserves.
The region of Slavonia encompasses five counties, for which an overview of exploration areas and exploitation fields will be given below.
The **Brod-Posavina County** has five recorded exploitation fields extracting mostly crushed stone and a smaller amount of carbonate minerals for industrial processing. Four mining economic entities operate in the territory of the above county (Kamen-Psunj d.o.o., Molaris d.o.o., Brod d.o.o., Hrvatske šume d.o.o.) and the deposits are found in the territories of the municipalities Okučani, Cernik and Podcrkavlje, as well as in the town of Pakrac.
There are only eight exploitation fields and no exploration areas recorded in the **Osijek-Baranja County**. Mineral resources exploited in the area of the above county are mineral resources for cement production, crushed stone and brick clay. Seven mining economic entities operate in the territory of the county (Našicecement d.o.o., CGM Kamen d.o.o., Tondach Hrvatska d.d., Hrvatske šume d.o.o., Dilj d.o.o., Opeka d.d., Kamenolom Gradac d.d.) and the deposits are found in the territories of the following municipalities/towns – Našice, Donja Motičina, Satnica Đakovačka, Feričanci, Erdut, Gorjani.
There are 19 recorded exploitation fields in the **Požega-Slavonia County** for exploiting quartz sand and crushed stone. Five mining economic entities operate in the territory of the county (Lipik Glas d.o.o., Hrvatske šume d.o.o., Cestar d.o.o., Velički kamen d.o.o., Slavonija d.o.o.) and the deposits are found in the territories of the following towns/municipalities: Pakrac, Kutjevo, Pleternica, Lipik, Požega, Velika, Kaptol, Brestovac.

The **Virovitica-Podravina County** contains nine exploitation fields for extraction of construction sand and gravel, crushed stone, ceramic clay and fireclay. Five mining economic entities operate in the territory of the county (Atika, Radlovac d.d., Hrvatske šume d.d., Keramika Modus d.o.o., Romić-promet d.o.o.) and exploitation fields are found in the territories of the following municipalities/towns: Špišić-Bukovica, Orahovica, Voćin, Lukač.
The **Vukovar-Srijem County** has only two recorded exploitation fields used for exploitation of brick clay. Deposits are found in the territory of the town of Vinkovci and Dilj d.o.o. is the only mining economic entity operating in the territory of said county.
All together, we can conclude that in Slavonia the main mineral resources suitable for exploitation are crushed stone, sand, gravel, clay and the mineral necessary for cement production (near Našice).

The Slavonian region is characterized by a relatively significant representation of the rare eruptive and metamorphic rocks. All rock masses of tectonic are significantly disturbed. Diabase is exploited in Žervanjska (Orahovica), amphibolites in Vetovo (Slavonian Požega) and Fukinac (Okučani), granite in Šeovica (Pakrac). Carbonate rocks of Thrace age are exploited in smaller number of quarries: Veličanka (Požega), Sirač and Hercegovac (Orahovica). (Crnički, J., Šinkovec, B., 1993)

According to the 2017 list published by the Ministry of Economy, it is easily noticeable that the counties making up the region of Slavonia recorded a much smaller number of exploitation fields in comparison with counties in other Croatian regions. Likewise, it is important to note that there are no exploration areas recorded in Slavonia. This data shows that mining in Slavonia is at a low point; it is not deemed as important and no investments are being made for its development.

3. Research on the importance and profitability of *National Classification of Activities (NKD* 2007) group 08.1 – quarrying of stone, sand and clay in Slavonia

This research paper focuses on determining business entities in the group 08.1 – Quarrying of stone, sand and clay in Slavonia, the eastern part of Croatia, and their importance for the economy and employment of Slavonia. Out of HRK 1.35 billion revenue, which companies that do business pursuant to NKD 2007 group 08.1 classification realized in 2017 in whole Croatia, the share of the companies in the five counties of eastern Croatia (Slavonia) amounts to HRK 149.89 million, i.e. 11.1%. Actually, that is quite a high share considering that most people consider Slavonia to be "flat" and full of forests and agricultural land. These figures clearly show that it is not a relevant field for Croatian economy in general, or the economy of Slavonia, but it is important to analyse it due to its undisputable contribution to other branches of the economy, especially construction.
The goals of this research paper are to analyse the size and characteristics like profitability, employment, influence of labour cost on general cost and the contribution to added value by the entrepreneurs in the observed section.

3.1. Group 08.1 – Quarrying of stone, sand and clay pursuant to NKD 2007

Pursuant to NKD 2007, group 08.1 – Quarrying of stone, sand and clay includes (source: URL: https://e-obrt.minpo.hr/dokumenti/nkd2007_s_objasnjenjima.pdf as at 8 March 2018)

08.11 Quarrying of decorative stone and construction stone, limestone, gypsum, chalk and schist

This class includes:
– quarrying, scabbling and sawing of decorative and construction stone like marble, granite, sandstone, etc.
– crushing of decorative and construction stone
– quarrying and crushing of limestone
– quarrying of gypsum and anhydrite
– quarrying of chalk and non-limed dolomite

This class excludes:

– quarrying of minerals for chemicals and fertilizers
– production of burned dolomite
– stone cutting, shaping and scabbling outside a quarry

08.12 Activity of gravel pits and sand pits; quarrying of clay and hydrosilicate clay

This class includes:

– excavating of industrial sand, construction sand and gravel
– crushing of gravel
– excavating of sand
– excavating of clay, fireclay and hydrosilicate clay

This class excludes:
– excavating of bituminized sand

It is clearly an industry which is engaged in exploitation of mineral resources on surface excavations, which includes more or less complex primarily mechanical raw material processing in order to get the final product for the market. "Mineral resources are all organic and inorganic mineral raw materials found in solid, liquid or gaseous state in original deposits, alluviums, tailing dumps, melting slags or natural solutions" (Mining Act, Article 4). All mineral resources are owned by the Republic of Croatia. In general, this industry is mostly regulated by the Mining Act and Concessions Act, as well as by-laws. In order to create conditions for stable and regular exploitation of mineral resources at a specific location, all prior activities have to be carried out, which takes several years – prior activities and studies, research permit, research work which has to prove or contest grounds for exploitation, and afterwards obtaining all necessary permits for forming exploitation field and obtaining concession for exploitation (resolving property-law relations, capability proof, environmental impact studies, mining project, location permit, etc.). Upon obtaining everything that is necessary, preliminary works start so that exploitation of the target raw material could begin (e.g. with stone exploitation preliminary works include removing and disposing of top soil and waste-rock). After all these activities have been completed and equipment has been purchased and mounted, all working processes are defined and labour costs can be monitored as something stable and time comparable. Next to legal and time barrier, capital barrier (high cost of initial investment for starting a business) makes this industry considerably risky and not so attractive for new companies. It is necessary to point out that the biggest consumers is the construction industry which uses these products from exploitation as a final product (in all parts of road construction, concrete production, railway construction, construction of all sorts of other objects), but also agricultural industry (raw material for animal food, land fertilizer, pesticides production) and chemical industries (raw material for paint production, polymer production, paper, ceramics and medicine production), which mostly use products from exploitation as a material for further processing or production of final products with increasing value.

3.2. Research methodology

The goal of this paper is to identify the entrepreneurs in this section of business in Slavonia, to measure their results, contribution to employment and average salary, and added value. The main source of data for this research was the Smart Vision tool developed by the company Bisnode, which is "a unique macroeconomic tool for monitoring the state of Croatian economy". In essence, this tool uses data that all companies in Croatia are legally obligated to deliver to FINA annually within the annual financial reports. The latest data available is for 2017.

Using the above-mentioned tool, the authors selected group 08.1 and defined the following criteria (filters):

- Only companies with a registered address in one of the five Slavonian counties (Osijek-Baranja, Vukovar-Srijem, Brod-Posavina, Požega-Slavonia and Virovitica-Podravina counties);
- All entities with income higher than HRK 10,000.00 in 2017;
- All entities with 1 or more employees (since labour costs cannot be analysed if the company has no employees);

Entities selected using this approach represent 99.99% of total income of group 08.1 for the five Slavonian counties and it can be said with certainty that they are a representative sample for reaching any type of conclusion. Table 2 shows all the entities selected in 2017 and sorted using the criterion of income (from the company with the highest income to the company with the lowest income). Likewise, it can be concluded from Table 2 that in 2017, selected companies collectively employed 244 employees, achieved net profit of HRK 8.9 million (profit margin 6%), added value of HRK 38.9 million and paid an average monthly gross salary of HRK 5,603.00, i.e. an average monthly net salary of HRK 4,312.44.

Following the selected and previously mentioned parameters, based on which a sample of research was set up, the authors aim at exploring and presenting the financial picture of companies engaged in the activity of Group 8.1. and to determin their profitability, the link of revenues and profitability with salaries, the salaries in regards to the state average, and the added value of the business.

Table 2: *Overview of all companies from group 08.1 according to the defined criteria (in HRK)*

NO.	PIN	COMPANY	TOWN	COUNTY	INCOME	PROFIT	NUMBER OF EMPLOYEES	AVERAGE NET SALARY	AVERAGE GROSS SALARY	ADDED VALUE
1	40910558665	VELIČKI KAMEN	Velika	Požega-Slavonia County	51,042,536.00	3,822,388.00	108.00	4,588.00	5,986.00	14,587,966.00
2	19862947689	RADLOVAC	Orahovica	Virovitica-Podravina County	47,588,661.00	4,784,193.00	75.00	5,968.00	8,062.00	16,071,208.00
3	11247301096	FELIKS REGULACIJA	Slavonski Brod	Brod-Posavina County	21,707,800.00	867,879.00	26.00	4,013.00	5,016.00	3,284,837.00
4	31674999329	KAMENOLOM GRADAC	Gradac Našički	Osijek-Baranja County	10,653,780.00	-186,372.00	2.00	5,501.00	6,911.00	194,394.00
5	23137847414	KAMEN-PSUNJ	Okučani	Brod-Posavina County	7,492,206.00	-1,632,648.00	14.00	6,106.00	8,532.00	1,776,348.00
6	68007288680	INVESTITOR	Slavonski Brod	Brod-Posavina County	6,430,014.00	1,144,543.00	11.00	3,553.00	4,461.00	2,094,860.00
7	03257281582	CGM KAMEN	Gornja Motičina	Osijek-Baranja County	3,469,946.00	391,797.00	4.00	4,095.00	5,218.00	740,673.00
8	80849495774	BOŽIĆ-Company	Slavonski Šamac	Brod-Posavina County	846,506.00	2,781.00	1.00	1,793.00	2,241.00	32,052.00
9	62964813010	SLAVONIJA	Pakrac	Požega-Slavonia County	649,662.00	-204,679.00	3.00	3,195.00	4,000.00	168,763.00
				TOTAL	**149,881,111.00**	**8,989,882.00**	**244.00**			**38,951,101.00**

Research methods used here for data processing were comparison and monitoring.

3.3. Hypotheses

The main hypotheses tested in this research were the following:

a) Share of gross annual labour cost in relation to annual income is below 15% of the income;
b) All companies with income of HRK 10,000,000 or more are profitable;
c) Average net annual salary is lower than average net salary in Croatia for 2017;
d) Companies from the observed group with more than 20 employees are surely profitable;
e) Share of added value in the observed group is equal to 20% or more of the income amount.

The above hypotheses were tested and certain conclusions were reached, which are presented below.

4. Research results

This chapter will present the research results for each individual hypothesis.

4.1. Share of gross annual labour cost in relation to annual income is below 15% of the income

The proposed hypothesis is that for generating income of HRK 1, HRK 0.15 or less must be invested into labour costs for generating said income. Due to technological advancements, the amount of required labour is decreasing, i.e. labour is increasingly substituted with automation and the share of labour costs has been decreasing for decades; however, this paper does not tackle this issue.

On the basis of the data acquired for the sample, annual labour costs for each employer can be easily calculated by multiplying the average gross monthly salary with the number of employees and then multiplying their product with 12, for every month of the year. The ratio of annual costs of gross salary and total annual income serves as the final, key indicator for this hypothesis. Table 3 provides an overview of all such indicators calculated for the sample.

Table 3: Share of annual salary costs in incomes for group 08.1

NO.	COMPANY	INCOME	NUMBER OF EMPLOYEES	AVERAGE GROSS SALARY	AVERAGE GROSS ANNUAL SALARY	SHARE OF SALARY COSTS IN TOTAL INCOME (%)
1	VELIČKI KAMEN	51,042,536.00	108.00	5,986.00	7,757,856.00	15.20%
2	RADLOVAC	47,588,661.00	75.00	8,062.00	7,255,800.00	15.25%
3	FELIKS REGULACIJA	21,707,800.00	26.00	5,016.00	1,564,992.00	7.21%
4	KAMENOLOM GRADAC	10,653,780.00	2.00	6,911.00	165,864.00	1.56%
5	KAMEN-PSUNJ	7,492,206.00	14.00	8,532.00	1,433,376.00	19.13%
6	INVESTITOR	6,430,014.00	11.00	4,461.00	588,852.00	9.16%
7	CGM KAMEN	3,469,946.00	4.00	5,218.00	250,464.00	7.22%
8	BOŽIĆ-Company	846,506.00	1.00	2,241.00	26,892.00	3.18%
9	SLAVONIJA	649,662.00	3.00	4,000.00	144,000.00	22.17%
		149,881,111.00	**244.00**		**19,188,096.00**	**12.80%**

On the basis of this analysis, it can be concluded that this hypothesis has been confirmed. **In 2017, all companies from the sample had total labour costs of HRK 19.18 million and the share of said labour costs in total income was 12.8%.** It can also be observed that companies with higher income from the top half of Table 3 had a generally higher share of labour costs in total income than companies in the bottom half of the Table (excluding Kamenolom Gradac, which was in bankruptcy in 2017, so its current indicators are not indicators of healthy and sustainable operations, but one-off effects), which can be caused by multiple factors.
These factors may include:

- Lower level of equipment and technology (which requires high capital investments), which in turn means there is a greater need for workers;
- Lack of skilled workforce (what should objectively be one position is filled by multiple workers) or unfavourable organizational structure;
- Social empathy of employers, which results in them hiring more employees than required for business purposes.

The authors are convinced that all of the above factors are present in employers to a certain degree, but that the employers still attempt to keep labour costs under control.

4.2. All companies with income of HRK 10,000,000 or more are profitable

Table 4 below presents the observed companies sorted according to their income. A line has been drawn under the last company meeting the criterion set in the hypothesis.

Table 4: Overview of observed companies according to income

NO.	PIN	COMPANY	TOWN	COUNTY	INCOME	PROFIT
1	40910558665	VELIČKI KAMEN	Velika	Požega-Slavonia County	51,042,536.00	3,822,388.00
2	19862947689	RADLOVAC	Orahovica	Virovitica-Podravina County	47,588,661.00	4,784,193.00
3	11247301096	FELIKS REGULACIJA	Slavonski Brod	Brod-Posavina County	21,707,800.00	867,879.00
4	31674999329	KAMENOLOM GRADAC	Gradac Našički	Osijek-Baranja County	10,653,780.00	-186,372.00
5	23137847414	KAMEN-PSUNJ	Okučani	Brod-Posavina County	7,492,206.00	-1,632,648.00
6	68007288680	INVESTITOR	Slavonski Brod	Brod-Posavina County	6,430,014.00	1,144,543.00
7	03257281582	CGM KAMEN	Gornja Motičina	Osijek-Baranja County	3,469,946.00	391,797.00
8	80849495774	BOŽIĆ-Company	Slavonski Šamac	Brod-Posavina County	846,506.00	2,781.00
9	62964813010	SLAVONIJA	Pakrac	Požega-Slavonia County	649,662.00	-204,679.00
				TOTAL	**149,881,111.00**	**8,989,882.00**

The Table shows that a profitable company with income of HRK 10.6 million incurred a loss, but that three of the observed entities with income under HRK 10 million generated profit in their operations in 2017. **The hypothesis was thus not confirmed.**

It is clear that multiple criteria affect the profitability of a business; thus, the criterion as formulated in the hypothesis was not adequate.

4.3. Average net annual salary is lower than average net salary in Croatia for 2017

Based on the data obtained from the Croatian Bureau of Statistics (Official Gazette 25/2018, document no. 500 of 14 March 2018), the average gross salary in the Republic of Croatia in 2017 amounted to HRK 8,055.00, whereas the average net salary in the Republic of Croatia amounted to HRK 5,985.00.
Based on the data on the selected sample, which has already been described in section 2.2, where it was stated that the companies from the sample paid average gross monthly salary in the amount of HRK 5,603.00, i.e. average net salary of HRK 4,312.44, **it can be concluded that the average gross salary paid by said companies is 30.4% lower than the state average, whereas the average net salary is 27.9% lower than the state average.**
This fairly significant difference indicates that mining is obviously a branch that does not provide high personal income. However, if annual salary expenses incurred by the observed companies were 30.4% higher, that would decrease their profit by HRK 5.8 million and their profit margin would be 2.1%. This would make mining an extremely low-profit branch (considering the risks and a substantial amount of funds required for initial investment) which would probably be completely unattractive to entrepreneurs.
In this regard, employers engaged in other mining activities in Slavonia are in a difficult position. On the one hand, they want to retain their best employees, offer them adequate motivation and attract new employees. On the other hand, their current income is significantly lower than the state average. In any case, to retain and motivate employees, the observed employers will have to increase salaries and match the state average as closely as possible. This

can be achieved only by calculating increased labour costs into the price of final products, thus covering increased costs and retaining the existing level of profitability.

4.4. Companies from the observed group with more than 20 employees are surely profitable

This hypothesis was based mainly on the assumption that companies with a large number of employees know what they are doing, that such a great amount of workforce has been adequately organized and equipped and that they also use other resources efficiently. By sorting the observed companies by the number of employees, as presented in Table 5, it can be **noticed immediately that this hypothesis is correct**. Each of the 3 companies with 20 or more employees was profitable. Therefore, it can be concluded that more employees obviously mean a greater chance for a company's profitability. However, this is not an absolute rule because a company's profitability is also affected by other factors, as stated in previous sections.

Table 5: *Observed companies sorted by the number of employees in descending order*

NO.	COMPANY	TOWN	INCOME	PROFIT	NUMBER OF EMPLOYEES
1	VELIČKI KAMEN	Velika	51,042,536.00	3,822,388.00	108.00
2	RADLOVAC	Orahovica	47,588,661.00	4,784,193.00	75.00
3	FELIKS REGULACIJA	Slavonski Brod	21,707,800.00	867,879.00	26.00
5	KAMEN-PSUNJ	Okučani	7,492,206.00	-1,632,648.00	14.00
6	INVESTITOR	Slavonski Brod	6,430,014.00	1,144,543.00	11.00
7	CGM KAMEN	Gornja Motičina	3,469,946.00	391,797.00	4.00
9	SLAVONIJA	Pakrac	649,662.00	-204,679.00	3.00
4	KAMENOLOM GRADAC	Gradac Našički	10,653,780.00	-186,372.00	2.00
8	BOŽIĆ-Company	Slavonski Šamac	846,506.00	2,781.00	1.00

4.5. Share of added value in the observed group is equal to 20% or more of the income amount

Added value is calculated as sales income less the cost of goods and services purchased from other parties and depreciation costs. This is one of the indicators which make a particular branch attractive or unattractive to both the social community and potential investors.

To test this hypothesis, it was necessary to calculate the share of added value per income item. This is shown in Table 6, in which analysed companies are sorted by income (in descending order).

Table 6: Overview of added value per income item

NO.	COMPANY	TOWN	INCOME	PROFIT	ADDED VALUE	SHARE OF ADDED VALUE IN INCOME (%)
1	VELIČKI KAMEN	Velika	51,042,536.00	3,822,388.00	14,587,966.00	28.58%
2	RADLOVAC	Orahovica	47,588,661.00	4,784,193.00	16,071,208.00	33.77%
3	FELIKS REGULACIJA	Slavonski Brod	21,707,800.00	867,879.00	3,284,837.00	15.13%
4	KAMENOLOM GRADAC	Gradac Našički	10,653,780.00	-186,372.00	194,394.00	1.82%
5	KAMEN-PSUNJ	Okučani	7,492,206.00	-1,632,648.00	1,776,348.00	23.71%
6	INVESTITOR	Slavonski Brod	6,430,014.00	1,144,543.00	2,094,860.00	32.58%
7	CGM KAMEN	Gornja Motičina	3,469,946.00	391,797.00	740,673.00	21.35%
8	BOŽIĆ-Company	Slavonski Šamac	846,506.00	2,781.00	32,052.00	3.79%
9	SLAVONIJA	Pakrac	649,662.00	-204,679.00	168,763.00	25.98%
			149,881,111.00	**8,989,882.00**	**38,951,101.00**	**25.99%**

Table 6 shows that **the hypothesis was confirmed** because the average share of all companies from the analysed group in value added per income item amounted to 25.99%. Any activity generating above 20% of added value is welcome in any economy and any public administrative body should encourage the development of such activities in the territory of its competence. This is especially true for Slavonia, which is generally the least developed Croatian region.

5. Conclusion

After reviewing the results of the research, it can be concluded in short that the reviewed section 08 in Slavonia is a small (in sense of revenues, profit, employment and average salary) and a profitable one that is not labour intensive but capital intensive and that it creates more than 20% of added value. Each company on the market strives to establish successful business operations and generate profit. In achieving this objective, the main obstacles that companies encounter are costs.

Three out of five hypotheses have taken into account the labour costs and their size. Due to technological advancements, labour is increasingly substituted by automation and labour costs are thus decreasing. Modern-day mining gives priority to surface mining rather than underground mining because it offers the possibility of full exploitation of resource deposits and full mechanisation and automation of technological processes related to extracting valuable mineral resources. Moreover, working conditions are much more favourable in surface than underground mines. Working in underground mines is extremely strenuous for people, which is why the objective is to only use machines for work in underground mines, whereas people would only control the machines from the surface via computers. Therefore, in the future, mechanical engineering, computer engineering and electronics will have to face the challenge of introducing full automation in mines and thus even more eliminate the need of people having to work in mines.

Based on this research, it can be concluded that companies generating more income incur higher labour costs, but that labour costs remain below 15% of income. Labour costs should be kept under control to reduce the rate of their increase. To generate profit, companies must know how to control, manage and minimise labour costs. Company's profitability is affected by a multitude of various factors, which is why high business income does not necessarily guarantee profitability, as proven in this research. Mining is a branch with extremely low personal income – as much as 27.9% below state average. Unfortunately, this is the reason why many skilled workers leave the country to work abroad and why Croatia has lost a significant amount of workforce. It is also clear that the work at hand in a quarry company has to be divided among a certain amount of people in order to reach at least a break-even revenue size.

This paper showed that the quarry companies in Slavonia were profitable in 2017 and what amount of revenues guarantees a annual profit. But, such results certainly vary from year to year. As section 08.01 is mostly tied to the construction industry which has declined significantly in the Republic of Croatia, as almost all companies have been suffering from illiquidity, high prices of energy sources, crisis, lack of infrastructure projects by the state and various state-imposed requirements. These issues are even more severe in Slavonia. Also, additional problems that quarry companies face are in most cases specific. They refer to non-compliance of mining regulations with laws governing physical planning and construction, nature and environmental protection and concessions. The central issue actually arises from the conflict and disagreement between the state authorities competent for mining and other state authorities, which have a great impact on mining-related issues in various stages of their work and thus affect mining activity in general. Little attention is paid to said mining-related issues. Although Croatia has mining experts capable of responding to current challenges, companies still have to deal with insurmountable problems on a daily basis. Consequently, mining companies and the industry in general pay a high price due to all these circumstances the business is considered extremely risky and there is a constant pressure on the profit margins of the existing entrepreneurs.

At first glance, it may seem that the mining industry is not particularly significant and that it is possible to manage without it. However, this is far from true. Around the world, mining is a basic industry that generates new value and supports and encourages many other industries. Since this branch provides raw and other material for many large-scale and more significant activities, particularly in construction, it is impossible to achieve economic growth and create fixed assets without developing mining activities. It is necessary to pay attention to these facts to ensure a long-term, sustainable development of this strategic industry.

Various projections about rapid depletion of solid mineral resources have proved not to be true as new reserves of resources have been discovered in Croatia. This means that mining will continue to fulfil the industries' needs for mineral resources in the future, but with a special emphasis on environmental protection. Only gas and oil reserves have been estimated as significantly depleted. In the future, mining will not focus only on opening new mines. Rather, landfills will become an extremely important source of secondary raw materials due to recycling and reuse of waste in the production of new products. This will reduce the need for opening new mines, decrease the price of final products and improve environmental protection. Croatia must also follow this trend if it wants to keep up with the rest of the world.The above-mentioned facts indicate that mining of crushed stone, sand and gravel in Slavonia is absolutely necessary and that there is potential to develop it in the future. The main directions for the future of this branch are to expand and develop the existing quarries and to find new ways to use the available resources. But a lot of research, effort, knowledge and funds must be invested to ensure long-term sustainability of mining activities and fulfilment of requirements of all parties utilising mineral resources.

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URBAN (IR)REGULARITIES IN EASTERN CROATIA: ARE THE MAIN URBAN ECONOMICS LAW FOLLOWED OR NOT?

ABSTRACT

It has been shown that in Eastern Croatia population decrease, mainly due to the Croatian War of Independence, bad economic situation and low fertility rates, is present more than 20 years. The main urban economics laws, such as Fibonacci growth sequence and Zipf's law, however assume that the population is increasing. The aim of this paper is to investigate whether urban economics law hold in the case of decreasing population. The analysis is conducted by observing settlements sizes in five counties that together form the area of Eastern Croatia: county of Osijek-Baranja, county of Požega-Slavonia, county of Slavonski Brod-Posavina, county of Virovitica-Podravina and county of Vukovar-Sirmium. The settlements size data are collected from the official population censuses conducted in 1991, 2001 and in 2011. The conducted analysis has shown that the structure of Eastern Croatia's urban population system comports with the Fibonacci sequence. Precisely, mean absolute percentage errors (MAPE) has showed that Fibonacci method 2, which takes into account population of each successive city and divides it by the golden ratio constant, is more accurate than Fibonacci method 1 (8.32% vs 13.08%) implying little error in regard to Fibonacci sequence. In addition, when the settlements larger than 500 inhabitants were included in the analysis, another urban regularity known as Zipf's law, seems to hold for Eastern Croatia in general and for the each observed county except in the case of Slavonski Brod-Posavina. The brought conclusions shed new light and bring insight to the problem of Eastern Croatia depopulation process from another perspective. New population census is planned to be conducted in 2021. It is highly recommended to repeat the analysis with the new data.

Key words: *Eastern Croatia, Fibonacci series, settlements, Zipf's law*

1. Introduction

The region of Eastern Croatia has experienced sharp population decrease in the last decades, mainly due to the Croatian War of Independence, bad economic situation and low fertility rates. It is important to understand what implications have this population decline on the structure of Eastern Croatia urban system. Main urban economics laws which will be inspected in the paper are Fibonacci growth sequence and Zipf' law or rank-size rule. Fibonacci sequence is found in nature and is applicable in various fields of human activity such as architecture, biology, astronomy and economy. It is also used in prediction of population of settlements. Another urban regularity in the field of urban economics which seems to hold in empirical testing is Zipf's law. It states that population or city size should be proportionate to the city rank.

Goal of the paper is investigation of urban (ir)regularities in Eastern Croatia and answering the important question are the main urban economics laws followed or not in the case of negative demographic trends and depopulation in the last three decades. First research question or hypothesis which will be answered is whether the structure of Eastern Croatia's urban system complies with the Fibonacci growth sequence. In the process of hypothesis testing standard methods of statistics and econometric techniques will be used. The first research question will be answered with the help of two forecasting methods; first method which takes the population of the largest city and divides it by golden ratio constant and second method takes the population of each successive city and divides it by the golden ratio constant. The precision of the two forecasting methods will be tested using mean squared error (MSE), root mean squared error (RMSE) and mean absolute percentage error (MAPE). Second research question will be proved by calculating Zipf's exponents using ordinary least squares (OLS) regression. If the Zipf's law holds the values of exponents should be close to the value of -1[1]. In this case it will be inspected whether the population decline in Eastern Croatia in last three censuses have affected the rank size rule. Due to negative demographic trends in Eastern Croatia, this analysis will be departure from the standard Zipf's law testing model in the case of population growth.

Paper is structured in six chapters. After the brief introduction second chapter elaborates on regional development and demography of the Eastern Croatia and a depopulation problem. Literature review of chosen urban economics laws is explained in section three while data and methodological issues are presented in section four. Main results of the analysis and discussion is given in chapter five. In the last chapter concluding remarks are summarized.

2. Regional development and demography of the Eastern Croatia and the depopulation problem

Croatia has been experiencing very unfavourable demographic trends for many years so far. The Croatia's macro region of interest in this paper is the region of Eastern Croatia. Five counties that together form the area of Eastern Croatia are county of Osijek-Baranja, county of Požega-Slavonia, county of Slavonski Brod-Posavina, county of Virovitica-Podravina, and county of Vukovar-Sirmium. The region of Eastern Croatia covers the area of 12,486 square kilometre and extends to more than fifth (22%) of Croatia's land territory. It has 805,998 inhabitants representing 18% in total population of Croatia. It is the least developed

[1] Or one if the absolute value of the coefficient is used. In economics absolute value of this coefficient is often used for easier interpretation of results.

makroregion in Croatia with the GDP per capita of 6,947€ having only 69.2% of the average Croatian GDP in 2011, Institute for tourism (2014, 11).

According to the development index by counties all five counties from the region of Eastern Croatia have the lowest index of development in Croatia. Matišić and Pejnović (2015) main causes of Eastern Croatia lagging behind in regional development of Croatia found in the Homeland War and war damages, demographic and migration losses due to demographic aging and natural depopulation, the process of deindustrialization and others. Eastern Croatia has recently proven to be the most problematic area of Croatia. Negative economic and development trends have resulted in emigration leaving deep marks in demographic development. Čipin and Ilieva (2017) noted that from January 2007 to December 2016 Croatia lost 160,000 persons while out-migration has become the main demographic driver of depopulation in Croatia.

Figure 1: *Map of Croatia's macroregions*

Source: Stipančić, G. et al, 2012, 143

Akrap (2015) made projection for total number of inhabitants per county by 2051 starting from the hypothesis that there will be no social interventions in the area of fertility and economic development policy with a pronounced spatial aspect. The projection predicted that the population of Eastern Croatia will be reduced by one third of inhabitants, from 805.998 inhabitants in 2011 to 536.844 inhabitants in year 2051. According to Jurun, Ratković and Ujević (2017) Croatia has neither national demographic strategy nor national population policy carried out while the Croatian population is one of the oldest in the world with negative ageing index.

3. Literature review of chosen urban economics laws

In this chapter literature review of chosen urban economics laws will be given. Firstly, theoretical and empirical aspects of using the Fibonacci sequence in economics will be presented and elaborated. Fibonacci sequence has a wide application in economics. It is mostly used for stock price market prediction. Gaucan and Maiorescu (2011) analysed Fibonacci retracements as an important tool for prediction on forex market. Fibonacci retracements showed as an unavoidable part of technical analysis represented with graphics like Fibonacci arcs, channel, fan and expansion. Giryn and Kozubski (2012) also stressed the role of Fibonacci numbers as an important tool for technical analysis. Twenty currency pair patterns were examined with the results showing that Bat patterns were more effective than Butterfly patterns with the effectiveness of 90%. Kumar (2014) analysed retracements and relationship between Fibonacci sequence and waves in predicting the stock market behaviour. The falling wave 2 was found to be predicted more precisely than wave 1. Proposed model could be further subjected to machine learning techniques to remove the subjectivity. Lahutta (2016) highlighted the role of technical analysis and consequently Fibonacci sequence for supporting investors' decisions on Warsaw Stock Exchange. Special emphasis was given to price patterns created using Fibonacci sequence. Magazzino, Mele and Prisco (2012) applied Elliott's wave theory on the index S&P 500 in the period from 2008 to 2011. Main finding of their analysis is that in the case of turbulent financial markets technical analysis and the Elliott's wave theory adequately predict movements on the financial markets. Another application of Elliott's wave theory and Fibonacci sequence was for analysing the equity share fluctuations in India, Talreja (2014). Fonseca (1988) used Fibonacci sequence to analyse urban rank-size hierarchy of U.S. urbanized areas calculating predicted populations on data for 1970 and 1980 censuses. Conclusions of the paper go in the way that spiral constant is better tool for prediction urban distributions than the rank-size rule but both instruments should be tested on national urban systems. Furthermore, spiral constant can explain concavity in rank size distributions as a deviation from theoretically expected straight line.

Second urban economics law which will be used in the analysis is Zipf's law or rank-size rule. Auerbach (1913) was first to point to the relationship between city rank and city size. The term Zipf's law was named after the George Kingsley Zipf (Zipf, 1949). There are many papers in this field that investigated the validity of Zipf's law. Common conclusion is that rank-size rule holds in the upper tale of the distribution, Rosen and Resnick (1980), Krugman (1996). Gabaix and Ibragimov (2011) introduced a new method to improve the OLS estimation of the tail exponents by using rank minus one half instead of rank variable alone. The advantages of a new method are that it reduces the bias in a small samples and performs better under heavy-tailed distributions. While Zipf's law is in static form, his dynamic version is presented by the Gibrat's law which states that growth of city population should be independent of city size. Those two laws are often being studied together because of their complementarity. Luckstead and Devadoss (2014) investigated if the world's largest cities follow the Zipf's and Gibrat's laws by applying nonparametric estimations. Both laws held with Zipf's exponent being around one in almost 95% of total observations. Modica, Reggiani and Nijkamp (2015) also explore the validity of both laws and interdependencies between them. They derived the conclusions that the mean is independent of city size and the coefficient of the rank-size rule is different from one implying that the variance is dependent of city size. Studies about the validity of Zipf's law in Croatia are related to work of Jošić and Nikić (2013) and Jošić and Bašić (2018). Both research corroborated to the existence of Zipf's law for city proper and city agglomerations using 2011 Census of Population Survey.

4. Data and methodology

In the paper settlements and their sizes from Eastern Croatia will be observed. Under Eastern Croatia here it will be considered geographical area which was previously defined by following five counties in Croatia: county of Osijek-Baranja, county of Požega-Slavonia, county of Slavonski Brod-Posavina, county of Virovitica-Podravina, and county of Vukovar-Sirmium. The analyses will be conducted for each county separately but the main focus will be given to counties as a whole.

The data about settlements and their sizes will be collected from the official censuses which are conducted by Croatian Bureau of Statistics (2018a, b). It has been decided that only censuses from the periods of Republic of Croatia independence will be observed. Consequently, the last three censuses, conducted in 1991, in 2001 and in 2011, will be taken into account.

In the first step descriptive analysis of settlements in Eastern Croatia will be conducted. The results should reveal whether the number of settlements and the average settlements size are decreasing and point out the variability level in settlement sizes. In addition, growth rates of settlements between the three observed censuses will be observed as well.

Fibonacci series is the first urban economics law which will be examined. Fibonacci series is based on sequence of numbers where the following one is represented by the sum of the previous two values.

$$0,1,1,2,3,5,8,13,21,34,55,89,144,233,... \tag{1}$$

The main use of Fibonacci series in urban economics is to forecast settlements size. In order to forecast settlement size by using Fibonacci series two different methods will be applied. At both methods, first, settlements are ranked according to their size in decreasing order. After that Fibonacci series is used to select certain number of settlements (the number of selected settlements depend on the number of observed settlements). Finally, forecasting is applied only for the selected settlements by applying the two forecasting methods. Forecasts at method 1 are calculated as follows:

$$FSS_{FR} = \frac{y_1}{\varphi_1^{FR-1}}, \ FR = 2,3,4,..., \tag{2}$$

where FSS is forecasted settlement size, FR is the settlement rank according to the Fibonacci series, y_1 is the actual settlement size of the largest settlement, φ_1 is the golden ratio (value of 1.6180339887). On the other hand, forecasts at method 2 are calculated by using following equation:

$$FSS_{FR} = \frac{y_{FR-1}}{\varphi_1}, \ FR = 2,3,4,..., \tag{3}$$

where FSS is forecasted settlement size, FR is the settlement rank according to the Fibonacci series, y_{FR-1} is the actual settlement size at the previously Fibonacci ranked settlement, φ_1 is the golden ratio (value of 1.6180339887). In order to measure precision of those two forecasting methods, following two overall forecasting errors will be calculated:

$$RMSE = \sqrt{\frac{\sum_{FR=2}^{n} \left(y_{FR} - FSS_{FR} \right)^2}{n}}, \tag{4}$$

$$MAPE = \frac{\sum_{FR=2}^{n} \left| \frac{y_{FR} - FSS_{FR}}{y_{FR}} \right|}{n} \cdot 100, \qquad (5)$$

where $RMSE$ is root mean squared error, FR is the settlement rank according to the Fibonacci series, y_{FR} is the actual settlement size of certain Fibonacci ranked settlement, FSS_{FR} is forecasted settlement size of certain Fibonacci ranked settlement, n is the number of observed Fibonacci ranked settlements, $MAPE$ is mean absolute percentage error. Of course, the lower forecasting errors are, the used forecasting method can be considered as more accurate.

The validity of Zipf's law for the counties of Eastern Croatia separately and the whole region in general will be tested using rank-size distribution. It ranks cities according to their size. Largest city gets the value of one, the next biggest city gets the value of two and so on. Rank-size distribution is based on Pareto distribution (Auerbach, 1913).

$$R = \alpha S^{-\beta}, \qquad (6)$$

where R is a city rank, α is a constant, S is a city size representing the number of citizens while β is a Pareto exponent. Rank-size distribution can be written using natural logarithms.

$$\ln(R) = \ln(\alpha) - \beta \ln(S). \qquad (7)$$

Lower values of Pareto exponent β indicate more even urban system while the higher values of Pareto exponent indicate that the urban system is more unequally distributed. In hypothetical cases where $\beta = 0$ all cities are of the same size and if $\beta = \infty$ there is only one city.

5. Analysis of settlements in Eastern Croatia

In this chapter the analysis of settlements in Eastern Croatia will be conducted. After the descriptive statistics the results of Fibonacci growth series and rank-size rule will be displayed and discussed.

5.1. Descriptive statistics of settlements in Eastern Croatia

According to census conducted in 2011, Eastern Croatia has near one thousand settlements in which live about 800 thousand citizens (Croatian Bureau of Statistics, 2018b). So, in the five counties, which together geographically form the area of Eastern Croatia, lives about one quarter of the total number of citizens in Croatia. In Table 1 are given detailed main descriptive statistics results for each county separately and for Eastern Croatia in all three observed census years.

Table 1: *Descriptive statistics results for settlements in Eastern Croatia, five counties, censuses conducted in 1991, in 2001 and in 2011*

County	Census	Statistics							
		No of sett.	Mean	St. dev.	CV	Skew.	Med.	Min.	Max.
Osijek-Baranja	1991	260	1,412	6,706	475	14	521	1	104,761
	2001	261	1,266	5,844	462	14	440	1	90,411
	2011	257	1,182	5,490	464	14	357	1	84,104
Požega-Slavonia	1991	275	361	1,407	390	12	138	4	21,046
	2001	269	319	1,356	425	13	102	1	20,943
	2011	262	306	1,284	419	13	104	1	19,506
Slavonski Brod-Posavina	1991	184	951	4,204	442	12	403	5	55,683
	2001	182	971	4,435	457	12	356	2	58,642
	2011	181	876	4,056	463	12	302	2	53,531
Virovitica-Podravina	1991	189	554	1,531	277	8	244	9	16,167
	2001	189	494	1,477	299	8	196	2	15,589
	2011	179	461	1,427	310	8	170	3	14,688
Vukovar-Sirmium	1991	84	2,753	6,150	223	6	1,307	126	44,639
	2001	84	2,438	4,985	204	5	1,012	88	33,239
	2011	84	2,137	4,600	215	5	862	47	32,029
All	1991	992	985	4,440	451	17	312	1	104,761
	2001	985	905	4,011	443	16	274	1	90,411
	2011	963	836	3,754	449	16	247	1	84,104

Note: No of sett. – number of settlements; St. dev. – standard deviation; CV – coefficient of variation; Skew. – skewness; Med. – median; Min. – minimum; Max. – maximum.
Source: Authors, Croatian Bureau of Statistics (2018a, b).

Generally speaking, Table 1 shows that both, the number of settlements and the average settlement size, are decreasing at each consecutive census. However, there are some small exceptions. For example, at county of Vukovar-Sirmium the number of settlements stayed the same but the average settlement size has decreased dramatically. The rest descriptive statistics results are showing that there are present huge differences in settlement sizes in all observed counties. According to the coefficient variation values, the highest variability level, when settlement sizes are considered, is present at county Osijek-Baranja.

Table 2: *Total settlement size of settlements in Eastern Croatia and the growth rates, five counties, censuses conducted in 1991, in 2001 and in 2011*

County	Total settlement size			Growth rate (%)		
	1991	2001	2011	2001/1991	2011/2001	2011/1991
Osijek-Baranja	367,193	330,506	303,764	-9.99	-8.09	-17.27
Požega-Slavonia	99,334	85,831	80,263	-13.59	-6.49	-19.20
Slavonski Brod-Posavina	174,998	176,765	158,520	1.01	-10.32	-9.42
Virovitica-Podravina	104,625	93,389	82,531	-10.74	-11.63	-21.12
Vukovar-Sirmium	231,241	204,768	179,521	-11.45	-12.33	-22.37
All	977,391	891,259	804,599	-8.81	-9.72	-17.68

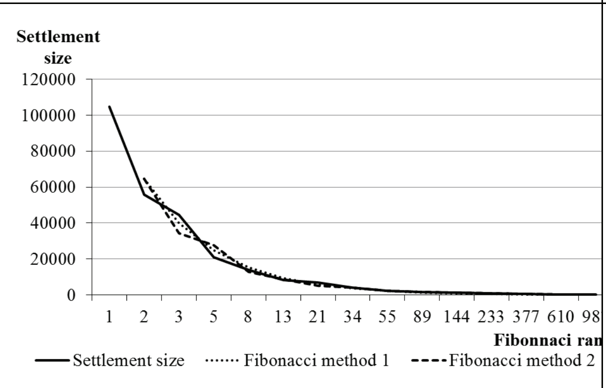
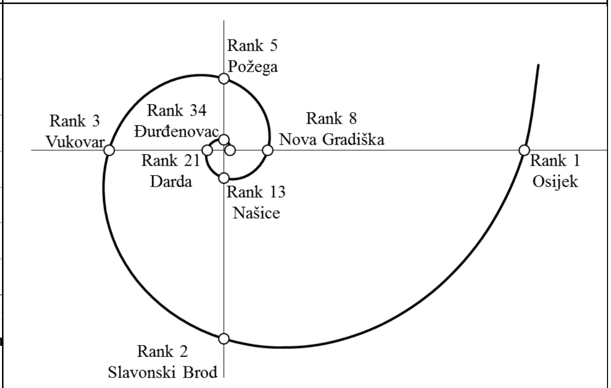
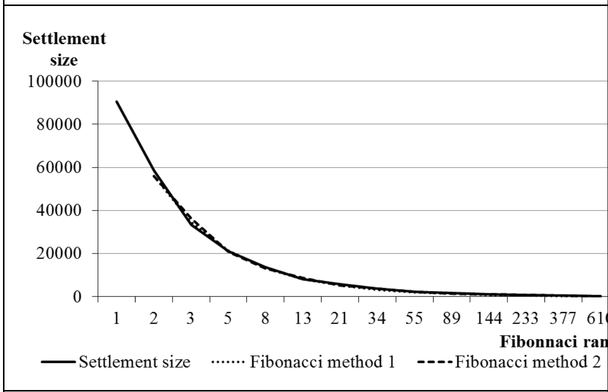
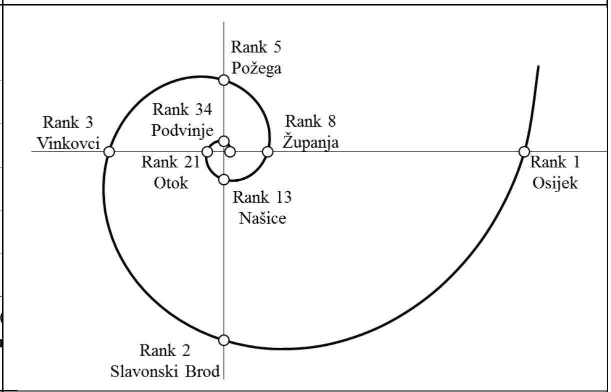
Source: Authors, Croatian Bureau of Statistics (2018a, b).

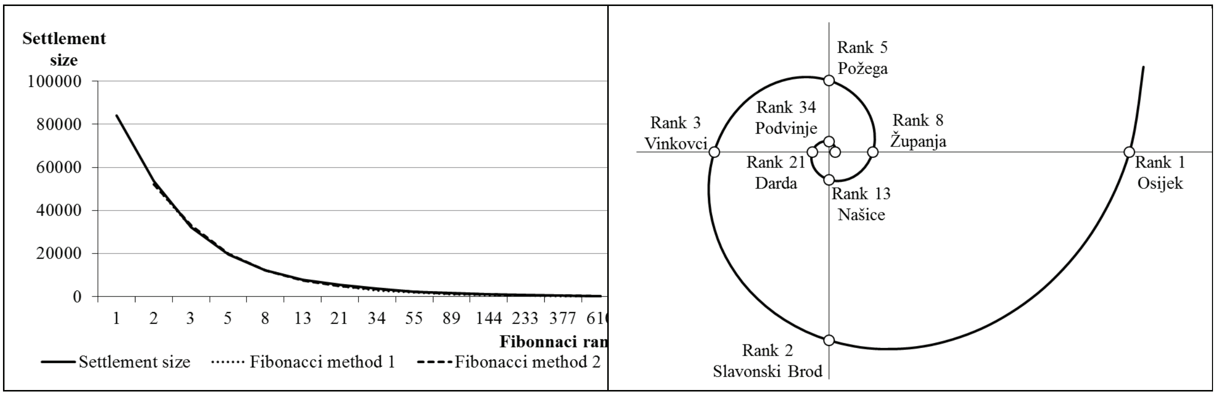
In Table 2 are observed total settlement sizes in the observed five counties and in the whole Eastern Croatia. According to the results presented in Table 2, when total settlement sizes are considered, county of Osijek-Baranja is the largest one whereas the county of Požega-Slavonia is the smallest one in all observed census years. Unfortunately, the second part of Table 2 shows that the growth rates at all counties, except at county of Slavonski Brod-Posavina in 2001, are negative. The total settlement size in Eastern Croatia decreased by 17.68% in 2011 in compare to 1991.

5.2. Fibonacci series and settlements in Eastern Croatia

In order to apply Fibonacci methods 1 and 2, all settlements were ordered in decreasing order according to their size. After that Fibonacci series was used to select just some settlements for which settlement size was forecasted by using Fibonacci methods 1 and 2. In case of the whole Eastern Croatia, total 15 settlements were selected from 1991 census whereas 14 settlements were selected from 2001 and 2011 census. Actual settlements sizes of selected settlements in Eastern Croatia and forecasted settlement sizes by using data from the three observed censuses are shown in Figure 2. In addition, in Figure 2 are presented so called Fibonacci spirals in which observed settlements are shown. However, due to clarity, Fibonacci spirals are showing only first eight selected settlements.

Figure 2: *Comparison of actual settlement sizes with forecasted settlement sizes calculated by using Fibonacci methods 1 and 2 (left column) and Fibonacci spiral (right column), all settlements in Eastern Croatia, censuses conducted in 1991, in 2001 and in 2011*

<table>
<tr><td>Actual settlement sizes vs Fibonacci method 1 and 2, census 1991</td><td>Fibonacci spiral, census 1991</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td>Actual settlement sizes vs Fibonacci method 1 and 2, census 2001</td><td>Fibonacci spiral, census 2001</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><td>Actual settlement sizes vs Fibonacci method 1 and 2, census 2011</td><td>Fibonacci spiral, census 2011</td></tr>
</table>



Source: Authors.

Figure 2 reveals that both used forecasting methods seems to be quite precise because the lines of forecasts are almost exactly on the top of lines that represent the actual settlement sizes. In addition, it seems that the precision of forecasting method is the highest at the latest census conducted in 2011. However, it is hard to conclude, based on Figure 2, which forecasting method is more precise. Because of that overall forecasting errors are calculated and the results are shown in Table 3.

Table 3: *Root mean squared errors (RMSE) and mean absolute percentage errors (MAPE) between actual settlement size of settlements in Eastern Croatia and Fibonacci methods 1 and 2, five counties, censuses conducted in 1991, in 2001 and in 2011*

County	Census	Fibonacci method 1		Fibonacci method 2	
		RMSE	MAPE	RMSE	MAPE
Osijek-Baranja	1991	17,179	176.77	13,453	49.75
	2001	13,773	162.28	10,637	47.87
	2011	12,673	179.04	9,861	52.63
Požega-Slavonia	1991	2,126	72.30	1,499	21.53
	2001	2,936	160.25	2,478	63.76
	2011	2,631	169.32	2,182	67.37
Slavonski Brod-Posavina	1991	9,560	217.26	6,712	51.51
	2001	10,274	215.05	7,408	42.07
	2011	9,422	221.84	6,831	42.22
Virovitica-Podravina	1991	571	19.76	610	18.14
	2001	549	24.60	571	21.60
	2011	534	36.47	502	27.32
Vukovar-Sirmium	1991	3,624	23.05	4,482	23.21
	2001	3,492	17.46	3,943	23.96
	2011	2,540	19.45	2,956	24.43
All	1991	2,944	185.28	4,085	196.25
	2001	940	14.64	1,189	8.44
	2011	551	13.08	565	8.32

Source: Authors.

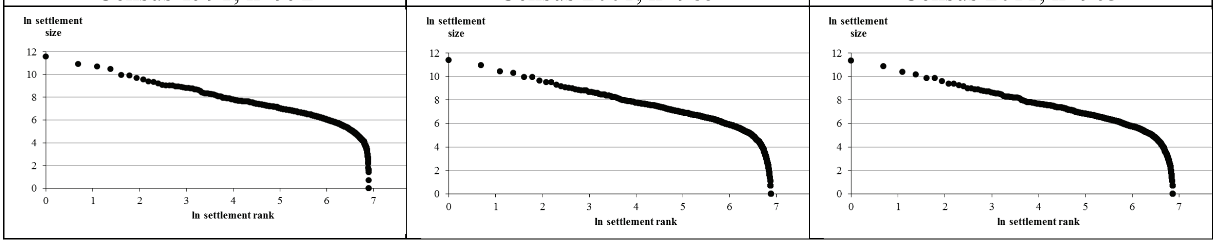
The results from Table 3 confirmed that, if Eastern Croatia is observed, the precision of used forecasting methods is the highest at census conducted in 2011. However, still it is hard to unambiguously determine which forecasting method performed better. According to 2011 census results when RMSE is observed the Fibonacci method 1 is more accurate than the Fibonacci method 2 (551 citizens vs 565 citizens) but if MAPE is observed then the Fibonacci method is more accurate than Fibonacci method 1 (8.32% vs 13.08%). Similar concerns are present at county level as well. Because of that it has been decided than the decision will be made by observing only MAPE. Accordingly, in general, it can be concluded that Fibonacci method 2 gave more precise forecasts than Fibonacci method 1.

5.3. Zipf's law and settlements in Eastern Croatia

In Figure 3 are showed scatter diagrams for individual counties and whole population of Eastern Croatia for the censuses conducted in 1991, 2001 and 2011. On the horizontal axis is displayed variable ln settlement rank and on the vertical axis is displayed variable ln settlement size. Due to the depopulation the number of settlements was in a sloping path.

Figure 3: *Scatter diagrams of natural logarithms of settlement sizes and their ranks, all settlements in Eastern Croatia, censuses conducted in 1991, in 2001 and in 2011*

Census 1991, n=992	Census 2001, n=985	Census 2011, n=963



Source: Authors.

In Table 4 are presented calculated values of the Pareto coefficient β for each individual county and region of Eastern Croatia.

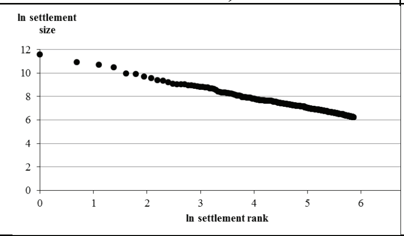
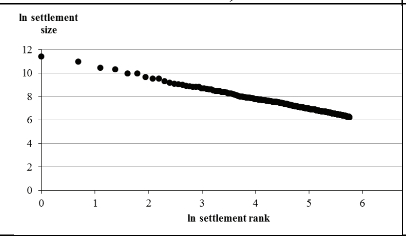
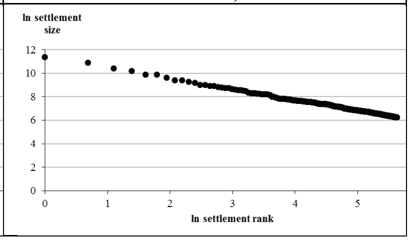
Table 4: *The Pareto coefficient (β) values, censuses conducted in 1991, in 2001 and in 2011*

County	Pareto coefficient (β)		
	1991	2001	2011
Osijek-Baranja	-1.2471	-1.3193	-1.3650
Požega-Slavonia	-1.1739	-1.5481	-1.5241
Slavonski Brod-Posavina	-1.0657	-1.2251	-1.2457
Virovitica-Podravina	-1.1222	-1.4091	-1.3712
Vukovar-Sirmium	-1.1005	-1.1657	-1.2120
All	-1.2831	-1.4901	-1.4779

Source: Authors.

From the results displayed in Table 4 it can be seen that the values of Pareto coefficient β for each individual county and Eastern Croatia in general are greater than one (in absolute sense) with a tendency of increase in each subsequent census. It can be concluded that validity of Zipf's law cannot be approved when all settlements are taken into account.

__Figure 4:__ Scatter diagrams of natural logarithms of settlement sizes and their ranks, settlements larger than 500 in Eastern Croatia, censuses conducted in 1991, in 2001 and in 2011

Census 1991, n=354	Census 2001, n=318	Census 2011, n=281
		

Source: Authors.

In order to check whether Zipf's law holds for upper-tail of the distribution, the sample of settlements larger than 500 in Eastern Croatia were taken into analysis presented in Figure 4.

__Table 5:__ The Pareto coefficient (β) values, settlements larger than 500, censuses conducted in 1991, in 2001 and in 2011

County	Pareto coefficient (β)		
	1991	2001	2011
Osijek-Baranja	-0.8817	-0.9045	-0.9409
Požega-Slavonia	-0.9832	-0.9880	-1.0156
Slavonski Brod-Posavina	-0.7929	-0.8377	-0.8373
Virovitica-Podravina	-0.8940	-0.9113	-0.9924
Vukovar-Sirmium	-0.9738	-0.9973	-1.0083
All	-0.8732	-0.8886	-0.9056

Source: Authors.

Results from Table 5 indicate that the values of Pareto coefficient β have been lower compared to the case when the whole population was observed and have been close to one depending on the each individual county. In 2011 the value of Pareto coefficient β was -0.9056. It can be concluded that Zipf's law generally holds for the settlements larger than 500 inhabitants in the case of individual counties and region of Eastern Croatia which is in the line with previous investigations about validity of Zipf's law in upper-tail distribution in Croatia.

Table 6: *Kolmogorov-Smirnov, the Anderson-Darling and the chi-square goodness-of-fit results for the log-normal distribution, observed variable ln settlement size, settlements larger than 500, censuses conducted in 1991, in 2001 and in 2011*

County	Census 1991			Census 2001			Census 2011		
	K-S	A-D	χ^2	K-S	A-D	χ^2	K-S	A-D	χ^2
Osijek-Baranja	0.14***	5.33***	48.94***	0.15**	5.40***	55.03***	0.15**	4.76***	46.64***
Požega-Slavonia	0.18	1.51	3.82	0.18	0.97	5.04*	0.15	0.63	-----
Slavonski Brod-Posavina	0.13	2.28*	35.31***	0.13	1.69	23.09***	0.11	1.62	12.37***
Virovitica-Podravina	0.20**	2.80**	9.56***	0.24**	3.08**	14.98***	0.26**	2.62**	14.36***
Vukovar-Sirmium	0.08	0.75	9.68	0.08	0.72	8.28	0.10	0.74	8.57
All	0.12***	10.72***	99.22***	0.12***	9.94***	99.23***	0.13***	8.65***	83.14***

Note: K-S – Kolmogorov-Smirnov test, A-D – Anderson-Darling test, χ^2 – chi-square test, statistically significant results at: * – 10% significance level, ** – 5% significance level, *** – 1% significance level.
Source: Authors.

In Table 6 are presented results of Kolmogorov-Smirnov, the Anderson-Darling and the chi-square goodness-of-fit results for the log-normal distribution. If the underlying distribution is lognormal, then goodness of fit tests will categorically reject the Pareto distribution, Eeckhout (2004, 1432). In all three applied tests the null hypothesis includes assumption that the variable settlement size, given in natural logarithm values, follows lognormal distribution. The Pareto distribution is very different from the lognormal distribution, so the expected results should be to accept the alternative hypothesis. The test results from Table 6 in majority of observed cases suggest that the variable ln settlement size does not follow lognormal distribution. The exceptions are the counties Požega-Slavonia and Vukovar-Sirmium in which cases the null hypothesis about presence of lognormal distribution cannot be dismissed. It can be explained with the fact that if only the upper-tail of distribution was observed and not the whole population, the density function of lognormal and Pareto distribution can be very similar. They are both downward slopping although Pareto distribution is a more convex. For lower truncation point Pareto distribution fits the data less which was shown in the case when the whole population of Eastern Croatia was observed.

6. Conclusions

Goal of the paper was investigation of main urban economics laws in Eastern Croatia in the case of decreasing population. Two research questions or hypotheses were formed. First research question investigated whether the structure of Eastern Croatia's urban system comply with the Fibonacci growth sequence. Two forecasting methods were used while the precision of them was tested using MSE, RMSE and MAPE metrics. Both forecasting methods seemed to be quite precise because the lines of forecasts were almost exactly on the top of lines that represent the actual settlement sizes. According to 2011 census results when RMSE was observed the Fibonacci method 1 was more accurate than the Fibonacci method 2 (551 citizens vs 565 citizens) but if MAPE is observed then the Fibonacci method 2 was more accurate than the Fibonacci method 1 (8.32% vs 13.08%). It can be concluded that Fibonacci sequence is a good predicting tool to forecast settlements size even in the case of decreasing population. Second research question which was answered investigated whether Zipf's law or rank-size rule holds for Eastern Croatia in general and for its counties individually. Results of the OLS regression testing have shown that values of Pareto coefficient β for each individual county and Eastern Croatia were greater than one with a tendency of increase in each subsequent census.

Therefore, validity of Zipf's law could not be approved when all settlements were taken into account. But when the sample of settlements larger than 500 in Eastern Croatia were taken into analysis Zipf's law seems to hold. Limitations of the study are related to the uneven number of settlements in censuses due to the fact that some settlements cease to exist over time. Recommendations for future research can go in the way by inclusion of additional censuses before the year 1991 into analysis in order to test dynamic version of rank-size rule known as Gibrat's law.

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4 Financial Infrastructure and Economic Development

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DOES BANKS CONCENTRATION MATTER FOR LOANS PLACEMENT: EVIDENCE OF THE CONSTRUCTION SECTOR IN THE REPUBLIC OF SRPSKA?

ABSTRACT

Bank concentration has negative implications for the economic growth of countries dependent on extreme indebtedness and whose financial sector is underdeveloped, or where banks play a crucial role. In countries with a high level of corporate governance, bank concentration is less detrimental to economic growth. Competition is significant for the banking system, as it affects the efficiency and quality of the offered services. Also, competition has reflections on other sectors of the economy. Increased competition in the banking sector is associated with the fast growth of other areas of the economy relying on external financing. The primary goal of this paper is to determine the strength and significance of banking concentration in the Republic of Srpska, and the orientation of bank loans to the construction sector of the Republic of Srpska. Therefore, the goal is to test the dependence of the construction sector of the Republic of Srpska on bank loans of three to four largest banks in the system. The participation of long-term debt to total debt will be used as the dependent variable, while the concentration index – (CR3) for the three largest banks in the system, HHI index, the growth rate of loans to the real sector, the consumer price index, current assets by total assets, return on assets and the growth rate of non-performing loans and short-term debt total liabilities will be used as independent variables. In this paper will be used correlation analysis as well as testing theoretical and empirical F-test. Also, in this paper, the STATA 13.0 software package will be used. This data analysis will include semi-annual basis data for the period: 2007 – 2017.

Keywords: *concentration, competition, construction sector*

JEL Classification: G20, G21, D4, D41, D42, D43.

1. Introduction

The financial market plays an essential role in the process of evaluating investment projects, allocation of resources and capital as well as independent control of company managers. Significant progress of the banking system in the last two decades has sparked the interest of the researchers. A particular group of researchers believes that the concentration of banks affects the promotion of economic growth through increased lending and investment by major banks in the system (Ratti et al., 2008). On the other hand, another group of researchers believes that the concentration of banks is associated with a higher cost of financing and an increased share of non-performing loans (Bonini et al., 2016).

In 2017, the construction sector in Bosnia and Herzegovina was recorded a fall in value in terms of production by about 2.5% about the previous year. This decline in profit was mainly related to civil engineering activities. The share of the construction sector in the GDP structure in 2017 was around 5.06%. Unlike 2017, a significant increase in production value was recorded in 2014 in the civil engineering segment. (The Central Bank of Bosnia and Herzegovina, 2017, p. 21). The construction sector employs a significant number of people and takes a significant share in the GDP structure, where, due to the nature of the activity and the significant financial resources necessary for maintaining liquidity and investment, it is heavily dependent on loans from commercial banks.

Competition in the banking system of Bosnia and Herzegovina is quite high. In terms of the number of banks in the Federation of Bosnia and Herzegovina, there are only 18 banks and 10 banks in the Republic of Srpska. On the other hand, there is a high degree of concentration in the banking sector. In the Federation of Bosnia and Herzegovina, the five largest banks hold almost 74% of the total market, that is, loans and deposits. In the Republic of Srpska, there are 4 to 5 big banks that hold about 80% of the banking market.

In Bosnia and Herzegovina, the share of the construction sector in GDP in the pre-crisis period, f. ex. in 2007 was about 4.86%. In 2008, the percentage increased slightly to 5.42% and in 2009 was around 5.29%. In the post-crisis period, there was a slight recovery, but small in comparison with the European Union countries. The share of the construction sector in the EU27 is about 10.7% (Foreign trade Chamber of Bosnia and Herzegovina, 2011, p. 6).

According to the Report of the Banking Agency of Republic Srpska (2017), there is a continuous concentration of loans to companies by banks. Thus, the largest concentration in terms of structured loan participation was achieved by the following branches of activity: production with the total involvement in loan structure of about 15%, trade with the participation of about 13%, government and government institutions with the participation of about 12%, construction only 5%, loans to citizens about 45%, loans to agricultural enterprises about 2%, and other loans about 8% (transport sector, catering and financial intermediation). The literature that this paper can refer to is a study that examines how competition in the banking market (concentration of banks, market power) affects the diversity, profitability of banking services and company performance. In this paper we will investigate how the concentration of banks in the Republic of Srpska affects the efficiency and the efficiency of the construction sector operations.

The main objectives of this research are the following:

a) *To determine how the concentration of banks in the system of banks of the Republic of Serbia affects the short-term and long-term indebtedness of the company.*

b) Also, to determine how the concentration of banks influences the composition of the financial assets of the construction sector or the return on assets.

This study consists of five parts and a conclusion. The first part refers to the introductory considerations and defining the aim of the research as well as the terminology and state of banking competition and concentration. The second part is a broad literature review concerning the link between the corporate indebtedness as well as bank lending, market concentration, and competition. The third part refers to the empirical methodology and data. The fourth part deals with concentration measures and financial performance of the construction sector of the Republic of Srpska. The fifth part refers to the obtained results.

2. Literature Review

Market concentration is one of the most critical competitiveness measures. Also, competition is significant for the banking sector as, as in any other market, it affects the efficiency and quality of the offered services. Therefore, competition in banking has an impact on other sectors of the economy (Nathan, Neavel, 1989). According to Claessens and Laeven (2004), greater competition in the banking sector is associated with the fast growth of other sectors of the economy relying on external financing. According to Deida and Fattouh (2002), high concentration in banking is negatively linked to industrial growth in low-income countries, but not in high-income countries, which leads to the conclusion that emerging economies require a more competitive banking sector.

Allen & Gale (2004) in their survey show that a lower concentration in the banking system should impair the banks market power and thus affect the net present value of banks profit. This momentum would give banks the incentive to continue with risky policies (for example, increasing the risk of a loan portfolio) to maintain the previous level of profit. In low-income countries, credit distribution among enterprises at the sectoral level has essential effects on the industrial structure, competition or degree of informality in the sector (Beck, Demirgus – Kunt, Maksimović, 2005).

Higher competition leads to lower interest rates on loans, and the likelihood of non-payment is reduced, improving risk measures for banks. Higher market concentration is associated with higher capital coefficients, higher volatility of income, and greater illiquidity of banks, supporting ideas, even if banks retain higher capital in less competitive markets; their capitalization level is not high enough to affect the risk of default risk with the obligations of institutions that take on higher risk (Soedarmono et al., 2013). According to the traditional view of market power, banking competition can affect the efficiency of the financial sector, product quality and the level of innovation in that sector. Love & Martinez Peria (2015) and Leon (2015) consider that greater competition increases businesses access to credit.

3. Empirical Methodology and Data

We want to answer the following question: *Which of the independent variables in the model has the most substantial impact on the banking stability of the observed countries on the one hand, and the other hand, which of the variables has the lowest impact?* Based on the above mentioned research, we will investigate the aggregate effect of the concentration of banks in the Republic of Srpska (Bosnia and Herzegovina) and the construction sector, i.e., financing and the interdependence of concentration and other independent variables and indebtedness using the following model (González, González, 2014; González, 2015; Orman, Köksal, 2017)

$$Debt\ ratio_{j,i\ t-1} = \beta_0 + \beta_1 GRTL_{i,t} + \beta_3 CATA_{j,i,t} + \beta_3 GRNPL_{j,i,t} + \beta_4 SHTDTL_{j,i,t} + \beta_5 CPI_{j,i,t} + \beta_6 ROA_{j,it} + \beta_7 CR3_{j,i,t} + \beta_8 HHI_{j,i,t} + \eta_{i,t+1} + \mu_k + \varepsilon_{j,i,t+1} (1)$$

The following hypotheses will be tested:

HO: *The null hypothesis is the reason why the independent variables do not significantly affect the dependent.*

H1: *The alternative hypothesis is the reason why the independent variables do significantly affect the dependent*

The significance of the model will be carried out by the calculation of the coefficient of correlation (r), the coefficient of determination R^2 and adjusted coefficient of determination ($\bar{R}^2$).

3.1. Data

Data have been collected from the stock exchange index created in the construction sector at the Banja Luka Stock Exchange (GIRS stock exchange index). This empirical study uses semiannual data for 11 companies. The research period covers 11 years, i.e., from 2007 to 2017. We use one dependent variable called the ratio of long-term debt to total debt. We use eight independent variables as debt ratio (DR), the growth rate of total loans (GRTL), the current coefficient to the total asset (CATA), the growth rate of non-performing loans (GRNPL), the short-term debt to total liabilities (SHTDTL), the consumer price index (CPI), return on asset (ROA), HHI index, and the ratio of branch offices for the three banks to total bank offices for all commercial banks (CR3). The variable, notation and expected effect of dependent and independent variables are given below:

Table 1: A brief description of the dependent and independent variables in the model

VARIABLE	MEASURED BY	EXPECTED EFFECT
LTDTD	The ratio of long-term debt to total debt (in%)	
GRTL	The growth rate of total loans	
CATA	Current assets to total assets	(-)
HHI	The Herfindahl-Hirschman index - computed as the sum of squared market shares of all banks	(+)
CR3	The ratio of branch offices for the three banks to total bank offices for all commercial banks.	(+)
CPI	The consumer price index is a measure that examines the weighted average of prices of a basket of consumer goods and services, such as transportation, food and medical care. Changes in the CPI are used to assess price changes regard with the cost of living.	
ROA	The ratio of profit to total assets	(-)
GRNPL	The ratio of non-performing loans (payment of interest and principal past due date by 90 days or more) to total gross loans	(+)
SHTDTL	The ratio of short-term debt to total liabilities	(-)

Source: Authors own study

The ratio of long-term debt to total debt (LTDTD). It expresses the participation of all forms of long-term debt in the overall debt structure and serves as a dependent variable in the model (Alihodžić, 2018).

The growth rate of total loans (GRTL). This indicator shows the trend of growth or decline in loans taken by the construction sector for the crisis, post-crisis and period of economic recovery (Lukić, 2010).

Current assets total assets (CATA). It shows the share of total current assets in total assets. The current liquidity indicator is of particular importance for the consideration of short-term financial security. In this survey, we will investigate whether short-term loans are used to finance current assets or fixed assets (Alihodžić, 2018).

The Herfindahl-Hirschman index (HHI). HHI can take different values in an interval from 0 to 10,000. The concentration index does not grow linearly, which means that, for example, an amount of 3,000 does not mean that the concentration in the system is 30%. If the concentration index ranges from 0 to 1,000, it is considered that the market is unconcerned, that is, a high level of competition is present. If the index ranges from 1,000 to 1,800, then it can be said that there is a moderate concentration of the market. And if the index record's value is ranging from 1.800 to 10.000, then the market is concentrated, i.e., there is a monopoly (Banking Agency of the Federation of Bosnia and Herzegovina, 2017).

The ratio of branch offices for the three banks to total bank offices (CR3). Bank concentration is defined as the ratio of the assets of the three largest commercial banks to total commercial banking assets in a country. Low concentration has an impact on greater competition as it further creates the possibility to maintain financial stability. Competition can encourage banks to take higher risks to sustain profitability. Indeed, the excessive level of competition in the financial market may have an impact on the deepening of the financial crisis (Banking Agency of Republika Srpska, 2017).

The consumer price index (CPI). It represents a measure of the change in the purchasing power of the currency as well as the inflation rate. Therefore, the consumer price index expresses the current prices of the basket of goods and services in the context of prices in the same period of the previous year to show the effect of inflation on purchasing power (Agency for Statistics of Bosnia and Herzegovina, 2018).

The ratio of return on asset (ROA). It represents the ability of management to convert assets into earnings. Net profit represents the volume of earnings, but not how well the bank operates viewed relative, or in terms of their size. This is assessed by a comparison of ROA banks of different sizes (Đukić, 2011).

The ratio of non-performing loans to total gross loans (NPLs). Non-performing loans (NPLs) - represents the sum of borrowed money by banks to debtors, where debtors have not made the payment of interest and principal at least at least 90 days for commercial bank loans and 180 for consumer loans (Đukić, 2011).

The short-term debt to total liabilities (SHTDTL). The share of short-term debts in the total liabilities structure is an independent variable in the model (Alihodžić, 2018).

4. Measures of Concentration and Indicators of the Financial Performance of the Construction Sector in the Republic of Srpska

The importance of concentration ratios stems from their ability to capture the structural characteristics of the market. Also, concentration coefficients may reflect changes in concentration as a result of the bank entering the market or their exit from the market, or caused by the merger. General approaches for measuring concentration can be categorized into two different approaches. The first approach concerns basic concentration measures such as Herfindahl-Hirschman Index (HHI), concentration ratio (CR) and Gini coefficient. This approach is very simple to perform and can be a good measure of the concentration, but not for concentration risk because it does not take into account the distribution of different quality obligors. The second approach refers to the adjustment of granularity, where difficulties arise for their application due to the need for a huge amount of data and huge demands for application in practice (Gordy, 2000). The following will be explained and calculated two concentration measures, i.e., CR3 and Herfindahl-Hirschman concentration index (HHI).

It is calculated as follows:

$$CR_n = \sum_{i=1}^{n} s_i \qquad (2)$$

where the: s_i is percentage share of firm i in the total value of the industry. The concentration coefficient value ranges between 0 and 100. In the case of perfect competition, the concentration ratio is approximately equal to zero. When the concentration ratio is less than 50 then there is a monopolistic competition on the market. If the value of the concentration ratio is greater than

50, then it is an oligopoly situation. And finally, if the concentration ratio is 100, there is a monopoly on the market. Therefore, this is the main disadvantage of concentration, but on the other hand, is very useful because of its simplicity of calculation, and the limited data transfer conditions. The Banking Agency in the Federation of B&H uses the concentration ratio for the five largest banks in the system as the second concentration measure, while the Banking Agency of the Republic Srpska uses the concentration ratio for the three largest banks in the system as the second concentration measure. The Herfindahl-Hirschman concentration index (HHI) represents a widely accepted measure of market concentration where the index value is obtained when they are individually squared and mutually gather market shares of each institution, in our case a bank that is a participant in the financial system. The Herfindahl-Hirschman concentration index is expressed as follows:

$$HHI = \sum_{j=1}^{n} (S)_j^2 \qquad (3)$$

Table 2: *The measurement of the concentration of banks in the Republic of Srpska for the period: 2007 – 2017*

Measures of concentration	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average
CR3credit	70.81	67.57	67.83	65.47	61.70	58.48	56.47	57.10	59.68	62.30	62.57	**62.72**
CR3deposits	71.20	67.63	66.91	64.49	61.99	59.73	58.78	60.62	63.00	67.06	67.97	**64.49**
CR3asset	70.58	67.30	66.36	61.45	62.13	60.05	58.19	58.68	62.20	65.74	66.50	**63.56**
HHIcredit	2.344	2.148	2.072	1.960	1.680	1.550	1.479	1.655	1.681	1.741	1.933	**1.840**
HHIdeposits	2.073	1.977	1.858	1.750	1.614	1.558	1.830	1.601	1.650	1.817	2.125	**1.805**
HHIasset	2.015	1.929	1.806	1.696	1.608	1.560	1.498	1.601	1.664	1.778	2.025	**1.744**

Source: https://www.abrs.ba/sr/izvjestaji/c3(Adjusted by the authors)

Both concentration measures (CR3 and HHI) had a similar trend in the movement of loans, as well as the concentration of banks in the context of asset and investments. Thus, before the financial crisis emerged for all three categories in 2007, there was a growing trend, that is, the support of banks, especially in terms of loans and deposits to the construction sector. In the period of a mild recovery of the real industry and stabilization of the economy (the period from 2015 to 2017), there was a growing trend of concentration for all three categories of financial assets and liabilities of banks. The concentration ratio in terms of loans reached the highest value in 2007, (of about 71) the lowest in 2013 (of about 56) and the average value of about 63. This is a moderate concentration of loans to the construction sector of the Republic of Srpska. The concentration ratio in terms of deposits reached the highest value in 2007 (of about 71) the lowest in 2013 (of about 59) and the average value of about 64. There is a stronger concentration, that is, it is possible to say a milder monopoly where the more substantial part savings targeted towards the three largest banks in the banking system in the Republic of Srpska. The main reason for this situation is primarily favorable savings conditions on the one hand, and on the other hand, there are no safe and alternative forms of investment. Finally, the concentration ratio in terms of assets reached the highest value in 2007, (of about 70) the lowest in 2013 (of about 58) and the average value of about 63. This is a moderate concentration of assets of the three largest banks in the system. The measure that better and closer explains the concentration in the system is the HHI index. The HHI index in terms of credit reached the highest value in 2007 (2.344) the lowest in 2013 (1.479) and the average value of around 1.840, which is a concentrated market dominated by the three largest banks in the system. The main reasons for this situation are, of course, the process of privatization of banks with the domination of foreign capital, and on the other hand, there are no more favorable forms of financing on the other side, than traditional bank loans. The highest value of HHI in terms of deposits was achieved in 2017 (about 2.125), the lowest in 2012 (about 1.558) and the average value of about 1.805 which is said to be a moderate concentration. The highest value of HHI in terms of the asset was achieved in 2017 (about 2.025), the lowest in 2013 (about 1.498) and the average value of about 1.744 which is said to be a moderate concentration.

Table 2 shows the trend analysis of the average market and financial indicators of 11 enterprises from the construction sector of the Republic of Srpska for the period from 2007 to 2017. Market values are higher than the value of financial indicators, indicating that there are overestimating decisions and that there is no secondary trading on the Banja Luka Stock Exchange.

Table 3: *Average market and financial indicators of the construction sector of the Republic of Srpska for the period: 2007 – 2017 (in %)*

Company codes	P/E ratio	EPS	ROA	EBITDA	Participation in short-term liabilities in total liabilities	Participation long-term liabilities in total liabilities
A00001	9.69	0.04	0.82	9.37	29.49	14.29
A00002	20.25	0.24	5.62	18.60	10.86	2.94
A00003	36.24	-0.02	-1.41	29.57	35.02	25.48
A00004	20.41	-0.21	-1.05	-5.77	45.11	0.00
A00005	10.94	0.41	10.29	42.15	10.21	1.12
A00006	291.82	0.100	2.20	9.01	39.16	6.65
A00007	46.98	0.098	2.16	14.27	40.96	11.73
A00008	118.13	0.004	0.14	7.21	16.38	14.30
A00009	208.50	0.004	0.27	3.14	26.99	0.00
A000010	22.62	-0.038	-1.87	2.42	41.40	16.11
A000011	8.65	0.251	2.18	12.68	50.41	21.46

Source https://www.blberza.com (Adjusted by the authors)

The average indebtedness of the construction sector by short-term loans by the bank was amounted to around 31%, while long-term loans accounted for approximately 10%. Most of the companies borrowed heavily on short-term loans about long-term loans due to lower interest rates and lower credit risk for both companies and banks. However, loans were directed to finance fixed assets as well as partially current business. This is supported by the fact that there is a reversed proportionality between return on assets and participate in short-term liabilities and total liabilities.

5. Results

Before the hypothesis is tested, primary statistic indicators; correlations are given in Table 4, 5, 6, 7 and 8. The total number of observations is 208 which represents a sufficiently representative sample both in terms of the company and the view of the timeframe.

Table 4: *Descriptive statistics of dependent and independent variables variables of the construction sector i the Republic of Serbia for the period: 2014-2017*

Variables	Observations	Mean	Std. Dev.	Min	Max
LTDTD	208	20.135	23.041	0.00	95.08
GRTL	208	9.842	15.116	-18.00	44.00
CATA	208	50.412	15.639	3.98	100.00
GRNPL	208	8.333	3.073	3.50	12.60
SHTDTL	208	67.451	27.479	0.38	100.00
CPI	208	107.615	5.965	100.80	119.70
ROA	208	1.825	6.065	-17.14	39.71
CR3credit	208	62.725	4.499	56.47	70.81
HHI credit	208	1.845	0.261	1.479	2.344

Source: Calculated by the author (STATA 13.0).

The table 4 shows that the short term debt to total liabilities was recorded the high volatility (27.47), then the long term debt to total debt (23.041%). In the pre-crisis period, many companies from the construction sector used mostly short-term loans for the financing of working assets, and partly fixed assets, which could be a signal of low solvency and severe financial problems. In the crisis period, banks reversed the position of their lending policy towards the government sector and appeared with a certain degree of prudence towards the real industry. The lending trend continued in the post-crisis period of almost similar intensity as in the crisis period.

Table 5: *Correlation matrix between dependent and independent variables of the construction sector in the Republic of Srpska for the period: 2007-2010*

Variables	LTD TD	GRTL	CATA	GRNPL	SHTDTL	CPI	ROA	CR3credit	HHI credit
LTDTD	1.000								
GRTL	-0.091	1.000							
CATA	-0.144	0.052	1.000						
GRNPL	-0.086	-0.622	0.098	1.000					
SHTDTL	-0.159	-0.115	0.410	0.409	1.000				
CPI	-0.108	-0.214	0.154	0.608	0.543	1.000			
ROA	-0.271	0.217	0.256	-0.176	-0.196	-0.097	1.000		
CR3credit	0.133	0.369	-0.174	-0.727	-0.607	-0.891	0.127	1.000	
HHI credit	0.079	0.560	-0.132	-0.777	-0.555	-0.875	0.167	0.970	1.000

Source: Calculated by the authors (STATA 13.0).

The preceding table illustrates the correlative link for the pre-crises period between the dependent and independent variables of the construction sector. The strongest correlation between the long-term debt to total debt was recorded with the following independent variables: the concentration ratio for the three largest banks in the system -CR3 (0.133) as well as the HHI index for the placement of the three largest banks by the construction sector. This result is logical given the fact that from 3 to 4 banks in the banks market hold a monopolistic competition both in terms of placements and in the context of deposit savings. Therefore, with the increase in concentration, the need for credit is also increasing, given that foreign banks.

Table 6: *Correlation matrix between dependent and independent variables of the construction sector in the Republic of Srpska for the period 2011-2014*

Variables	LTDTD	GRTL	CATA	GRNPL	SHTDTL	CPI	ROA	CR3credit	HHI credit
LTDTD	1.000								
GRTL	0.271	1.000							
CATA	-0.573	-0.211	1.000						
GRNPL	0.069	0.094	0.033	1.000					
SHTDTL	-0.933	-0.184	0.627	-0.049	1.000				
CPI	0.043	-0.055	0.021	0.451	-0.014	1.000			
ROA	-0.047	-0.044	-0.088	0.057	-0.093	0.051	1.000		
CR3credit	0.165	0.118	0.011	-0.672	0.125	0.312	0.057	1.000	
HHIcredit	0.314	0.768	0.182	-0.283	0.223	0.069	0.007	0.647	1.000

Source: Calculated by the authors (STATA 13.0).

As the previous table shows the strongest correlation was observed with the following independent variables: with the HHI index (0.314), then with the growth rate of total loans (0.271) and the concentration ration for three banks in the system (0.165). Also, it is interesting that there is a positive correlation between current asset and total assets and short-term debt to total liabilities (0.627). A small number of companies in the Republic of Srpska use short-term loans for the current business. Generally, short-term loans are used to finance a fixed asset, which can be a sign of low solvency and more serious financial problems.

Table 7: *Correlation matrix between dependent and independent variables of the construction sector in the Republic of Srpska for the period 2014-2017*

Variables	LTDTD	GRTL	CATA	GRNPL	SHTDTL	CPI	ROA	CR3credit	HHIcredit
LTDTD	1.000								
GRTL	-0.063	1.000							
CATA	-0.593	0.012	1.000						
GRNPL	0.013	-0.638	-0.040	1.000					
SHTDTL	-0.826	-0.006	0.695	0.037	1.000				
CPI	0.067	-0.452	0.026	-0.235	-0.031	1.000			
ROA	0.079	0.122	-0.091	-0.084	-0.304	-0.069	1.000		
CR3credit	0.038	0.866	0.034	0.851	0.029	0.224	0.115	1.000	
HHIcredit	0.025	0.341	0.055	0.793	0.054	0.397	0.043	0.711	1.000

Source: Calculated by the authors (STATA 13.0)

In the period of economic recovery activity, the strongest correlation was recorded with the following independent variables: the return on asset (0.08), then the consumer price index (0.07), concentration ratio - CR3 (0.04), HHI index (0.02) and the growth of non-performing loans (0.01). For the first time in the third period, the construction sector respected the rules of financing in the sense that current assets are financed from short-term financing sources and fixed assets from long-term financing sources, which ultimately reflected the positive value of return on asset. Also, there is a positive correlation with the growth rate of non-performing loans, which is justified because the increase in lending activity, there is a consequent rise in reserves, which due to the nature of the construction sector are converted into costs due to the inability of charging for toxic loans.

The total number of observations taken into consideration is 208 which represents the significance of the model. The coefficient of determination between the ratio of long term debt to total debt and the independent variables is 45.30%, while the adjusted determination coefficient is 43.50%, which means that there is a 43% change in the independent variables to the dependent relation. These 43% refers to the deviation or the smaller impact of independent variables in relation to the dependent variable. Future research on this topic can be expanded depending on the availability of the database, so that the use of more appropriate explanatory variables for a longer period of time can get even better analysis.

Table 8: *The basic analysis between the dependent variable (LTDTD) of the construction sector in the Republic of Srpska for the period: 2007– 2017*

Source	SS	df	MS	Number of observations	F (8,200)	Prob >F	R-squared	Adj R-squared	Root MSE
Model	58.025,08	8	7.253,13	208	24.17	0.000	0.453	0.435	17.323
Residual	69.919,55	200	300,08	-	-	--	-	-	-
Total	**127.944,63**	**208**	**7.553,21**	**208**	**24.17**	**0.000**	**0.453**	**0.435**	**17.323**

Source: Calculated by the authors (STATA 13.0)

In terms of testing the zero and alternative hypotheses through the empirical and the theoretical value of the F test, we came to the next conclusion. The empirical value of the F test for 8 degrees of freedom in the numeration and 200 in the denomination was 24.17. The obtained empirical value of the F test is 24.17, which is more than the theoretical value (1.98), which rejects the zero hypotheses and confirms the alternative hypothesis, and also confirms the individual influence of independent variables on the dependent variable.

Table 9: *Testing the coefficients of significance between the dependent and independent variables in the model of the construction sector in the Republic of Srpska for the period: 2007– 2017*

Debt ratio (dependent)	Coef.	Std. Err.	z	P>[z]	[95% Conf . Interval]	
GRTL	0.051	0.086	0.60	0.550	-0.117	0.220
CATA	-0.021	0.090	-0.23	0.816	-0.197	0.156
GRNPL	1.374	1.248	1.10	0.271	-1.072	3.821
SHTDTL	-0.611	0.056	-10.93	0.000	-0.721	-0.501
CPI	0.637	0.316	2.01	0.044	0.017	1.258
ROA	-0.926	0.197	-4.71	0.000	-1.313	-0.541
CR3credit	0.325	0.973	0.33	0.738	-2.233	1.581
HHIcredit	7.978	14.276	0.56	0.576	-35.960	20.003
_cons	18.767	72.317	0.26	0.795	-122.97	160.506
/lnsig2v	5.666	0.091	62.27	0.000	5.487	5.844
/lnsig2u	-5.306	636.51	-0.01	0.993	-1.252,85	1.242,24
sigma_v	16.997	0.773	-	-	15.547	18.583
sigma_u	0.070	22.415	-	-	8.8e-273	5.6e+269
sigma2	288.926	26.342	-	-	237.296	340.557
lambda	0.004	22.462	-	-	-44.021	44.029

Source: Calculated by the authors (STATA 13.0)

According to the results of the primary analysis, the strongest correlative dependence with the dependent variable, i.e., the ratio of long-term debt to total debt was realized by the following independent variables: HHI index for credit placements (7.98), then the growth rate of non-performing loans (1.37), the consumer price ratio (0.64), concentration ratios for the three largest banks in the system – CR3 (0.32) and the growth rate of total loans (0.05). By increasing the HHI index by one unit other factor remaining constant leads to increase the long-term debt to total debt by 7.98 units. This result is quite logical and justified because with the increase in the concentration of 3 to 5 banks in the system, bad debtors are turning to credit from the rate banks, regardless of the fact that high passive interest rates increase the credit placements on the one hand, while on the other hand, it represents the process of adverse selection by the banks. Also, with the increase in indebtedness, there is an increase in reserves by banks, which are later transformed into non-performing loans due to the impossibility of charging. This is particularly pronounced in the construction sector where a specific production cycle is delayed by payment of loan installments. On the other hand, the strongest negative correlation was achieved with the following independent variables: the return on assets (-0.93), current assets to total assets (-0.021) and short-term debt to total liabilities (-0.61). The result of a negative correlation is quite understandable and logical since a more significant number of companies used short-term loans in the period before the crisis and the recovery period for financing fixed assets on a larger scale than for the financing of current operations.

6. Conclusion

Concentration and competition are reversed proportionally especially in less developed markets. Banks in the Republic of Srpska have a moderate to an intense concentration which leads to a reduction in competition and an increase in interest rates and the cost of financing. In this regard, credit orientation was directed towards the developed sectors of the economy and less to the underdeveloped or less developed sectors of the economy. The construction sector in the Republic of Srpska is from two to three first sectors that rely heavily on short-term loans to finance their business. What may pose and is already a threat is the financing of a fixed asset with short-term loans, which is certainly a sign of low solvency and future financial problems.

In this study, endogenous and exogenous factors that affect the long-term debt to total debt were tested. Especially, long-term debt to total debt is used as an endogenous variable. As exogenous variables, the growth rate of total loans, current asset to total asset, the growth rate of non-performing loans, short-term debt to total liabilities, consumer price index, return on asset, CR3 and HHI index were used. For this purpose, in this study investigated took place for the construction sector of the Republic Srpska on period: 2007 - 2017 in the research part of the paper through the underlying correlation analysis as well as testing theoretical and empirical F-test in terms of testing null and alternative hypothesis. The results showed that a zero hypothesis was rejected and an alternative hypothesis accepted in terms of some independent variables that have a significant influence on the long debt to total debt. Most companies within the construction sector have problems with financing their business on the one hand due to the nature of the market, while on the other side because their fixed assets are funded from short-term sources. New research by the authors on the given subject can certainly be expanded depending on the selection and inclusion of a large number of independent variables as well as countries whose enterprises have similar problems. So, the use of appropriate variables could provide the basis for a better analysis

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MEDICINAL PRODUCTS MARKET AND FINANCIAL POSITION OF PHARMACEUTICAL COMPANIES IN THE REPUBLIC OF CROATIA

ABSTRACT

The healthcare needs are unpredictable and inconsistent, and quite often their costs grow faster than the cost of living and real wages. The average life expectancy is set to increase by development and improvement of the standard of living, which automatically calls for higher expenses for financing of healthcare services. The continuous research and innovation in the segments of healthcare and pharmacy, as well as the increase in the number of expensive innovative medicinal products cause growth of prices of medicinal products sold by retail. The main aim of this paper is to analyse the pharmaceutical products market (level and structure of consumption) in Croatia and to assess the financial position of the main suppliers of medicinal products and the largest market participants – pharmaceutical companies.
Following the introduction, the second part analyses the scope of the medicinal products market in Croatia – the institutional framework and the major market participants, especially the distribution of medicinal products in the period from 2010 to 2017 and their consumption. The third part assesses the financial position of ten largest pharmaceutical companies in Croatia in the period from 2013 to 2017 based on the consolidated balance sheets and income statements. It also includes the calculation and analysis of the selected financial performance indicators that are prepared for the assessment of the market position of the major participants. The fourth part comprises the conclusions.

Key words: *medicinal products market, pharmaceutical companies, medicinal product consumption, Croatia*

1. Introduction

The pharmaceutical industry has been identified as one of the strategic industries in Europe, and since 2014, in Croatia as well. It is a high value-added industry that attracts substantial investment in research and development.

The pharmaceutical industry – the manufacture of basic pharmaceutical products and pharmaceutical preparations – makes an important element of the processing industry. It is export-orientated (more than 60 %) and specific for its investments that contribute to the GDP growth (more than HRK 2 million of the added value) as well as research and development. The fluctuation in the pharmaceutical industry is largely influenced by demographic trends and economic conditions that affect the manufacture and profitability, as well as the development potential of the medicinal products market. The consumption of medicinal products is an important part of the healthcare spending, and the healthcare enjoys the status of the public good (interest); therefore, the medicinal products market is quite regulated, especially in the context of entry of a medicinal product on the market and pricing.

The pharmaceutical industry is often perceived as a cost generator. The gradual increase of life expectancy of the population and the increase in standard of living affect the increase in demand of pharmaceutical products. The life cycle of medicinal products as the main pharmaceutical products is very complex. The pharmaceutical industry continuously involves a large number of supporting industries, starting from the fundamental (preclinical) and clinical research, over the production and product management after patent expiry. Although facing many challenges like overcapacity (excessive capacity for production in relation to demand), lack of new products and customers' requests for price reduction (Enright and Dalton, 2013), the pharmaceutical industry became a growth, export and investment driver as well as a driver of investments into research and development.

This paper analyses the scope and the structure of the Croatian medicinal products market, it describes the main participants and assesses their financial position. Following the introduction, the second part analyses the scope of the medicinal products market in Croatia – the institutional framework and the major market participants, especially the distribution of medicinal products in the period from 2010 to 2017 and their consumption. The third part assesses the financial position of ten largest pharmaceutical companies in Croatia in the period from 2013 to 2017 based on the consolidated balance sheets and income statements. It also includes the calculation and analysis of the selected financial performance indicators that are prepared for the assessment of the market position of the major participants. The fourth part comprises the conclusions.

2. Medicinal Products Market in Croatia

The consumption of medicinal products affects the costs of every modern healthcare system. The result of the increased economic prosperity is the increasing demand of patients for modern medicinal products and increasingly aggressive marketing used by the medicinal product manufacturers. Furthermore, as the medicine progresses, the patients' expectations are becoming higher, and thus the expenditure on medicinal products often grows much faster than the GDP growth rate, which impacts the financial sustainability of the healthcare system (Vehovec, 2014). There are particularities that make the medicinal products market different from other market and they include *the government policy and legal factors, a high product impact, demanding technology and a long period required for development of a new products, fragmented market and a specific process of purchase.*

The medicinal products market is one of the most heavily controlled and legally regulated markets, which refers to the medicinal product research, manufacture, registration i.e. marketing authorisation as well as distribution, sale and marketing. Specific restrictions and requirements vary somewhat from country to country. An especially important aspect in marketing of medicinal products is the ethical code that provides clear instructions on what is permitted and what is strictly prohibited. The pricing of medicinal products is also a special process controlled by the government.

One of the distinctive features of the medicinal products market is the demanding technology and a long-term process of development of new products. Research and development of medicinal products is a risky venture for every medicinal product manufacturer. About 20% of the total company revenue is invested in research of new molecules, and it is known that only around two hundred molecules out of every 10,000 will successfully pass the testing, and hardly twenty of them will successfully pass the clinical testing to become a marketable medicine. Due to the large cost of their development, the innovative medicinal products have patent rights that grant the protection of intellectual property over the product for 20 years. In reality, this period is much shorter, since a medicinal product, before becoming marketable, must be subjected to numerous tests. The time required for the first copies of innovative medicinal products (generic medicinal products) to be placed on the market is ten to fifteen years, and this period is sometimes even shorter (DiMasi, 2015).

The availability of medicinal products on the market depends on collaboration between multiple interested parties – pharmaceutical industry, wholesalers, pharmacies, hospital systems, procurement policies referring to medicinals, patients (insured persons within healthcare protection system) and parliament, that makes decisions on the medicinal product policy (Ostojić et al., 2015).

Except acting in accordance with the provisions of the national legislations, the participants on the Croatian medicinal products market act also in accordance with regulations and guidelines that are applicable to all EU member countries. The Croatian medicinal products market is regulated by the Medicinal Products Act (Official Gazette, no. 76/13) pursuant to which the following ordinances were adopted: Ordinance on Benchmarks for the Pricing in Wholesale Distribution of Medicinal Products and Method of Reporting on Wholesale Prices (Official Gazette, no. 83/13) and Ordinance on Benchmarks for Including Medicinal Products in the Basic and Supplementary List of Medicinal Products of the Croatian Health Insurance Fund (Official Gazette, no. 83/13). The Medicinal Products Act sets out the procedure for testing and placing the medicinal products on the market, labelling, classification, distribution, pharmacovigilance and quality control of the medicinal products, advertising, supply of the Croatian market with medicinal products, supervision of medicinal products, tested medicinal products as well as active substances and excipients.

Pursuant to the Medicinal Products and Medical Devices Act (Official Gazette, no. 121/03), the Agency for Medicinal Products and Medical Devices of Croatia (HALMED) as the competent agency for market regulation was established in 2003. The Medicinal Products Act sets forth that it is permitted to place on the market only those medicinal products that obtained the approval of HALMED or European Commission and the medicinal products with the approval for parallel import or distribution. Any legal and natural entity and governmental body that come into possession of medicinal products in any way are obliged to ensure their transport, storage and keeping in accordance with the conditions provided for by law. For the purpose of regulation of aforementioned provisions, the Ordinance on Good Practice in Wholesale Distribution of Medicinal Products was adopted, that regulates the right of distribution of the medicinal products (Vehovec, 2014).

The pharmaceutical inspection of the Ministry of Health of the Republic of Croatia is competent for the supervision related to tested medicinal products, active substances and excipients, and

especially the supervision related to testing, manufacturing, distribution, brokering, quality control and advertising of medicinal products. The HALMED inspection supervises the manufacture of medicinal products, tested medicinal products, active substances and excipients as well as pharmacovigilance.[1]
The medicinal products policy in EU is established for each member country individually, but there are certain elements, such as the authorisation of the product for placement on the market, that are defined on the EU level. In the latest amendment of the Medicinal Products Act of 2013, the Croatian Parliament transposed in the Croatian legal system fifteen directives and 10 regulations of the European Parliament, Council of Europe and European Commission. By the adoption of this amendment, the Croatian legal system has become fully harmonised with the EU legal system.

Pharmaceutical Pricing Policy

In the past ten years, the Ministry of Health of the Republic of Croatia improved the national pricing system of medicinal products and fees and made it comparable to the system applicable in EU. The Ordinance on Benchmarks for Pricing of Wholesale Distribution of Medicinal Products lays down the criteria – benchmark wholesale price of a medicinal product in other countries, level of the benchmark wholesale price and pharmacoeconomic study[2].
The external evaluation model based on the benchmark prices of medicinal products in Croatia has been implemented since 2001. Since then the Ordinance on Benchmarks for the Pricing in Wholesale Distribution of Medicinal Products and Method of Reporting (Official Gazette, no. 84/01, 129/02, 87/06, 91/06, 155/09, 83/2012, 83/2013). The cost increase was affected by the administrative measure of exemption of more than a half of the insured from the obligation of paying a percentage surcharge for the medicinal products adopted in 2002. Two years later, the medicinal product pricing policy was amended, and for the first time, there was a difference in prices between innovative and generic medicinal products. The 2006 amendment, introduced reference prices per therapeutic group in the calculation of the cost reimbursement for the prescription medicinal products. The internal reference system also defines the consumption of 41 therapeutic groups of the prescription medicinal products.
The Ordinance amendment from 2009, solved the issues of implementation of the provisions regarding the pricing and reimbursement that incurred as a consequence of removing the medicinal products of the first group from the list of especially expensive medicinal products, and thus the consumption of a larger number of the expensive medicinal products of the second and third group, which made the financial burden of the healthcare system even heavier. By means of the new 2012 Ordinance, the wholesale distribution price of a medicinal product (of the identical generic entity and identical dosage form) in Italy, Slovenia and Czech Republic or Spain and France became the basis for the reference wholesale price of that medicinal product. The reference wholesale price of medicinal products is calculated for each medicinal product separately. If on the markets of the reference countries there are several essentially similar forms of a medicinal product manufactured by several different manufacturers, the average price of such medicine in the relevant country is used for the calculation. The reference price shall be set separately for patented original medicinal products, non-patented medicinal

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[1]Pharmacovigilance is a set of activities related to identification, assessment, understanding, prevention and procedure in case of adverse reactions, as well as new information about the medicinal product safety.
[2] Pharmacoeconomic analysis – the economic analysis of the assessment of justification for the use of medicinal products in medical practice (application of the cost and benefit analysis and application of the economic indicators that are used in economic assessment of the treatment).

products and for generic medicinal products. The prices of all the above-specified groups of medicinal products may not be higher than the average reference price, and if that is the case, such prices need to be reduced to the average reference price. The reference price is the highest price of a medicinal product that a marketing authorisation holder may charge for a *medicinal product on the supplementary list of medicinal products* (the price paid by the Croatian Health Insurance Fund plus the price paid by the insured person), whereas *the medicinal products from the basic list of medicinal products* and a part of medicinal products fro the supplementary list (paid by the Croatian Health Insurance Fund) shall be regulated by additional regulations. Table 1 presents the calculation of the price of a medicinal product in accordance with the Ordinance (Vehovec, 2014).

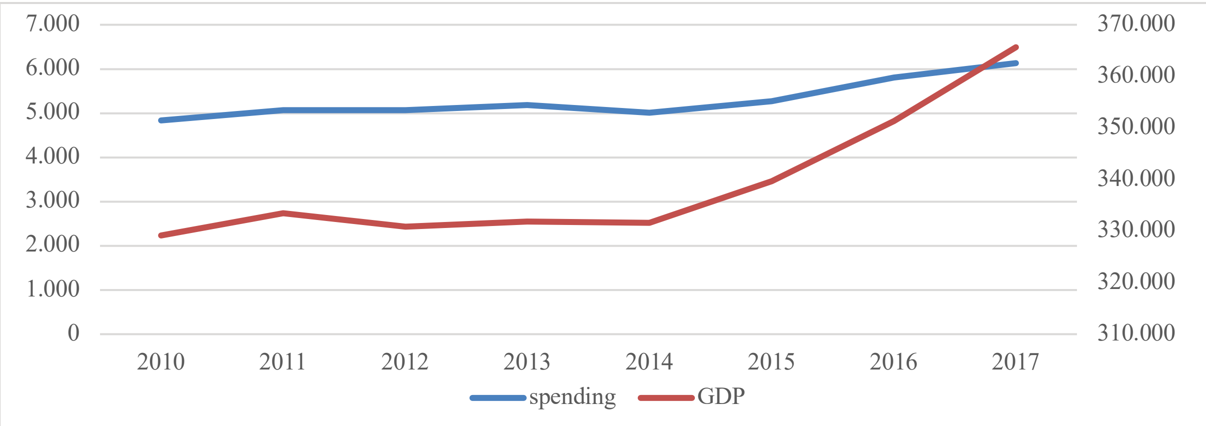
As a rule, the generic medicinal products are cheaper than the original medicinal products. *The price of the first generic medicinal product may not be higher than 70% of the price of the original product from the medicinal product list of the Croatian Health Insurance Fund*, and *the price of a new (second) generic medicinal product may not be higher than 90% of the price of the first generic medicinal product.* The price of the third generic medicinal product and every one thereafter that is placed on the Croatian market may reach 90% of the price of the new, i.e. the second generic medicinal product. Although the Ordinance provides the possibility of setting the price of the fourth medicinal product and every one thereafter to 90% of the price of the second generic medicinal product, in reality, it happens that the marketing authorisation holders suggest prices of the new generic medicinal products that amount to 90% of the previous generic medicinal products, which positively affects the budget of the Croatian Health Insurance Fund (Broz, 2014).
The Ordinance from 2013 introduced separate pricing for biologic generic medicinal products[3] and enabled relatively cost-effective price conditions compared to other generic medicinal products. The price of the biologic generic medicinal product must not exceed 85% of the price of the original medicinal product from the list of the Croatian Health Insurance Fund, whereas the price of the new (second) biologic generic medicinal product may amount to 90% of the price of the first biologic generic medicinal product. In order for a medicinal product to be included in either the basic or the supplementary medicinal products list of the Croatian Health Insurance Fund, besides determining the price, a proposal for including the medicinal product in the list needs to be submitted. The requirement for the inclusion of the original medicinal products in the medicinal products list of the Croatian Health Insurance Fund or for the expansion of the indications for use, is submitting of an impact study of the medical product consumption to the budget of the Croatian Health Insurance Fund. Legal persons with a wholesale distribution authorisation – mostly wholesale pharmacies – are obligated to sell to the Croatian Health Insurance Fund the medicinal products from the basic and supplementary products list at specified prices. The wholesale pharmacies purchase medicinal products directly from the manufacturers in the country or import them from the foreign manufacturers. The wholesale price of a medical product (net of VAT) *includes the manufacturer price* (laid down by the Ordinance)[4] *increased by the customs fees* (in the case of an imported medicinal product). The cost of the retail pharmacist service amounts to on average HRK 6.9 per single medicinal product i.e. prescription. The domestic medicinal product manufacturers may distribute their products either independently or through wholesale pharmacies. However, the wholesale margin and other dependant costs may not be higher than 8.5% (Broz, 2014).

[3] Biologic medicinal products are large, complex molecules produced by living organisms.
[4] The price already includes the wholesale margin and relevant costs amounting to 8.5%.

Scope and Structure of Medicinal Product consumption in Croatia from 2010 to 2017

In Croatia, HALMED has been tracking the consumption of medical products systematically and comprehensively only since 2004, and once a year it submits a report on the consumption to the Minster of Health, in accordance with the information obtained from legal and natural persons in wholesale and retail medicinal product distribution. The reports on the medicinal product consumption of European countries are mostly based on the information obtained from wholesale pharmacies, but the HALMED's report is based on the data on the medicinal product distribution obtained from all pharmacies (including hospital pharmacies), as well as on the data obtained from specialised retail stores for medicinal products. Such an approach grants a realistic overview of the medicinal product consumption since the data are based on the actual number of medicinal products issued to end users. The medicinal product consumption shows a growing trend in the period from 2010 to 2017 (see chart 1). With an aim of reducing costs, the Croatian Health Insurance Fund introduced a new pricing system for medicinal products in 2012 – securing more generic medicinal products, which meant the reduction of prices of medicinal products as well as of the financial burden of the government budget. The implementation of these regulations in 2014 resulted in the increased distribution of certain groups of medicinal products, and the growth of overall cost was equally distributed over all groups of medicinal products (HALMED, 2018).

Chart 1: *Total spending on medicinal products and GDP in Croatia from 2010 to 2017 (HRK million)*

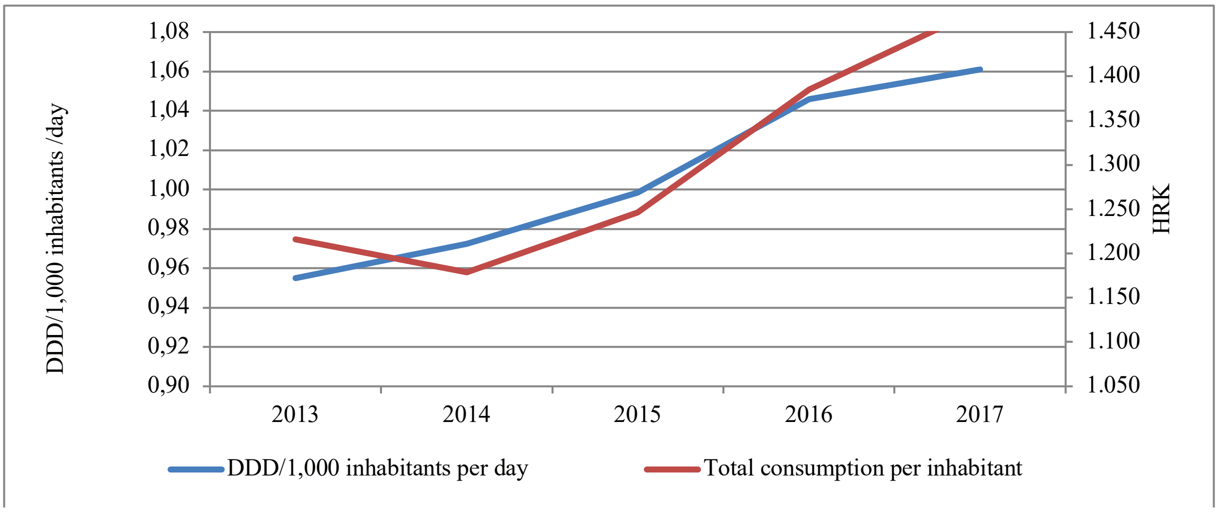


Source: Agency for Medicinal Products and Medical Devices of Croatian (2018)

The spending on medicinal products had a growing trend, and in 2017 it amounted to HRK 6 billion. The substantial growth in spending on medicinal products by HRK 1 billion from 2014 to 2017 is related to the GDP growth.

Let us take a look at the consumption of medicinal products measured in number of defined daily doses / 1,000 inhabitants per day, which amounted to 1,045.88 DDD/1,000 inhabitants per day in 2016. This means, that almost every inhabitant of the Republic of Croatia used one dose of medicine per day (see chart 2). The medicinal product consumption showed a growing trend expressed in DDD/1,000 inhabitants in the period from 2012 to 2018. In 2010, there were certain changes in DDD in specific ATC (Anatomical Therapeutic Chemical) groups, which resulted in reduced total results. The reason for this reduction is the change of DDD measurement units for specific medicinal products. E.g. DDDs for C10 group of medicinal products doubled, and therefore the final results halved. It is evident that the consumption of medicinal products per inhabitant has an upward trend – the average spending on medicinal products of every inhabitant in Croatia amounts to HRK 1,257 per year, and a thousand of inhabitants spend a defined daily dose of a medicinal product every day.

Chart 2: *Total consumption of medicinal products per inhabitant expressed in HRK and in defined daily doses per 1,000 inhabitants per day in Croatia from 2013 to 2017*



Source: Agency for Medicinal Products and Medical Devices of Croatian (2018) and Eurostat (2018)

One of the challenges that the Croatian pharmaceutical industry will be facing in the future is the strategic positioning, in terms of geographic positioning, as well as in terms of the product portfolio. The Croatian pharmaceutical industry is mostly focused on the manufacture of generic medicinal products that lose their market position because despite their growing sale the revenue drops due to their price reduction. The generic medicinal products made 42% of the total revenue of the Croatian pharmaceutical industry in 2015 (Barbić, 2017).
It is evident that the companies on the Croatian market must keep up with the developments on the global medicinal products markets since the growing markets have recorded increased demand of medicinal products and services as a result of demographic changes and easier access to healthcare.

Total spending on medicinal products and sales revenue

In the considered period, the medicinal product consumption grew, but the revenue of pharmaceutical manufacturers grew even more and they are on average HRK 1.5 billion higher than the total spending. This shows that the pharmaceutical industry is a very lucrative and profitable business.

Table 2: *Total spending on medicinal products and total sales revenue of ten pharmaceutical companies in Croatia from 2013 to 2017 (HRK million)*

Year	Sales revenue (1)	Total spending (2)	Difference (1-2)
2013	6,369	5,183	1,186
2014	6,668	5,006	1,662
2015	7,010	5,267	1,743
2016	7,671	5,803	1,868
2017	8,007	6,132	1,875
2013 – 2017	35,725	27,391	8,334

Source: Agency for Medicinal Products and Medical Devices of Croatia (2018) and Financial Agency

In the considered four years, the total spending on medicinal products amounted to HRK 27.4 billion, and the revenue of pharmaceutical companies generated by selling medicinal products amounted to HRK 35.7 billion. During the considered four-year period, the companies generated surplus revenue of HRK 8.3 billion, which is a good reason for the analysis of their financial position.

Outstanding Liabilities of state owned health care institutions

The demand of healthcare institutions (mostly hospitals) and their inability to settle their debt to suppliers (wholesale pharmacies and pharmaceutical companies) has a substantial impact on the medicinal products market. The annual cost of outstanding invoices for medicinal products rarely amounts to less than HRK 0.5 billion.

Table 3: *Scope and Structure of outstanding liabilities of healthcare institutions 2012 to 2018 (HRK million)*

	2013	2014	2015	2016	2017
Compulsory health care insurance	1,391.3	933.2	487.9	866.6	475.0
Medicinal products	**1,295.1**	**774.3**	**458.9**	**851.9**	**448.5**
Supplementary health care insurance	1.2	1.0	7.1	2.3	1.6
Allowances	36.0	5.3	2.6	6.6	5.6
Specialist service	0.6	0.6	2.1	0.1	0.2
Capex	0.7	0.0	0.0	0.0	0.0
Mutual liabilities of budgetary units	184.3	158.0	-	-	-
Total	**1,614.2**	**1,098.1**	**499.7**	**875.5**	**482.4**
Medical products as a percentage of the overall outstanding liabilities	80.2	70.5	91.8	97.3	93.0

Source: Croatian Health Insurance Fund, annual business reports from 2012 to 2017

Due to constant exceeding of the time-limit, the liabilities owed to suppliers are mostly settled by the Government and the Ministry of Finance, which use borrowing (on the domestic and foreign financial market) for a lump sum reduction of the hospitals' liabilities for medicinal products when the value of outstanding liabilities exceeds HRK 1 billion. As a consequence of borrowing, the liabilities are partially bailed-in, and then they gradually accumulate within a two to three-year period and again reach the value above HRK 1 billion. Despite the longer periods required for collection of the accounts receivables, the participants on the medicinal products market are patient because they they will manage to collect them eventually even if the time-limits are exceeded, and they will also charge the penalties for late payment. On the other hand, the public health institutions are the main client worth doing business with and worth waiting for, because the collection of the accounts receivable is guaranteed. At the same time, these institutions are the main cause of the issue that arises due to irresponsible actions, bad planning and management of the medicinal products. The Croatian Health Insurance Fund acts as if they do not care, because the government is the party that eventually settles all liabilities through the Ministry of Finance.

3. The financial position of the major participants on the medicinal products market in Croatia from 2013 to 2017

The strong upward trend in manufacture of pharmaceutical preparations continues affecting the production of the entire industry. According to the data obtained from the Croatian Bureau of Statistics there are more than 30 active pharmaceutical companies in Croatia with the total headcount of around 5,000 workers, and the average gross salary of EUR 1,910.00. The pharmaceutical industry has a 7% share in the total export.

Although more than 30 companies operate in the Croatian pharmaceutical industry, the ten largest Croatian pharmaceutical manufacturers and distributors (wholesale pharmacies) generated more than 90% of the entire sector revenue in 2017 and employed more than 90% of workers in the sector. When it comes to the generated revenue, the following manufacturers stand out: Pliva, Jadran galenski laboratorij (JGL) and Belupo.

Table 4 shows the growth of the total income and expenses of the leading and profitable pharmaceutical manufacturers and wholesale pharmacies that generated the average profit of HRK 400 million in the considered period.

Table 4: *The key performance indicators of the ten selected pharmaceutical companies in Croatia from 2013 to 2017 (HRK billion)*

	2013	2014	2015	2016	2017
Business income	6.78	7.05	7.19	8.05	8.01
Financial income	0.12	0.26	0.25	0.27	0.34
Total income	6.91	7.31	7.44	8.32	8.35
Operating expenses	6.21	6.17	6.63	7.03	7.33
Financial expenses	0.34	0.49	0.62	0.38	0.23
Total expenses	6.55	6.66	7.25	7.41	7.56
Net profit	0.46	0.66	0.30	0.74	0.64
Investment	600.0	677.9	479.2	913.8	513.0
Import in the observed period	2.5	2.6	3.0	3.7	4.0
Revenues from selling abroad	3.2	3.7	3.8	3.5	3.9
Selling abroad as a percentage of the overall revenue	46%	51%	52%	42%	47%
Headcount	4,154	4,250	4,346	4,393	4,465

Source: calculation by the author based on the financial statements of the selected companies for the period 2013– 2017

Pharmaceutical companies make a stable sector with a continuous revenue growth (total of around 20% in the considered four-year period). The sector is profitable, and the revenue growth coincides with the growth of investment into new, non-current assets. There was a substantial increase of import in the considered period, and the revenue from selling abroad amounted to almost 50% of the overall sales revenue.

Pliva generated more than a half of the total generated revenue of the considered companies, it is followed by Phoenix-farmacija wholesale pharmacy, and the manufacturers Jadran galenski laboratorij and Belupo. It is interesting that Imunološki zavod has 9% share in the total asset value of the ten largest pharmaceutical companies, and it generated the insignificant 0.11% revenue. This is a result of week business operations and outstanding issues regarding the ownership structure.

Assets and liabilities and financial results of the pharmaceutical companies from 2013 to 2017

Assets of the considered pharmaceutical companies amount to around HRK 11 billion, but by the end of the observed period, the non-current assets reduced by about 15%, mostly as a result of a decrease in financial assets. By the end of the respective period, the current assets also reduced, mostly due to reduction in customer demand and granted short-term loans and deposits, but the capital and reserves grew as a result of profit brought forward from previous years and growth in equity share. The overall sector is deleveraging – non-current liabilities dropped by 69% in 2016.
Pliva recorded 61.30% share in total assets in 2017. Therefore, all changes in the balance sheet structure and changes on the pharmaceutical market in general, depend highly of changes in business operations of Pliva. According to their share in the total assets of ten largest pharmaceutical companies, the manufacturers of medicinal products are as follows: Belupo (14%), Jadran galenski laboratorij (9%) and Imunološki zavod (9%).

Table 5: *Balance sheet of ten largest pharmaceutical companies in Croatia from 2013 to 2017 (HRK billion)*

	2013	2014	2015	2016	2017
Non-current assets	5.98	6.43	6.95	5.88	5.86
Current assets	5.88	6.35	4.43	5.04	5.13
Assets	11.86	12.78	11.38	10.93	10.99
Capital and reserves	5.70	5.63	5.01	5.76	5.88
Non-current liabilities	3.36	4.38	3.72	1.17	1.04
Current liabilities	2.79	2.77	2.65	4.00	4.07
Liabilities	11.86	12.78	11.38	10.93	10.99

Source: Fina - Financial Agency (2018)

The analysis of the selected performance indicators of the pharmaceutical manufacturers in Croatia from 2013 to 2017

The suppliers of products and services, as well as creditors, are interested in the assessment of abilities of a company to settle the current liabilities (liabilities becoming due within a period of up to one year), thus *the liquidity indicators are used for the assessment of ability to pay short-term loans. The current ratio* of the leading pharmaceutical companies (six manufacturers and four wholesale pharmacies) amounted to from the alarming 0.26 (Imunološki zavod) to rather good 4.42 (Jadran galenski laboratorij in 2017. The higher value of the current ratio provides for a better debtor’s position. In this example, however, the liquidity analysis was hampered by the fact that the most profitable pharmaceutical companies had problems with a high share of receivables, so their actual liquidity level here is still somewhat lower. This is also supported by the fact that the share of receivables in the current assets of JGL company ranged from 60% to almost 80 percent in the period from 2013 to 2017.
The financial stability ratio is a ratio of non-current assets and long-term sources of finance (equity and non-current liabilities). If the indicator is below 1, this means that a part of the current liabilities is financed from long-term sources of finance, which reflects wise financial management. In 2017, GlaxoSmithKline recorded the lowest financial stability ratio of 0.04, whereas the highest financial stability ratio of 7.85 was recorded by FARMAL. It must be emphasised that the ratio above 1 implies lack of net working capital, and a high debt to equity

ratio, and a negative equity value as well, additionally confirms problems in business of FRAMAL (total liabilities of FARMAL were 2.5 times higher than the total assets).

***Table 6:** Financial indicators of the leading pharmaceutical companies in Croatia in 2017*

Company	CLR	FSR	DR	DTER	CP	NPM	ROA	ROE
BELUPO	2.52	0.79	0.40	0.66	132.82	0.09	0.04	0.07
FARMAL	0.53	7.85	2.54	-1.65	110.76	-0.18	-0.18	0.12
Genera	2.20	0.60	0.60	1.53	214.10	-0.04	-0.03	-0.06
GSK	3.85	0.04	0.25	0.34	202.44	0.03	0.06	0.08
Imunološki zavod	0.26	1.77	0.62	1.65	332.86	-0.37	-0.02	-0.05
JGL	4.42	0.61	0.50	1.00	246.40	0.11	0.07	0.13
Novartis	1.21	0.43	0.73	2.73	71.02	0.01	0.04	0.14
PHARMATHEKA	0.82	1.20	0.72	2.55	23.95	0.06	0.10	0.37
PHOENIX	1.27	0.29	0.73	2.65	140.92	0.00	0.00	0.00
PLIVA	1.05	0.96	0.41	0.69	127.39	0.11	0.08	0.13

Note: CLR – Current Liquidity Ratio, FSR – Financial Stability Ratio, DR – Debt Ratio, DTER – Debt to Equity Ratio, NPM – Net Profit Margin, ROA – Return on Assets, ROE – Return On Equity

Source: Fina - Financial Agency (2018)

The considered companies are mostly profitable, and net profit margin in 2017 amounted from negative – 37% (Imunološki zavod) to positive 11%. The net profit margin is the most precise final performance indicators of performed tasks and it show she percentage of revenue that translates into profit that can be freely disposed of. The considered companies are mostly profitable – except FARMAL, Genera and Imunološki zavod. The return on assets rate amounts up to 10%, and the return on equity rate amounts to 37% (the maximum values of both indicators refer to PHARMATHEKA).

4. Conclusion

- The steadily increasing consumption of medicinal products has been systematically and comprehensively tracked in Croatia since 2004 and it reached the value of HRK 6 billion in 2017.
- The ten largest Croatian pharmaceutical manufacturers and distributors (wholesale pharmacies) generated more than 90% of the total sector revenue in 2017 and employed more than 90% of the total headcount in the sector.
- The pharmaceutical companies represent a stable sector with a continuous revenue growth (around 20% in total in the considered four-year period). When it comes to the generated revenue, the following manufacturers stand out: Pliva, Jadran Galneski Laboratorij (JGL) and Belupo.
- The domestic manufacturers of medicinal products gradually lose their market share, which is more a result of a price reduction of medicinal products than of reduced sales.
- Pliva generated more than a half of the total generated revenue of the considered companies, it is followed by Phoenix-farmacija wholesale pharmacy, and the manufacturers Jadran galenski laboratorij and Belupo.
- The asset value of the ten leading pharmaceutical companies amounts to around HRK 11 billion and their liabilities amount to around HRK 5 billion in total.

- The sector is profitable, and the revenue growth coincides with the growth of investment into new, non-current assets. A substantial increase of import in the considered period is evident, and the revenue from selling abroad amounted to almost 50% of the overall sales revenue.
- The most liquid pharmaceutical companies cope with issues with a high share of receivables (mostly of public hospitals), which is the reason for their lower actual liquidity.
- The return on assets rate amounts up to 10%, and the return on equity rate amounts to 37% (the maximum values of both indicators refer to PHARMATHEKA).
- The medicinal products market is largely effected by the demand of healthcare institutions (primarily public hospitals) that are also the main source of outstanding government liabilities.
- The public hospitals are not successful in meeting their liabilities towards suppliers (wholesale pharmacies and pharmaceutical companies) during a year. The annual cost of outstanding invoices for medicinal products quite often exceeds HRK 1 billion. The Government borrows money for lump-sum settlement of hospitals' obligations to suppliers, but such obligations accumulate again within a two-year period and reach the amount of HRK 1 billion.

Recommendations to the Government:

- To perform an analysis of business operations of companies in the segment of wholesale and retail (especially pharmacies) of medicinal products, to compare the business of domestic and foreign pharmaceutical companies operating in the Republic of Croatia and perform a detailed market analysis of expensive medicinal products.
- The public institutions (hospitals) must operate more rationally in order to reduce the annual outstanding obligations and bring them to the level under HRK 300 million, and the Government needs to evaluate them in accordance with the criteria of cost control and prevention of new outstanding obligations towards suppliers.

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ACCOUNTING INFORMATION IN DECISION MAKING: EVIDENCE FROM MICRO COMPANIES

ABSTRACT

Decision making is an essential part of every managerial activity. Managers need relevant information to lean on in order to achieve success and growth of the company. Accounting information should form an important share in managerial decision making even in micro companies where managers have different educational backgrounds. This paper sheds light on the use of accounting information in the decision making process. The aim of the paper is to analyse and understand the importance and usefulness of accounting information for managers in micro companies who are striving to run successful businesses. Empirical research was conducted using online survey as a research instrument. The collected data were analysed and four hypotheses tested by means of univariate statistics. Research results showed that managers in micro companies (regardless of their field and level of education) acknowledged the importance of accounting information in decision making because they were aware of the impact of accounting policies implementation on financial position and result. Furthermore, awareness of their responsibility for financial statements makes managers appreciate the usefulness of accounting information. Using accounting information relevant for decision making processes makes managers more eager to learn more about accounting and, subsequently, making companies more profitable.

Key words: *Accounting, Decision making, Management, Micro companies*

1. Introduction

The value of the small business sector to local, national and international economies is widely recognized as being essential for entrepreneurial activity, innovation, job creation and industry dynamics (Shepherd and Wiklund, 2005; in: Liberman-Yaconi, Hooper and Hutchings, 2010:71). Micro companies are acknowledged as the critical and important source of income and employment in many countries, but, unfortunately, despite their predominance compared to small, medium and large companies, many of them are not able to survive and grow bigger. Effective decision making significantly improves the company's success and survival, so analyzing factors that shape and enhance decision making processes in micro companies is very valuable. Along these lines, this paper is focused on the role of accounting information in decision making in micro companies in Croatia.

The main assumptions of this research have the following conditional relationship. Namely, success, survival, growth, and development of micro companies to a great extent depends on all managerial processes that take place inside and outside of the companies. Simply put, decision making is an essential part of every managerial activity. Further, the quality of the implemented managerial processes can only be achieved if managers – decision makers, conduct efficient decision making processes which result in resourceful and successful decisions. But, to achieve these results, managers need quality information. Information in any organization helps in facilitating the decision making process. Information is needed to define and structure the problem or opportunity, to explore and choose between alternative solutions and to review the effects of the implemented choice (Berisha-Namani, 2010). So, it is unquestionable that decision making depends directly on information. Adequate and quality information leads to the quality decision making process.

Effective and efficient accounting information plays a central role in management decision making (Tunji, 2012). Considering contemporary economic conditions within which all companies operate, a successful manager, in order to be able to make quality business decisions, needs a relevant, timely, accurate, reliable and complete accounting information; in summary - high-quality accounting information.

Decision making research in accounting has a long history, beginning in 1960s, where researchers have approached managerial decisions much more in terms of managerial accounting and less in financial accounting (Socea, 2012). By identifying the role that financial accounting information plays in decision making in micro companies - the economically significant category of firms; this paper contributes to the academic field of strategic management and contemporary accounting management.

Given these considerations, the overall purpose of this paper is to illustrate and discuss the role that accounting information has for managers who are making important decisions every day in micro companies. The main research goal is to analyze and understand the importance and usefulness of the accounting information for managers who are striving to run successful businesses.

2. Decision making and accounting information

Decision making is a part of every, big or small, private or business, individual or group activity. It is the most important managers' function in any kind of organization (Nooraie, 2012) which govern the way and direction of success. It is central managerial activity in all types of business organizations (Elbanna and Child, 2007). It is a key process of strategic management (e.g. Eisenhardt, 1999; Nutt, 2008).

As a term, it is defined from a number of different perspectives mainly depending on the researcher's main discipline and on his/her point of view. Decision making is a fairly complex, dynamic, sequential process (Harrison, 1999) of thinking and judging which has its own course of action oriented towards achieving a particular goal, ending up by choosing one of several possible options (Yates, 2001). It is a cognitive process directed by an individual's core values and beliefs, representing an individual approach to cognitive tasks (Galotti et al., 2006). Decision making is a process of thought and action divided into many phases (Simon, 1960) which are conditioned by each other and include series of activities of searching, evaluating, selecting and processing a wide range of information before making a final decision. An overview of decision making processes shows the great similarity between models that many researchers split into a different number of phases; from three to seven phases (e.g. Witte, 1972; Mintzberg, Raisinghani and Theoret, 1976; Nutt, 2011). These processes are presented as systematic sequential steps that lead from problem sensing to option choosing (Tarng and Chen, 1989).

Various definitions of business decision making can be found in the literature, but they all state that it is a continuous process, very time consuming for the decision maker, representing the basis of business existence and performance, and targeting mainly managers (Bulog, 2016). Simply put, decision making is a process of identifying options based on values and preferences, and choosing the best one.

Regardless of the size of the company, it is unquestionable that their efficiency depends upon a broad range of quality guided and implemented managerial activities, which could not be realized without skilled decision makers who are able to make proper choices as the result of well-conducted and maintained decision making processes. Given the complexity and the number of problems that today's companies face considering environmental requirements, managers are expected to be excellent decision makers with the ability to make effective decisions which will shape business performance. Considering that it is difficult to even conceive how decision making processes that include such activities as search, design, and choice, could operate effectively without valid information (Argyris, 1976:365), it is justifiable and logical to suppose that decision making and accounting information are connected.

Undoubtedly, the quality of any decision making activity is under the great influence of individual characteristics of the decision maker (his/her skills, capabilities, education, experience, decision making style, decision making approach, techniques and methods they use etc.), but without adequate, proper, right, timely information, good results of process cannot be expected. Susanto (2016:4001) concisely defines what information is, and highlights how important it is for effective decision making in a company by quoting McLeod and Schell (2017); Laudon and Laudon (2015); Hall (2015); Romney and Steinbart (2012); Gelinas et al (2012) and Clarke (2001). These authors are defining information as data formed into a meaningful and useful resource for any user; as a business resource essential for the survival of the organization; as a piece of data that has been organized and processed to provide meaning and improve the decision making process; as a key element in decision making (...). Information can reduce uncertainty and complexity of action, facilitate choices, highlighting the possibilities and limitations of optional solutions (Socea, 2012; Petroianu, 2012).

Together with financial information, accounting information is among the most important information widely used in managerial decisions (Royaee, Salehi and Aseman, 2012). Modern management is largely dependent on accounting information. The managers are among the first users of financial accounting information (Petroianu, 2012). Accounting information is helpful in formulating policies and strategies, budgeting, as well as forecasting future plans, making comparisons and evaluating the performance of the management (Rogošić and Budimlić, 2016: 78). Accounting information represents an important factor in decision making since accountancy is considered as an essential source of information about the financial standing and performance of a company (Petroianu, 2012). It plays a very purposeful role in decision making and hence in improving the financial performance of the company by providing sustainable financial information that budget forecasts, financial ratios, cost accounting and variance analysis (Matambele and van der Poll, 2017). Accounting information plays a vital role in making effective, accurate and significant decisions. Researchers confirmed that accounting information performs a crucial role in management decisions and organizational performance, understanding it to be a major force in managerial decision making process (e.g. Ullah, Khonadakar and Fahim, 2014; Patel, 2015; Matambele and van der Poll, 2017). In view of these considerations, it follows that accounting information could be considered as a raw material essential for effective decision making.

It is important to emphasize that not all accounting information is beneficial for the decision making process. Namely, information needs to be of a high quality. As Strong, Lee and Wang (1997) explain, information is of high quality if it meets the need of the information consumer. The quality of accounting information is information that contains the value relevance of accounting in which the information is available when needed so as to meet the needs of users in decision making (Susanto, 2016: 4002).

3. Hypotheses and research methodology

The main task of accounting is to provide information useful for users (managers, owners, creditors and all other interested parties). Accounting information has two main roles: informativeness and stewardship (Šodan, Aljinović Barać and Vuko, 2013: 400). In micro and small sized companies the informative role of accounting information is more pertinent. Micro companies use simplified accounting so the scope of accounting information can be very narrow in a way that ends with recording economic transactions and preparing financial statements (Waniak-Michalak, 2017). From 2008 till today small and medium enterprises (SME) in Croatia have been required to apply Croatian Financial Reporting Standards (CFRS), which are based on International Financial Reporting Standards (IFRS), but they are simpler, shorter and intended to follow the needs of SME. Amendments to CFRS and to the Accounting Act that are related to the incorporation of the 2013 EU accounting Directive did not cause any divergence from the provisions in IFRS (Šodan and Aljinović Barać, 2017: 47). Šodan and Aljinović Barać (2017) provided thorough comparison between the IFRS and CFRS and concluded that the current CFRS are more aligned with updated IFRS than the previous ones. An important difference between the medium-sized and small (micro) enterprises in the volume of reported information refers to the volume of the notes to the financial statements (Jerman, 2017: 273). The notes to the financial statements include accounting policies. By definition, accounting policies are principles, basics, conventions, rules and practices applied by an entity in preparing and presenting financial statements. They consist of methods related to the measurement and accounting of assets, liabilities, revenues and expenses (Bahadir and Tolga, 2013). Accounting policy choice is a reflection of the financial position and result of the company.

Financial statements represent a medium through which information on the financial position and business success of a company are communicated, primarily to external interest groups, which make different decisions based on such information (Remenarić, Kenfelja and Mijoč, 2018: 193). Beside accountants, investors, creditors, owners and managers as well as all other interested parties use the information presented in general purpose financial statements. Based on that fact, it is necessary that all of them have at least fundamental accounting knowledge (Mamić Sačer, Dečman and Rep, 2018) more so because of management's responsibility for the accurate preparation and presentation of financial statements. Management is responsible for preparing the financial statements, including estimates that underlie the accounting numbers. Although the preparation of the financial statements is often done by the experts (accountants), responsibility rests with management whose signature is required according to the Accounting Act (Official Gazette, 2015) in Croatia.

The discipline of accounting and auditing has increasingly recognized the attributes of judgment and decision making as being highly important in the profession because individuals such as managers, auditors, financial analysts, accountants, and standard setters make pivotal judgments and decisions (Mala and Chand, 2015). Accounting information is considered value relevant if it is correlated with the market value of a company (Pervan and Bartulović, 2014: 181). Accounting information can affect managerial decision-making in two ways: directly as input to decisions or indirectly by influencing the behaviour of managers (Wall and Greiling, 2011: 91). In order to positively influence the decision making process, accounting information should be relevant. With the help of accounting data, management can make correct decisions which will lead to increase in the profit of the organization (Patel, 2015: 74).

All the above mentioned along with the literature review presented in the previous section led to the formulation of the following hypotheses:

H_1: Managers, who are aware of the impact of accounting policies implementation on financial position and result, acknowledge the importance of accounting information in decision making.

H_2: Managers, who are aware of their responsibility for financial statements, acknowledge the usefulness of accounting information.

H_3: Managers, who find accounting information relevant for decision making, are inclined to accounting education in order to improve business activities.

H_4: Managers, who find accounting information relevant for decision making, run profitable businesses.

The empirical research methodology is based on a survey. In order to test the hypotheses a research instrument in form of questionnaire was created. Web-based survey using Google docs platform was conducted and the link for the on-line survey was emailed to managers of micro companies in Croatia. During one month of collection period the questionnaire was completed by 56 managers.

Collected data were statistically analysed using SPSS 17.0. In this study Kruskal Wallis test is deployed to determine the validity of the three hypotheses while Mann-Whitney U-test was performed once.

4. Research results and discussion

Data collected via on-line questionnaire were analysed using descriptive and univariate statistics. The following table shows the results of descriptive statistics for some of investigated variables.

Table 1: *Descriptive statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
Profit	54	0	1	.78	.420
Responsibility for fin. statements	54	0	2	1.30	.743
Accounting policies impact	53	0	1	.79	.409
Accounting info in decision making	55	2	3	2.80	.404
Usefulness of accounting info	55	1.00	5.00	3.7455	1.02231
Relevant accounting info	55	1.00	5.00	3.3818	1.00905
Valid N (listwise)	51				

Source: Authors' calculation

Most respondents (78%) claimed that company they manage have reported profit for the last fiscal year. When asked about the awareness of management responsibility for the preparation of financial statements most of them (46%) acknowledged it while some of them (37%) were only partially aware. The rest of them (17%) assumed a lack of awareness on this matter. Most managers (79%) knew that implementation of different accounting policies has consequences on financial position as well as financial result of the company. The overall importance of accounting information in decision making is acknowledged by 80% of respondents. No one of those managers replied that accounting information is irrelevant but 20% considered accounting information partially important in decision making. When asked to assess the usefulness of accounting information (on 5-point Likert scale where 1 represented "not at all" and 5 was "very much") most of them (60%) agreed that accounting information facilitates doing business. The mean value of adequacy of accounting information for decision making process was 3.38 (also using 5-point Likert scale) suggesting that managers need more suited information (perhaps the broader scope of accounting information).

The first hypothesis regarding the influence of awareness of accounting policies implementation impact on financial position and result was tested using Mann-Whitney U-test (Table 2).

Table 2: *Mann-Whitney test results*

	Accounting info in decision making
Mann-Whitney U	159.000
Wilcoxon W	225.000
Z	-2.248
Asymp. Sig. (2-tailed)	.025

Grouping Variable: Accounting policies impact

Source: Authors' calculation

Test results (Table 2) support the first hypothesis since p-value is 0.025. Therefore, if the managers are aware that the choice of accounting policy is a reflection of financial position and result, they will appreciate more accounting information and consider it important in decision making.

The effect of awareness of managerial responsibility for financial statements on the usefulness of accounting information is tested deploying Kruskal Wallis test (Table 3).

Table 3: *Kruskal Wallis test (the second hypothesis)*

	Usefulness of accounting information
Chi-Square	6.055
df	2
Asymp. Sig.	.048

Grouping Variable: Responsibility for fin. statements
Source: Authors' calculation

Statistically significant test (Table 3) confirms that managers who are aware of their responsibility for the financial statements acknowledge the usefulness of accounting information. In other words, if managers in micro firms recognise the importance of financial statements they are authorising, they might even use accounting information more. Such accounting information is considered useful since it facilitates doing business.

The same non-parametric statistics was used for testing the third hypothesis (Table 4). It is assumed that managers who find accounting information relevant for decision making, prefer accounting education in order to improve business activities. Also, the fourth hypothesis considers the relevancy of accounting information for decision making and its effect on profitability. This hypothesis is also tested using the Kruskal Wallis test presented in Table 4.

Table 4: *Kruskal Wallis test results (the third and the fourth hypothesis)*

	Accounting education	Profit
Chi-Square	10.719	11.621
df	4	4
Asymp. Sig.	.030	.020

Grouping Variable: Relevant accounting info
Source: Authors' calculation

For those managers who are familiar with accounting, accounting information should be decision-facilitating and decision-influencing information for managerial decision-making. As mentioned earlier, the mean value of adequacy of accounting information for decision making from the perspective of the managers of micro companies is 3.38. This indicates that available accounting information is not entirely adjusted to the needs of an average micro firm manager. Those managers who found accessible accounting information relevant for decision making spend more time educating in the field of accounting according to our empirical research results (Table 4). The more one is knowledgeable in accounting, the more accounting information s/he finds adequate and relevant for decision making process. Consequently, such managers of micro firms chose better options (decisions) that lead to positive financial results. This impact of accounting information relevancy in decision making on profitability was statistically confirmed (Table 4).

5. Conclusion

The principle role of accounting is to provide information useful for internal and external users (managers, owners, creditors and all other interested parties). To what extent accounting information is useful depends of the needs of the user, their conversance with accounting terminology and many other factors. Our study showed that most of the managers in micro companies (regardless their level and type of education) are familiar with the fact that implementation of different accounting policies has an impact on financial position and final result. They (80% of respondents) also acknowledged the importance of accounting information in decision making. The managers of micro companies found accounting information useful in terms that it facilitates doing business although they acknowledged it could be more suitable for decision making.

These empirical research results indicate that all four hypotheses were confirmed. Therefore, managers who are aware that the choice of accounting policy reflects on financial position and result are also more appreciative of accounting information and consider it important in decision making. Greater awareness of managerial responsibility for financial statements leads to better use of accounting information.

Although financial accounting for micro companies in Croatia is much simpler according to the Accounting Act (compared to the prescribed accounting framework for large-sized companies), some managers do not find accounting information entirely adjusted to their needs. On the other hand, the use of accounting information relevant for decision making process positively influences education in the field of accounting as well as profitability.

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FINANCING FRANCHISING GROWTH: ROLE OF BANKS IN CROATIA

ABSTRACT

Gaining financial resources is a significant step for establishing or growing business since entrepreneurs' funds are rarely enough. The most common way of gaining financial funds is through bank loans (from banks). Therefore, banks can play a significant role in creating franchising systems from franchisors side or starting a new venture from franchisee's side. Some foreign banks in EU have recognized the potential franchising has for the national economy and created different financial products devoted to the development and support of franchising.
Unfortunately, this is not the case in Croatia. Thus, this paper will examine the situation in Croatian banks and their attitude toward franchising. Paper will present franchising, current financial products for franchisors and franchisees and we will look upon a case study of the franchisor in Eastern Croatia (looking for) in search for financial resources for growth in commercial bank. Finally, we will present our findings and propose further research on this important topic.

Keywords: *franchising, financing, growth, banks*

1. Introduction

Franchising in its current form is present from the mid-1960s when Ray Kroc started with McDonald's expansion and the introduction of "salesman suit" (Erceg, 2012). Franchising could be considered as a contractual model of business growth from the franchisor side or starting a new venture from the franchisee side. It is a business model in which franchisor grants to other company the right to do business in a prescribed manner over a certain period in a specified place in return for royalties or the payment of other fees (Elango and Fried, 1997). Franchising has (more than) several advantages and disadvantages for both included parties – franchisor and franchisee. Some of the advantages for franchisors include the lower capital requirement, faster growth rate, franchisees provide resources (time, managers and money) and for franchisees, they include lower failure risk and recognized and proved business system (Maitland, 2000; Shane, 2005; Webber, 2013; Erceg, 2017). On the other hand, disadvantages for franchisors include lower profit since it must be shared with franchisees, and potential control issues, while for franchisees disadvantages include excessive franchisors' control and overdependence on the system (Spinelly, Rosenberg and Birley, 2004; Webber, 2013; Erceg, 2017).

As it is already stated financing the growth system with franchisees resources is one of the major advantages of franchising from the franchisor side. In the first part of the paper, we will give a review of available literature on financing franchising growth, especially using different financial products. The second part of the paper will present current banking practice in the European Union which will be followed by a presentation of current practice in Croatia. In the fourth part of the paper, we will present a case study of the potential franchisor in Eastern Croatia and his path in finding financing for the growth of his franchising system. In conclusion, we will present our findings and propose further research on this topic.

2. Literature review

In previous studies, researchers (e.g. Combs and Castrogiovanni 1994; Combs and Ketchen, 1999; Alon, 2001) have been using two popular approaches to explain the use of franchising – agency theory and resource-scarcity theory. Agency theory explains the use of franchising business model in the later years of company's life circle while resource scarcity theory explains that use of franchising business model increases in early years (Castrogiovanni, Combs, & Justis, 2006). For the purpose of this paper, resource scarcity theory is of greater interest since it suggests that companies start using the franchising business model due to the lack of expansion resources. It is needed to emphasize that these resources are not only financial (capital scarcity) but also organizational (for expansion), managerial (knowledge-based), etc. (Elango and Jawahar, 2002; Alon, 2006). For the small companies, it is hard to raise capital through traditional financial markets and this creates obstacles in finding and developing necessary managerial talents (Shane, 1996). For a such company's fast expansion can be the simplest way of building economies of scale in the area of purchasing needed for effective competing with the already established companies. (Combs & Castrogiovanni, 1994; Polo-Redondo, Bordonaba-Juste & Palacios, 2011).

Franchising has been topic of many studies and most of them are focused on franchisor perspective of franchising (Combs, Ketchen, Shook, & Short, 2011) and thus Welsh (2002) has stated that there is a need for more studies focusing on franchisee perspective. There are only several studies looking at the reason why individuals become franchisees over independent companies (Peterson and Dant, 1990) or over corporate employment (Kaufmann, 1999). Some studies are focused on franchisee as an entrepreneur (Hoy, Stanworth, & Purdy, 2000; Frazer & Winzar, 2005). Young and McIntyre (2011) compiled a list of studies about franchising (Table 1) and found that most of the studies have been written from the franchisor perspective. These studies have been focusing on the role of the franchisees in terms of the franchisor's operational goals achievement thus making control and power tantamount.

Table 1: *Order of topics presented at International Society of Franchising conferences 1986-2010*

1986-1999		2000-2010	
Topic of paper	Number of papers	Topic of paper	Number of papers
Franchise Management	69	Franchise Management	106
International Franchising	67	Performance & Growth	92
Relational Issues	57	International Franchising	53
Performance & Growth	50	Legal & Political	52
Legal & Political Issues	43	Relational Issues	47
Marketing	36	Marketing	33
Nature & Scope Franchising	35	Entrepreneurship	18
Economics	12	Modelling & Methodology	15
Entrepreneurship	12	Knowledge Transfer	13
Modelling & Methodology	9	E-Commerce/Internet	9

Source: adapted from Young and McIntyre, 2011: 15

As can be seen from Table 1, there is no research paper about the financing of franchising among the top 10 paper categories. Research conducted by Young and McIntyre (2011) showed only three papers with the topic of financing and franchising for 25 years of the conference in the organization of the International Society of Franchising. There are only several papers about financing and franchising which were found, and they include the question of financing (Štensova, 2004), the role of banks in Europe (Stern and Stanworth, 1994), and the effect of financial decision making (Falbe, Kumar and Welsh, 2011).

3. Banks and franchising in Europe

Stern and Stanworth (1994) in their research stated that the biggest boost for franchising prospect in Great Britain was result of the banks support. The banks in Great Britain recognized the franchising business model as an entrance into small and medium entrepreneurship rather than looking it as big companies' activity. Results of their research showed that only UK and Dutch banks were giving support to the franchising. French banks also indicated a good level of knowledge about the franchising business model. The banks from the other countries included in research (Denmark, Ireland, Finland, Italy, Norway, and Sweden) exercised unsupportive experience due to the poor knowledge of franchising business model. The findings suggested that theres is a knowledge gap and lack of interest in most European countries which needs to be addressed so franchising can reach its potential in Europe.

In 1988 five major European banks from France (Societe Generale), UK (NatWest), Holland (ABN Amro), Italy (Credito Italiano) and Spain (Banco Sabadale) created an association of assistance network for franchisors wanting to expand in Europe (Štensova, 2004). The main goal of this association was a contribution to the franchising development in Europe and to help franchisors in saving money and time while they are establishing their presence in the market. This association was useful also for connecting different cultures as one of the preconditions for adaptation to foreign franchising system.

From the first research about the role of the banks in franchising in 1994 until today there have been some changes. Today, many well-known European banks have special departments and employees devoting special attention to the franchising business model. The banks observe the growing use of franchising and provide support with different tools for further development of the franchising. They are also members of the national franchising associations and support financially scientific conferences, workshops, and seminars about franchising and issuing different publications about franchising (e.g. Erste Bank AG, Austria). The banks even use franchising as one of their business models (e.g. Unicredit in the Czech Republic). (Table 2)

Table 2: *Banks in Europe and attitude toward franchising*

Country	Bank	
Great Britain	National Westminster	Specific programs for franchise project financing Within section for SME's Independent department Sponsors British franchising survey
	Barclays Bank	Franchising team with assigned territories
	Lloyds' bank	Department with franchising specialist Help with establishing a franchising system or buying a franchise Banking services and flexible financing
	HSBC	Inherited franchise department from Midland Bank Supports bank branch's network, it's customers and franchising in number of ways
	Royal Bank of Scotland	Franchising and licensing department Franchise Relationship Managers provide expert support and guidance to the franchisees and franchisors across the UK
France	Crédit Lyonnais	Center of expertise dedicated to franchising Initiatives: active participation in the Franchise Expo Paris fair ; jury member of the contest Les revelations de la Franchise ; Seeds of networks partner, a club of leaders of young networks of the franchise and organized trade.
	Société Générale	Special services dedicated to becoming franchisor or franchisee Expertise platform for credit file for the development of a franchise business
	BNP Paribas Fortis	Specialized financial assistance programs Uses own franchised agency locations
Germany	Deutsche Ausgleichs Bank	Specialized in supporting business start-ups and franchises The bank has prepared various financial assistance programs for starting up a business, with attractive interest rates and repayment periods, with the aim of supplementing the insufficient own funds of the businessperson
Spain	Banco de Sabadell	Experience in simplifying the development of business initiatives in the world of franchises The special financial program offers the best conditions for financing working capital or acquiring or renewing assets
Holland	ABN AMRO	Special program offering Customization for formula The convenience of a fixed point of contact for all financing requests from potential franchisees Quick handling through our knowledge of your industry and the formula Collective benefit for potential franchisees
Italy	Unicredit	Special financial programs for franchisors and franchisees Uses franchising for agency locations
	Intesa SanPaolo	Special financial products for franchisees
Austria	Erste Bank der Österreichischen Sparkassen AG	Regularly issues brochures entitled "Franchising Partnerschaft statt Alleingang" and "Start and Go – Leitfaden für Unternehmensgründer" Special attitude toward the franchising
Slovakia	Slovenská sporiteľňa	Owned by Erste bank Has similar financial programs as Erste bank

Country	Bank	
Czech Republic	Komerční bank	KB Franchising Program: The financing of business activities in the framework of a franchising system. Access to a franchising network and to the franchisee as a part of a verified and successfully working system. Enables the franchisor to expand its franchising network without the need for further investment. Enables the franchisee to start up and develop a business in the franchising framework.

Source: authors based on the data from different banks

As it can be seen from Table 2, a part of the most important European banks which are present on more than one market exercise some kind of special financing programs for franchising. These programs are intended for financing the purchase of franchise (for franchisees) or starting the franchise system (for franchisor). Besides these programs, some of the abovementioned banks are using franchising to expand their financial agencies network.

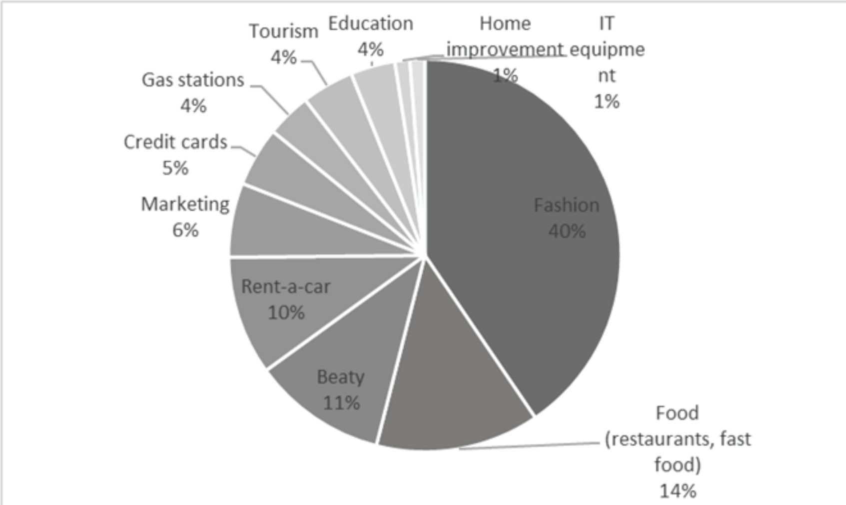
Štencova (2004) state that the bank's experience showed that loans to the franchise companies (franchisors or franchisees) are a relatively safer mode of banking operations when compared to the small business start-up loans. The main reason for this is that the bank has to be familiar with the franchisor and its franchising concept rather than details of the franchisee applying for the loan. When examining the application for a loan they study the franchisor, system know-how, it's brand and strength, the franchising contract and manual, the number of current franchisees and if the franchisor is a member of national franchising association. Štencova (2004) has concluded that the banks through the franchisor examining determine if the franchisee is a predictable and suitable partner.

4. How to finance franchising growth in Croatia

4.1. Franchising in Croatia

Franchising in Croatia is present from 1960-ties when Diners Club International started Diners Club Adriatic. Soon they were followed with American Express and some other international franchise networks (i.e. hotel chain Intercontinental, Varteks, McDonald's, etc.) (Erceg, 2018). At the beginning of 21st-century franchising in Croatia grew to the 180 franchise systems out of which 25 are only of Croatia origin. Based on data from Croatian Franchising Association (Kukec, 2016) there are 1.000 franchising locations and approximately 17.000 people are employed directly in franchising. Franchising is present in several industrial sectors. (Figure 1.)

Figure 1: *Franchising across sectors in Croatia*



Source: Author's own work based on various sources

The majority of franchising companies are present in the fashion sector followed by fast food and restaurants. Currently, the biggest domestic franchising networks are Aqua with 55 locations, Surf'n'Fries with 56 locations, Centar energije with 15 locations, Putovanja za dvoje with 5 franchisees, Galeb with 7 locations, etc. From 25 domestic franchising systems, a few have expanded outside Croatia. The most successful is Surf'n'Fries (locations in more than 10 countries) followed by Aqua. Mlinar, Body Creator, Čuvar sjećanja, and Direct Booker (Erceg, 2018). Although the number of domestic and total franchising systems in Croatia is not high, Croatia is still the leader in the region of South East Europe regarding the number of franchising systems. This confirms the statement that franchising is accepted in Croatia.

Franchising as the research topic is also accepted in the academic circles and there have been several studies in recent years about franchising in Croatia. (Table 3)

Table 3: Research about franchising in Croatia

Authors	Topic
Mahaček and Lihtar, 2013	business start-up through franchising
Alpeza, Perić and Šoltić, 2012 Ziolkowska and Erceg, 2016	The role of innovation and creativity in implementing the franchising business model
Buljubašić and Borić, 2014	importance of promotion for the successful growth of franchise systems
Barković and Erceg, 2008	the connection between SME's and franchising
Erceg and Kukec, 2017	Micro-franchising
Perić and Erceg, 2017	Social franchising

Source: Author's own work based on various sources

As it can be seen from the above table, the connection between financing and franchising has not been a topic of research until now in Croatia.

4.2. Banks and franchising in Croatia

The role of the banks for franchising growth in Croatia was part of two studies conducted by Alon, Alpeza and Erceg (2007) and Alpeza, Erceg and Oberman Peterka (2014). The results of the research from 2014 confirmed a significant level of same perceptions and attitudes of banking industry representatives about the presence and impact of main operational challenges affecting the franchising development of franchising in Croatia. (Table 4)

Table 4: *Comparison of major opportunities and threats for franchising development in Croatia identified in 2006 and 2014*

	2006	2014
Opportunities	• customers increasingly focus on quality service and quality control; • the market still not saturated by this business concept;	• undeveloped franchising market; • brand preference among domestic market;
Threats	• slow legal system; • low TEA index; • mentality	• slow legal system; • low purchasing power; • small and undeveloped market; • administrative barriers for doing business; • high taxes

Source: adapted from Alon, Alpeza and Erceg, 2007 and Alpeza, Erceg and Oberman Peterka, 2014

Presented opportunities and threats for franchising model development in Croatia from the banking industry viewpoint are showing that there is no change in almost ten years between two studies. When the results of these two studies were compared it was concluded that the economic factors influencing the use of franchising business model had not improved between two studies. (Table 5)

Table 5: *Economic factors influencing franchise development in Croatia*

	Research results 2006	Research results 2014
Economic factors	○ Croatia is not recognized as a tax-friendly market; ○ small market; ○ lack of public institution support; ○ the unwillingness of banks for participating in franchise purchase financing; ○ low purchasing power with relatively high franchise product/service prices; ○ insufficient economic development; ○ high unemployment rate; ○ lack of adequate financial tools	○ too expensive labor force; ○ decrease in purchasing power because of crisis, poverty; ○ long time needed for the return of investment; ○ lack of structural reforms of the economy and its influence in the decrease of GDP; ○ too small market; ○ the low capital potential of investors; ○ banks not willing to finance start-ups; ○ the unwillingness of banks for participating in franchise purchase financing; ○ lack of non-traditional financial products in the market;

Source: adapted from Alpeza, Erceg and Oberman Peterka, 2014

As one of the main economic disadvantages factor for development of the franchising business model was pointed that the banks were not willing to finance start-ups and to participate in the financing of franchise purchasing. After five years from this study, the banking sector market in Croatia has not changed. There have been mergers and acquisitions but still, there are no financial products specialized for financing the franchising business model no matter it refers to the franchisor or franchisee. Today in Croatia we have "daughter" companies of major European banks like Unicredit, Intesa Sanpaolo, Erste bank, etc. In their home countries, all previously mentioned banks are offering support to the franchising sector (franchisors and franchisees). In Italy, Intesa Sanpaolo has signed an agreement with an Italian company and franchisor of several fashion brands, Basic Italia, that they will offer series of financial benefits for entrepreneurs who want to open franchise store of Basic Italia brands like Robe di Kappa, K-Way and Superga (Vennini, 2010). This is the same with the Societe Generale bank in France which always has a booth on Franchising fair in Paris. But their “daughter” companies Zagrebačka banka d.d., Privredna banka Zagreb d.d., Erste bank d.d. and previously Splitska banka d.d. are not offering special financial product intended for franchising business model

4.2. Franchisor's road to finding the money

For the purpose of this paper, we have researched (the way) if and how the banks treat and support the financing of franchise business in Croatia. We have compared this with Austria since we will look “mother” bank in Austria and if there is a difference considering the range of financial products designed especially for a franchise business.

To present the current situation with the potential of banks financing franchise growth in Croatia we made an interview with Mr. Alan Orlić. He is a Helen Doron Early English franchisee in Osijek and Slavonski Brod and he is a founder and franchisor for the Tinker Labs franchising system. Helen Doron Early English is an internationally recognized English language learning system that has been in existence for 28 years and has been successfully implemented in more than 30 countries around the world. It has been successfully operating in Croatia since 2009, at 18 locations, with more than 1,500 participants. The method is based on creating a positive and entertaining environment in which children simply, quickly and easily adopts English according to the same principles as they have adopted their native language

Mr. Orlić is a small entrepreneur client of one of the biggest banks in Croatia, which is a member of the large European bank group having a connection with franchising in their “mother” country. He contacted the bank to get financial resources needed for further growth and expansion of the Tinker Labs franchise. Currently, he manages a location in Osijek as a franchisor and he is planning to open another location in Vinkovci. Due to the lack of financial resources, he contacted the bank for the financial support for growth and expansion. Currently, the franchisor has a yearly income of circa 1 million HRK and bank rating A (good). Mr. Orlić approached the bank with an inquiry for a bank loan which should help him with the expansion of his franchise network. His SWOT analyses showed that Tinker Labs is presently only business of this kind in the east part of Croatia and thus making the opportunity to expand into other cities in Slavonia very high. Bank made financial analyses of the company’s annual financial reports taking not into consideration the whole franchise business and potential benefits and insurance that franchising may bring. Based on their analyses bank approved only overdraft in the amount of one company’s average monthly income what is the maximum amount for any other entrepreneur no matter if they are franchisor or franchisee.

This bank is a well-known supporter of the franchising business model in their “mother” country and is sponsoring publishing of brochure about franchising. They are also using franchising for their growth by building a strong retail franchise with the Austrian savings banks (Company histories, 2005). This confirmed the point that banks don’t have special financial products for franchising because when approving bank loan for the franchise business (franchisor or franchisee) in Croatia, the banks don’t consider the whole franchise system but only entrepreneur itself and his/her business, financial reports, and collaterals. The bank in this case is not offering any special financial products for franchising and according to Mr. Orlić are not considering starting to offer such products soon. If we look upon whole Croatian bankers' market, there is no bank offering a special range of financial products for financing franchise business. There are rare possibilities for these companies to apply for subsidized credit lines offered by City, County or State government or agencies or through Croatian Bank for Reconstruction and Development. It is important to stress that these credit lines are opened to all entrepreneurs, but not only to franchise business.

Trying to find a connection between "mother" bank in Austria and franchising, we have found that it supports franchising through publishing brochure about franchising and using franchising for the expansion of its sales network. But when we investigated the experience for the provision of special products for financing the growth of franchise business for franchisor or starting a new venture for franchisee, the result referring to the "mother" company was the same as in Croatia. Even other banks in Austria are not offering special products for the franchising business and the company's credit rating is defined only through entrepreneur itself and not taking into consideration franchise business in general. The companies trying to expand their business through franchising or to start a business as franchisee, can apply for subsidized credit lines as all other companies. This only confirms that, the banks in Austria also don't recognize franchising as a potentially less risky way of doing business.

5. Conclusion

The national governments always state and declare that the SMEs and self-employment are of great importance for solving the employment issue on the national level. Accordingly, the companies to increase the employment need support no matter if they want to grow by exercising the franchise business model or entrepreneur wants to start a new venture as a franchisee.

The banks could have great significance and influence on the development of franchise networks (in the country),helping businesses while they try to expand and grow their business. Currently banks don't see franchising as something different in relation to the start-up and the question arises do the banks understand the franchising business model and if the good practice examples exist? As it was stated in the paper, there are good practice examples in Europe where the using of franchising and franchising networks contribute significantly to the national economy.

How to proceed forward in Croatia? Simply, by copying the good UK's or France's practice examples. The first step of understanding franchising business model should be the creation and education of the franchising specialist teams at the bank's headquarters and then in banks branches depending on the bank's size. The second step should be designing the special financial products for the applicants wanting to enter franchising business. The third step should be establishing a better connection with the national franchising association as it is the case in countries where the banks are offering special financial products.

For the further understanding of the relation between franchising and banks we propose further research:

- A study in countries where there are special financial products in order to evaluate the influence of these products on the growth of franchising
- A study to propose an education program and policy recommendations which could lead to the introduction of special financial products in Croatia.

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KEY AUDIT MATTERS: NEW INFORMATIONAL VALUE OF AUDITOR'S REPORT

ABSTRACT

Key audit matters are matters that, in auditor’s professional judgment, were of most significance in audit of financial statements and represent novelty and significant change in field of auditor’s reporting. Their inclusion in auditor's report should contribute to enhanced informativeness and transparency of auditor's report as they inform users about crucial elements of audit engagement required to be disclosed in separate section of auditor's report. The aim of this research was to analyze auditor's reports of the companies listed on the Zagreb Stock Exchange and to determine if inclusion of key audit matters provides new informational value to auditor's report. In order to address this issue, an in-depth analysis of auditor's reports, Mann-Whitney U-test, and Wilcoxon signed ranks test were carried out within this research with purpose of identifying: differences in content and structure of auditor's report before and after the ISA 701 came into effect, method of incorporating key audit matters into auditor's report, key audit matters that are most frequently included in auditor's report, connection between audit opinions and key audit matters, as well as relationship between the type of audit companies (“Big Four” vs. other audit companies) and key audit matters. Research results have shown significant increase of average auditor’s report length, enrichment of their structure with new sections, significant association between number of key audit matters and the affiliation of audit company to Big Four and no significant difference between number of key audit matters and type of opinion expressed. Key audit matters which were disclosed most frequently referred to accounting items of revenues, impairment of various asset types, valuation of various asset types and provisions. In most cases, auditor’s reports have been positioned after the Basis for Opinion section. In general, it has been concluded that key audit matters represent a new informational value of auditor’s report.

Key words: *informational value of auditor's report, auditor's report, key audit matters*

1. Introduction

Auditor’s report as an integral part of annual report (see: Official Gazette 2015, Art. 21-2) on company's business activities is a means of communication between persons who prepare financial reports and their users. Numerous corporate scandals, e. g. Enron, WorldCom, Parmalat, Xerox etc., have undermined users' trust in financial statements as well as process of financial statement audit. Since aforementioned scandals have occured, wide range of stakeholders in the accounting profession have been working on improvement and strengthening the regulatory framework in the area of financial reporting and auditing. Existing auditor’s reporting model has been criticized by regulators and users for providing relatively low communicative value and, therefore, institutions and regulators have started with preparation of new auditor’s reporting model in order to improve content and informational value of auditor’s report (Pinto and Morais, 2018, 2). Main focus was on refining an idea of expanded auditor’s reporting model and improving informational content of auditor’s report. The International Auditing and Assurance Standards Board (IAASB) has published new and revised standards in January 2015, related to auditor’s reporting process, in which the new auditor’s reporting model was implemented. The most substantial change was introduction of new standard - International Standard on Auditing 701 (ISA 701) - “Communicating key audit matters in independent auditor’s report” (Croatian Chamber of Auditors, 2016b), which brings about fundamental changes and improvements in auditor’s reporting model. The most significant change in the auditor’s reporting model is introduction of key audit matters concept.

The introduction of key audit matters into content of auditor’s report should contribute to its informational value and increase transparency and quality of auditor’s reporting. Existing researches on this issue do not reach consensus because one part of researches supports the notion that inclusion of key audit matters increases communicative and informational value of auditor’s report (e. g. Klueber, Gold and Pott, 2016; Sirois, Bédard and Bera, 2017), but there are also researches according to which disclosure of key audit matters, as additional information within an audit opinion, has more symbolic than informational value (Bédard, Gonthier-Besacier and Schatt, 2014) and that investors have already been informed of company-related risks, prior to their disclosure as key audit matters within extended auditor’s report (Lennox, Schmidt and Thompson, 2017). In this paper authors are striving to make a contribution to the existing literature and to identify informational and communicative value of auditor’s report. In that regard, the concept of key audit matters and its informational value is analyzed in this paper. Authors have conducted a research on a sample of companies listed on the Zagreb Stock Exchange to determine whether key audit matters are new informational value of auditor’s report. Research was conducted on a sample of listed companies for which auditor’s reports were available for 2015 and 2016, and therefore it covers last year of applying the “previous” auditor’s reporting model and first application year of the “new” auditor’s reporting model in order to analyze effects of incorporating key audit matters on informational value of auditor’s report.

Paper is structured as follows - after introductory chapter, second part of the paper presents the key audit matters concept which has been the most significant change in the new auditor’s reporting model. A review of relevant researches is presented in the third chapter, methodology and research hypotheses are specified in the fourth, and research results in the fifth chapter of the paper. The last, sixth chapter brings final considerations.

2. Key audit matters in the auditor’s report

Auditor’s report is a final output of overall audit activity and, in the context of corporate governance and reporting, an indispensable instrument for successful decision-making. It is the main communication channel between financial statement preparers and users. Information obtained from independent sources, such as auditor’s report, eliminate doubt of bias in preparing such information. In January 2015, the IAASB published revised standards that included, inter alia, a new, extended auditor’s reporting model. The main objective of the new auditor’s reporting model is to “ensure a higher level of transparency and relevance of auditor’s report for users and to encourage effective two-way communication between auditors, management and those responsible for managing important audit issues” (Vuko, 2016, 15).

In this respect, the ISA 701 has brought fundamental changes and improvements in the auditor’s reporting model. This Standard entered into force regarding financial statements audits for periods ending on or after December 15, 2016, and it introduced the new audit concept - key audit matters. By including key audit matters in auditor’s report, users of financial statements have gained better insight and additional information about audit process, which was intended to increase communicative and informational value of auditor’s report. According to the provisions of ISA 701, key audit matters are “those issues that, by auditor's professional judgment, are of utmost importance in current period’s financial statement audit. Key audit matters are selected among issues that were communicated to management.” In context of key audit matters, auditor's task is to define them and, as part of his auditor’s report, inform users about key audit matters. Auditor determines key audit matters among issues that have been discussed with management and, depending on professional judgment, ultimately defines matters that were of utmost importance in auditing of financial statements as key audit matters.

In defining key audit matters, auditor will consider the following (Croatian Chamber of Auditors, 2016b, par. 9):

a) “areas of higher estimated risk of material misstatement or significant risks recognized in accordance with ISA 315 (revised);
b) significant auditors' judgments regarding financial statement items that contain significant management judgments, including accounting estimates that have been recognized as those with a high degree of uncertainty;
c) effect on audit of significant events or transactions which have occured during the reporting period.”

After identifying key audit matters, they are appropriately included in auditor’s report. According to ISA 701, par. 11, key audit matters are listed in specific section of auditor’s report entitled “Key audit matters” (Croatian Chamber of Auditors, 2016b, par. 15). Under this section of auditor’s report, each matter is described and stated why it was defined as a key audit matter and how it was addressed in audit process. ISA 701 clearly states that questions causing a modified opinion in accordance with ISA 705 or those related to significant uncertainty regarding events or conditions that may raise significant doubt on the entity’s ability to continue as a going concern are, by its content, key audit matters. However, they are not described in the Key audit matters section. ISA 701 states that auditor in such cases (Croatian Chamber of Auditors, 2016b, par. 15):

a) “reports on that matter, or matters, in accordance with applicable ISA or ISAs; and
b) includes reference to section Basis for qualified or adverse opinion or Significant doubt on the entity’s ability to continue as a going concern in the Key audit matters section.”

It should also be emphasized that it is prohibited to disclose key audit matters in situations when auditor refrains from expressing opinions on financial statements, except in situations when such disclosure is required by law or regulation. Finally, it should be noted that the disclosure of key audit matters should be considered in context of financial statements as a whole and that these matters are not and can not be a substitute for disclosures in financial statements prepared by management according to the applicable financial reporting framework.

3. Literature review

Relevant researches on analysis of the ISA 701 application and the inclusion of key audit matters in auditor's report are presented under this chapter. Köhler, Ratzinger-Sakel and Theis (2016) have analyzed impact of key audit matters on communicative value of auditor's report. Authors conducted an experimental study on a sample of 89 investment experts and 69 non-professional investors to determine informative value of including certain key audit matters in auditor's report. Based on results of research, authors conclude that disclosure of potentially "risky" information about company under key audit matters will not have negative effects - on the contrary, investment experts positively evaluated such information. On the other hand, results of research conducted on a sample of non-professional investors have shown that key audit matters have no communicative value.

Research on the application of ISA 701 in New Zealand in 2017 was carried out by an independent body responsible for accounting and assurance standards in New Zealand - The External Reporting Board. Purpose of research was to determine effects of applying the new auditor's reporting model to auditor's report, with special emphasis on key audit matters analysis. According to the results of research, new auditor's reports are less uniform, there is no standardized report length as well as a standardized number of disclosed key audit matters and they are more focused on a specific company whose financial statements are audited. Researchers state that key audit matters mostly report on: impairment of goodwill or other intangible assets (53 cases), valuation of property, plant and equipment (47 cases), recognition of revenues (39 cases), investments in related parties (28 cases) and capitalization (20 cases). In addition, matters related to financial instruments, provisions, inventories, impairment of assets, biological assets, issue of business continuity and similar matters were reported as key audit matters less frequently.

Sirois, Bédard and Bera (2017) investigated informational value of key audit matters using "eye tracking" study. According to research results, inclusion of key audit matters prompts the attention of auditor's report users more effectively to disclosures related to these key audit matters. On the other hand, if several key audit matters are disclosed in auditor's report, users tend to pay less attention to other parts of financial statements.

Analysis of factors which affect number of disclosed key audit matters was conducted by Pinto and Morais (2018) on a sample of 142 companies which have included key audit matters in their auditor's reports for 2016. According to the research results, there is a positive association between number of key audit matters with the following factors: number of business segments, audit fees, precision of accounting standards and size of audited entity. On the other hand, a negative association was noted for financial institution variable and profitability. Authors point out that cultural and institutional factors may also affect auditors' judgments on key audit matters.

Tušek and Ježovita (2018) conducted research on the sample of Croatian corporations in order to identify improvements in the auditor's reporting model. The research was conducted on the sample of public limited companies whose shares were listed on the Zagreb Stock Exchange - it has included 120 companies in 2016 and 116 companies in 2017. According to results, auditor's reporting process was in conformity with the new standards and it have resulted in increased auditor's report informational value. Also, findings suggest that Big Four auditors are more adaptable to changes in auditor's reporting model. The most significant difference in reporting between Big Four and other auditors refers to number of key audit matters and number of pages. Namely, Big Four auditors disclose more key audit matters and their reports are more extensive. Revenue recognition, loan impairment, valuation of land, buildings and tourist facilities, warranty provisions and estimates of property, plant and equipment useful life are most frequently highlighted as key audit matters.

Ismail, Atqa Abdullah and Hassan (2018) have conducted a research on a sample of Malaysian corporations and analyzed effects of ISA 701 on auditor's report. Authors have analyzed number of key audit matters and type of issues that were considered as key audit matters. According to the results of research, number of key audit matters ranges from one to five, and revenue recognition, valuation of inventories and intangible assets are most frequently highlighted by auditors in the key audit matters section.

Klueber, Gold and Pott (2018) have examined impact of key audit matters disclosure on quality of financial reporting. Research has shown that tendency of respondents to manage earnings is reduced by increased information accuracy. Namely, those who received auditor's reports with key audit matters that included content specific to the audited company are less likely to manage earnings than those who have received a traditional auditor's report.

4. Methodology and research hypothesis

This paper analyzes the concept of key audit matters and their impact on informational value of auditor's report. ISA 701, which introduces the concept of key audit matters, entered into force for audits of financial statements for periods which have ended on December 15, 2016, or after that date.
Accordingly, auditor's reports for 2016 should include key audit matters, so the research sample consists of companies whose shares were listed on regulated market managed by the Zagreb Stock Exchange in 2015 and 2016, and also had a published auditor's report in annual report. Companies that have not published an auditor's report for 2016 as a part of their annual report have been excluded from the sample, and accordingly, it consists of 94 companies. Several of those companies (5 of them), have not had a published auditor's report for 2015.

Considering the fundamental objective of the research, hypothesis is proposed as follows:
H: Key audit matters represent a new informational value of auditor's report.

In order to test the hypothesis, following research questions are raised:
- Are there differences in structure and content of auditor's report before and after the ISA 701 has entered into force?
- In what way key audit matters are incorporated into auditor's report?
- Which issues most often are highlighted as key audit matters?
- Is there an association between expressed audit opinion and number of key audit matters?
- Is there an association between auditor type and number of key audit matters?

Structure of auditor’s report refers to number of pages and content of auditor’s report sections. Number of pages can be reliable indicator of scope and detail level of the information included in auditor’s report, i.e. auditor’s reports that have higher number of pages should also provide higher informational value for their users. Therefore, it is presumed that the difference between number of pages before and after the introduction of key audit matters should be significant.

Despite the fact that the introduction of key audit matters was the most important improvement, it should be taken into consideration that some other steps to “reinvigorate the audit” were also taken in recent revisions of standards on auditing, such as “increasing the auditor’s focus on going concern matters, including disclosures in the financial statements, and adding more transparency in the auditor’s report about the auditor’s work” (International Federation of Accountants, 2015).

The way of incorporating key audit matters into auditor’s report refers to positioning the key audit matter section in auditor's report. According to revised International standard on auditing 700 (ISA 700) – “Forming an opinion and reporting on financial statements” (Croatian Chamber of Auditors, 2016a), key audit matters are supposed to be included after the Basis for opinion section (or Going Concern section if applicable to certain company). It is presumed that majority of audit companies will adhere to ISA 700 structure when forming their reports.

Also, the structure of issues highlighted as key audit matters will be analysed in order to determine which financial statement items most frequently included higher misstatement risk because of significant management judgments with high estimation uncertainty (Croatian Chamber of Auditors, 2016b). These frequencies are also important from perspective of forensic accounting in terms of preventing and detecting frauds in financial statements, because they can provide investigators with valuable insights about accounting items which require closer attention.

Big audit companies have higher amount of resources required for detecting matters which should be included in key audit matters section and also a higher reputational risk. Reputation of audit company in certain industry is accompanied by constant requirements for investments in specialized knowledge (Craswell, Francis and Taylor, 1995). They „have more to lose by failing to report a discovered breach in a particular client's records“ and „this collateral aspect increases the audit quality supplied by larger audit firms“ (DeAngelo, 1981, 183). Providing that „large clients are able to bring more pressure to bear on auditors to disclose fewer key audit matters“ (Pinto and Morais, 2018, 7), it can be presumed that Big Four audit companies can withstand these pressures more efficiently. Previous researches, such as Velte (2018) and Tušek and Ježovita (2018), have shown positive association between appointment of a Big Four audit company and number of key audit matter disclosures. Accordingly, it is expected that big audit companies will disclose more key audit matters in comparison to small audit companies and provide higher quality information to users of auditor's report.

It s important to note that excessive disclosure of key audit matters can be counterproductive because „multiple key audit matters can dilute, and even add complexity to, the auditor’s message and ultimately alter their attention directing role“ (Sirois, Bedard and Bera, 2017, 10). „Key audit matter paragraphs introduce the possibility that disclosing more information about significant and complex matters does not make the auditor's report more informative because the once clear pass/fail information of the auditor's report is confounded by the heightened discussion of key audit matters related to uncertain, or complex areas of the statements“ (Pelzer, 2017, 2). Hence, there is an optimal number of key audit matters that results in highest informational value, and after which every additional key audit matter decreases informational value and, consequently, utility to its users.

Researchers have found positive association between leverage and modification of auditor's opinion (Laitinen and Laitinen, 1998; Reynolds and Francis, 2000, in Pinto and Morais, 2018) and also negative association between company's profitability and modification of auditor's opinion (Beasley, Carcello and Hermanson, 1999; Laitinen and Laitinen, 1998; Loebbecke, Eining and Willingham, 1989, in Pinto and Morais, 2018) because „companies with lower profitability tend to use more creative accounting in the preparation of financial statements that increases the probability of a modified opinion and/or the disclosure of more key audit matters" (Pinto and Morais, 2018, 7). Auditors tend to review riskier firms more thoroughly and disclose more key audit matters in order to to reduce their liability and maintain their reputation (Nelson, Ronen and White, 1988, in Pinto and Morais, 2018).

Since issuance of modified opinion instructs that information provided in financial statements, as well as applied accounting methods, are not in accordance with accounting standards, it is presumed that auditors are more likely to disclose higher number of key audit matters in such cases. Auditors are expected to have higher degree of vigilance regarding these companies and, consequently, satisfy investors demand for more information by signalling their higher risk.

In order to achieve research objectives and test the proposed research hypothesis, content and statistical analysis of 89 independent auditor's reports for 2015 and 94 independent auditor's reports for 2016 were carried out. Measures of univariate analysis such as coefficient of variation, range as difference between minimal and maximal value of variable, mean, mode and median were used in analysis of data. Also, Mann-Whitney U-test and Wilcoxon signed ranks test, a non-parametric alternatives of t-tests, were used for hypothesis testing. Mann-Whitney U-test is designed to examine the significance of numerical variables difference between two independent groups (Pallant, 2004) and Wilcoxon signed ranks test "is designed for use with repeated measures - when subjects are measured on two occasions, or under two different conditions" (Pallant, 2004, 292). The results of conducted research are presented below.

5. Research results

Table 1 shows the results of univariate analysis, i.e. measures of central tendency and dispersion of individual research variables.

Table 1: *Descriptive statistics – Measures of central tendency and dispersion*

	Auditor's report			**Key audit matters**	
	Number of pages (2015)	**Number of pages (2016)**	**Number of sections (2016)**	**Number (2016)**	**Number of pages (2016)**
Mean	2,12	5,47	7	1,58	1,26
Median	2	5	7	2	1
Mode	2	5	7	2	2
Range	3	7	6	4	4
Minimum	1	2	4	0	0
Maximum	4	9	10	4	4
Coefficient of variation	0,2915	0,2921	0,1467	0,5943	0,8087

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

On basis of data comparison for 2015 and 2016 (Table 1), it is evident that the average auditor's report length has significantly increased (from 2.12 to 5.47) due to changes in auditing regulation and the results presented in Table 2 and Table 3 are statistical proof for that observation.

Table 2: *Ranks – number of pages in 2015 and 2016*

		N	Mean Rank	Sum of Ranks
Number of pages (2016) - Number of pages (2015)	**Negative Ranks**	0[a]	0	0
	Positive Ranks	85[b]	43,00	3655,00
	Ties	4[c]		
	Total	89		

a. Number of pages (2016) < Number of pages (2015); b. Number of pages (2016) > Number of pages (2015); c. Number of pages (2016) = Number of pages (2015)

Source*: Creation of authors using SPSS - IBM Corp. (2013):* **IBM SPSS Statistics for Windows***, Ver. 22, IBM Corp., Armonk, NY.*

Results of Kolmogorov-Smirnov test have indicated non-normally distributed sample data, so Paired-samples t-test has not been applied for examining hypothesis validity, but its non-parametric alternative, the Wilcoxon signed ranks test, which did not require satisfying aforementioned assumption. Given that the level of significance is 0,0001 (less than 5%), the lenght of auditor's reports before and after the introduction of key audit matters in structure of auditor's report is significantly different.

Table 3: *Wilcoxon signed ranks test*

	Number of pages (2016) - Number of pages (2015)
Z	-8,038[a]
Asymp. Sig. (two-tailed)	0,0001

a. Based on negative ranks

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

Noting the average number of pages related to key audit matters in auditor's reports in 2016, it is evident that average increase in the number of pages cannot be fully attributed to the key audit matters section, since they were introduced simultaneously with changes in other auditor's report sections that have also resulted in enrichment of its content. In conclusion, despite a significant increase in the scope of auditor's report, relative average deviation of number of pages in auditor's report remained almost the same in the year when key audit matters were introduced compared to the previous year.

It should be noted that the average number of pages related to key audit matters would have been even greater, but 10 audit companies merely suggested that they have already dealt with them under the sections Basis for Qualified Opinion and Significant doubt on the entity's ability to continue as a going concern. Eight audit companies have determined that there were no key audit matters in their reports.

In the first year after their introduction, companies on average included 1.58 key audit matters and seven sections in their auditor's reports. Regarding the way of inclusion of key audit matters into auditor's report, in most of these reports they have been positioned after the Basis for Opinion section (60%), followed by reports in which they have been included after the sections

Emphasis of Matter (19%) and Significant doubt on the entity's ability to continue as a going concern (15%).

Some of the most frequently highlighted key audit matters are related to accounting items of revenues (e. g. recognition and fraud risk), value impairment of various asset types (e. g. loans, real estates, intangible assets etc.), valuation of various asset types (e. g. real estates, inventories, liabilities, etc.) and provisions (e. g. litigation costs and costs during warranty period). It is evident that items which usually have a higher degree of susceptibility to accounting manipulation are pointed out in auditor's reports most frequently.

Given that results of Kolmogorov-Smirnov test indicate non-normally distributed sample data, t-test will not be applied for examining hypothesis validity, but its non-parametric alternative, the Mann-Whitney U-test, which does not require satisfying aforementioned assumption.

Table 4: *Mann – Whitney U-test (Audit opinion)*

Grouping Variable: Audit opinion	Number of key audit matters
Mann-Whitney U	505,000
Wilcoxon W	2783,000
Z	-0,378
Asymp. Sig. (two-tailed)	0,705

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

Table 4 shows that there is no statistically significant difference in ranks of key audit matters between auditor's reports in which unmodified opinions were expressed and auditor's reports in which modified opinions were expressed – because the level of significance is 0,705 (higher than 5% threshold).

Table 5: *Ranks of number of key audit matters with regard to expressed audit opinion*

	Audit opinion	N	Mean Rank	Sum of Ranks
Number of key audit matters	0	16	43,94	703,00
	1	67	41,54	2783,00
	Total	83		

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

Since there is no statistically significant difference in ranks of number of key audit matters between auditor's reports in which unmodified opinion was expressed and auditor's reports in which modified opinion was expressed, there is no need to consider the results of statistical analysis in Table 5.

Table 6: *Mann – Whitney U-test (Big Four)*

Grouping Variable: Big Four	Number of key audit matters
Mann-Whitney U	462,500
Wilcoxon W	1023,500
Z	-3,562
Asymp. Sig. (two-tailed)	0,0001

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

Table 6 shows that there is a statistically significant difference in ranks of number of key audit matters between Big Four and other audit companies because the level of significance is 0,0001 (lower than 5% threshold).

Table 7: *Ranks of number of key audit matters with regard to Big Four affiliation*

	Big Four	N	Mean Rank	Sum of Ranks
Number of key audit matters	0	33	31,02	1023,50
	1	50	49,25	2462,50
	Total	83		

Source: Creation of authors using SPSS - IBM Corp. (2013): IBM SPSS Statistics for Windows, Ver. 22, IBM Corp., Armonk, NY.

Furthermore, values of ranks shown in Table 7 point to the fact that Big Four audit companies include more key audit matters in their auditor’s reports in comparison to other audit companies.

6. Conclusion

The incorporation of key audit matters in the structure of auditor's report has prompted a high level of both scientific and professional interest, primarily on the need for their introduction and afterwards on their relevance. Given the inhomogeneity of opinions and research results, it can be asserted that this is, to a certain extent, a controversial issue of audit profession. The main objective of this paper was to determine whether the key audit matters are a new informational value for auditor’s report users in Republic of Croatia.

After the revisions introduced by ISA 701 have entered into force, average auditor’s report length has significantly increased and their structure was enriched with new sections. Key audit measures, most important improvement introduced by recent revisions of standards on auditing, have significantly contributed to auditor’s report enhancement. It is important to note that increase in the number of pages cannot be fully attributed to the key audit matters section, since they were introduced simultaneously with changes in other auditor’s report sections that have also resulted in enrichment of its content.

In most cases, auditor’s reports have positioned key audit matters after the Basis for Opinion section. Therefore, it can be held that majority of auditors have adhered to provisions of standards on auditing which refer to structure of audit report. Some of key audit matters which were pointed out most frequently referred to accounting items of revenues, impairment of various asset types, valuation of various asset types and provisions. It is evident that items which usually have a higher degree of susceptibility to accounting manipulation are pointed out in auditor's reports most frequently.

The results of statistical analysis have shown that there is no significant difference between number of key audit matters that were included in auditor's report regarding type of opinion expressed. Given that modified auditor's opinion signals higher risk of creative accounting in financial statements and, presumably, leads to increased likelihood of drawing auditor's attention and disclosure of higher number of key audit matters, it can be concluded that auditors don't differentiate their clients on basis of business risk when disclosing key audit matters.

Furthermore, significant association between number of key audit matters and the affiliation of audit company to Big Four has been identified, supporting the notion that big audit companies have higher amount of financial resources, higher reputational risk and greater ability to withstand large clients pressures more efficiently, which result in higher degree of audit specialization and higher audit quality. Results of statistical analysis are in accordance with findings of previous researches, which have also shown positive association between appointment of a Big Four audit company and number of key audit matter disclosures.

Considering the results in general, research hypothesis was accepted and it can be concluded that the key audit matters increase informational value of auditor's reports. Finally, bearing in mind that excessive disclosure of key audit matters can be counterproductive and reduce the informativeness of auditor's report, future researches should also address the issue of optimal number of key audit matters that provides highest informational value, and after which every additional key audit matter decreases aforementioned value.

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STATE AUDIT AND PUBLIC SECTOR EFFICIENCY, TWO ASPECTS OF THE SAME GOAL - COMPARATIVE SUMMARY - SERBIA, BH AND CROATIA

ABSTRACT

Raising the efficiency of the public sector is the primary focus of economic policies of both developed countries and countries in transition. In the last few decades, with increasing market competition there is a need to raise the market efficiency of all business entities, both in the private domain, and the domain of the public sector. The public sector, which represents a significant carrier development potential, tends to a constant raising economic efficiency which has its limiting factors, which are reflected on the one hand through the nature of the activity which is mainly small profit potential, and on the other hand, through demands that often provide unprofitable services to meet the needs of the citizens of a country. In such circumstances, a set of mechanisms taken in order to raise the efficiency of the public sector is stacked, and a national auditing is one of the more important segments of this mechanism.The work is on analyzing the scope of state audit, its role in increasing the efficiency of the public sector and prevention of harmful effects to public sector,as well as the achieved level of development and future perspectives of the state audit on the territory of Serbia, Bosnia and Herzegovina and the Croatian Republic.

Keywords: *state audit, public sector efficiency, economic policy, profitability*

Introductory reviews

With the transition to the market model of business and definition for the market economy, the Republic of Serbia, Croatia and Bosnia and Herzegovina started the process of transition that caused numerous socio - economic changes, which also significantly affected the sphere of the public sector. As part of these transitional changes, numerous civil society institutions and new public sector entities have been built, which should be support for the newly established system of social relations. One of these institutions is a state audit that represents a novelty and plays a significant role in raising and improving the efficient functioning of the public sector. In such circumstances, the state audit gets the primacy in ensuring efficient and proper spending of public funds and securing the use of public property in accordance with the principles of savings and accountability. Through its institutional control mechanism, the national audit should enable confidence in public sector entities to grow, which significantly improves the overall social climate in which the goals of social and economic development are realized based on social consensus and pluralism of the ideas and attitudes of all relevant social entities.

1. Role and importance of state audit in the improvement of the public sector functioning

Through the institutional and operational mechanism of the state audit, preconditions are created for timely disclosure of all deviations from the lawful action of public sector entities in order to ensure efficiency, effectiveness and economy of the public sector in order to prevent all negative consequences of irrationality in the functioning of the public sector. Through the institutional functioning of the state audit system, it is ensured in the global strengthening of public responsiveness and promoting responsible behavior in the realization of public functions of the state. The basics of functioning of the state audit were set up by the postulates set by the Lima Declaration.

The Lima Declaration is one of the basic documents that have been set up and the basic guidelines in the functioning of the state audit that were issued in October, 1977, at the ninth INTOSAI Congress, in Lima, Peru. Although the expectations of this declaration were initially very high, the long-term experience showed that this declaration exceeded all expectations and had the most significant impact in the development of the audit of public sector entities. The Lima Declaration proclaimed the principles of independent audit of public sector entities, and the issue of independence of the state audit is still current, because it represents the basic and crucial principle of the operation of each state audit institution. All this indicates that the Lima Declaration is actually a Magna Carta of the State Audit since its significance in the development of state audit institutions is still immeasurable and indicates that without this declaration one can- not imagine the further development and progress of the audit of public sector entities. Without going into further consideration of the contents of the Lima Declaration, respecting the scope of this paper, and in order to better understand it, we will show the chapters from which this declaration consists:

Table number 1: *Contents of the Lima Declaration:*

Number of chapters	Title of the chapter
PREAMBLE	
I	Purpose of the audit
II	Previous and final revision
III	Internal and External Audit
IV	Review of legality, regularity and performance
V	Independence of Supreme Audit Institutions
VI	Independence of the staff of the officials of supreme audit institutions
VII	Financial independence of supreme audit institutions
VIII	Relations with the Parliament
IX	Relations with government and administration
X	Authorization powers
XI	Conducting the findings of the Supreme Audit Institution
XII	Expert opinions and the right to consult
XIII	Audit methods and procedures
XIV	Audit staff
XV	International exchange of experience
XVI	Reporting to Parliament and the public
XVII	Reporting methods
XVIII	Constitutional basis of authority, audit of public finance management - funds
XIX	Audit of public administration and other institutions abroad
XX	Revision of taxes
XXI	Public contracts and public works
XXII	Revision of funds for electronic data processing
XXIII	Commercial companies with public participation - state capital
XXIV	Revision of institutions with state subsidies - incentives
XXV	Audit of international and supranational organizations

Source : http://www.revizija.gov.ba/zakoni_i_akti/issai_okvir/Default.aspx?id=2053&langTag=hr-HR, date of accession: 01.16.2019. years

In addition to the legislative, significant is the professional regulatory framework for the public sector audit and the implementation of the International Standards of Supreme Audit Institutions - ISSAI, published by INTOSAI - International Organization of Supreme Audit Institutions, which has been a member since 2008 and the State Audit Institution of Serbia. The activities and results of the work of the State Audit Institution increased in terms of scope and measures taken.

Measurement of the contribution of the state audit of the stability of the country's financial system will be ensured by application INTOSAI document "Framework for Measuring the Performance of Supreme Audit Institutions", which forms the basis for expressing the continued importance of supreme audit institutions for citizens and other stakeholders, to assess the contribution to better governance of public finances, greater accountability and the fight against corruption. The most significant result of the work of the State Audit Institution of Serbia so far is its contribution to increasing the responsibility for spending public funds and managing public property, since the very probability of carrying out the audit of a certain entity increases the responsibility for spending state money, reduces the degree of abuse of power and violation of regulations.

When we look at the control of the spending of public funds, it is important to note that, as the development of parliamentarism has progressed, in addition to the state audit, there is also a significant role in controlling the spending of funds and their efficient use, which, in addition to the legislative, increasingly takes control role in the analysis of the spending of public funds channeling them In an efficient direction. The parliament itself conducts its control role through a public audit institution, which, despite numerous distinctions in its organizational and legal organization, implements its central role by raising general awareness of the need for greater social responsibility, and in particular the executive authorities in spending public funds and responsible management of public assets.

Although we can observe numerous modalities of organizing the state audit, it is important to point out that the very form of its organization is primarily influenced by the political organization and tradition of one state, and by analyzing the given organizational modalities of the state audit, we will notice that three basic modalities of the state audit organization have been singled out (Stankovic, 2012, 357): Independent Audit Office (this form of organization occurs in the United States and in the United Kingdom); a court model (identified as the Napoleonic model in the French and collegial bodies (identified in the Scandinavian countries) and the State Office (reported in Germany). The basic principle in the functioning of the state audit institution's mechanism is to control the spending of state money that actually represents a democratic heritage that is reflected on the principle that all citizens through accredited and independent institutions have the right to inspect the efficiency of spending public funds, since these are in fact the assets of all taxpayers who have the right to monitor the flows of their creation and investment.

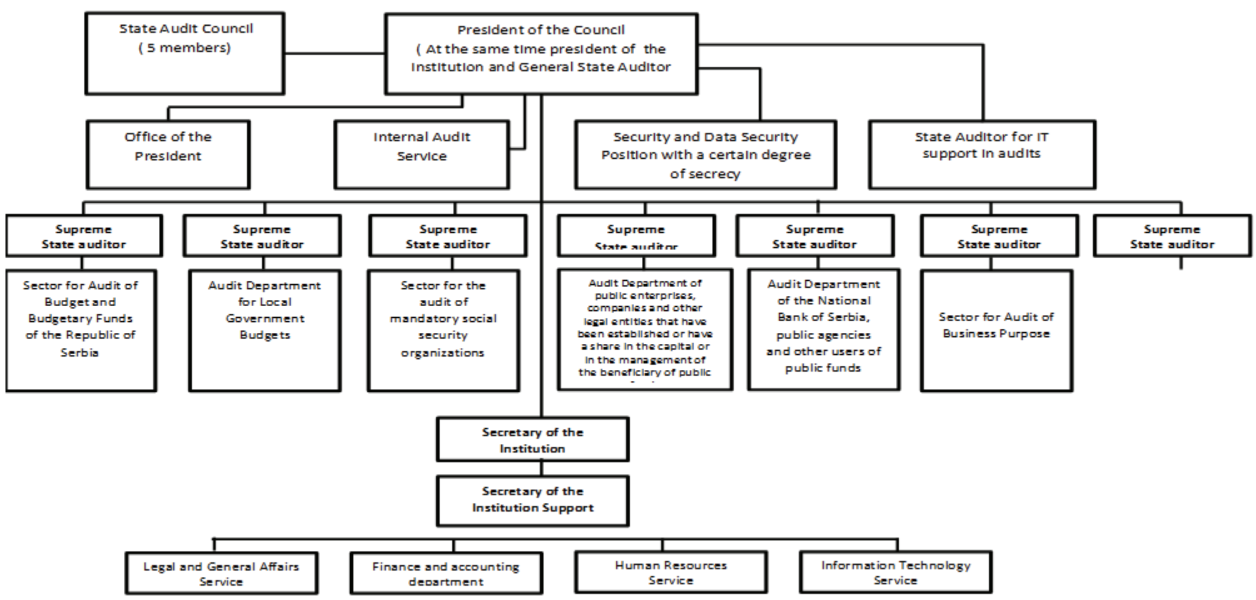
Through the existence of the state audit institution, it is possible to contribute to solving the key problems that the public sector of the Republic of Serbia faces, such as (Veselinović, 2014, 149) major political influences on the election of members of supervisory boards with extremely small, almost of no significance of corporate governance and poor business results, huge losses accumulated over the years, as well as extremely low efficiency and efficiency of management, as well as a marked financial imbalance, since public companies operate extremely illiquid and have high levels of indebtedness.

In order to provide a clear strategy in the direction of raising the efficiency of the public sector and enable its reorganization towards higher profitability, it is imperative to conduct a complex analysis of the functioning of the public sector, such as (Veselinović, 2014, 147): the economic aspect (see the current economic situation of market entities and possible Sources of their improvement), the institutional aspect (which regulations need to be changed and adjusted to make the reform successful) and the socio-psychological aspect (analysis of the degree of readiness of the population to reform the entire socio-economic system, and especially in the public sector segment). Raising the efficiency of the public sector as one of the most significant issues of public sector reform is reflected in the further implementation of corporate governance systems and the increased representation of public-private partnerships as key segments of the reform direction to be implemented in focusing on raising efficiency as the ultimate goal when it comes to the public sector of each Earth.

2. State audit in Serbia, Croatia and Bosnia and Herzegovina - achieved development

State Audit in the Republic of Serbia is the highest public audit body in the Republic of Serbia, which was established in 2005 by the adoption of the first Law on the State Audit Institution. It is a self-contained and independent state body that, in the performance of its tasks, corresponds to the National Assembly of the Republic of Serbia. The functioning of the State Audit Institution is regulated by the Law on the State Audit Institution and other legal acts, such as the Constitution of the Republic of Serbia and the Rules of Procedure of the State Audit Institution. In order to facilitate understanding of the method and organizational structure of the State Audit Institution of the Republic of Serbia in the form of a graphic presentation, we will illustrate its organizational scheme:

Figure number 1: *Organizational chart of the State Audit Institution*



Source: http://www.dri.rs/upload/images/Toma_proba/Organizaciona%20sema%20DRI_2015.pdf.jpg, date of accession: 30.01.2019. years

Analyzing the given organizational scheme, we note that the highest governing body in the Council is chaired by the President of the Council, who is also the general state auditor, while the sectors that carry out the audit are managed by the supreme state auditors, and within the State Audit Institution, we see the following sectors: Budget and Budget Funds of the Republic of Serbia, Audit Department of Local Government Budgets, Sector for Auditing Obligatory Social Insurance Organizations, Audit Department of Public Enterprises, Companies and Other Legal Entities in which a State is a Participant or established by a State, the Audit Department of the National Bank of Serbia, public agencies, then the Business Intelligence Audit Department and the Sector for Methodology of Auditing and Quality Control.

The scope of work and activities of the State Audit Institution is defined in the Law on the State Audit Institution ("Official Gazette of the Republic of Serbia" No. 101/2005, 54/2007 and 36/2010), and Article 5 clearly states and specifies competencies State Audit Institutions also: plans and performs audits, adopts by - laws and other acts that enable the implementation of the Law on the State Audit Institution, submits reports such as annual report on its work, special reports during the year, and reports on the audit of the final account of the budget of the Republic, Final accounts based on the financial plans of organizations of compulsory social security and consolidated reports of the Republic, as well as reports to the local government assemblies on the audit of entities established by the given local self - governments, takes positions and gives opinions, as well as other forms of public announcements related to the implementation of the provisions of the Law on The State Audit Institution provides user advice Provides public assistance, provides expert assistance to the Parliament, the Government of the Republic of Serbia and other state bodies in the implementation of measures and projects of crucial importance for the functioning of the state, makes recommendations related to the changes of the current laws on the basis of experience gained through the implementation of audit activities. Approves and publishes audit standards related to public funds related to the performance of the audit responsibilities of the institution and performs other tasks defined by this law and other acts regulating its existence.

What is characteristic of the State Audit Institution is that it is within its competence and certain measures that are available to it and which it can undertake for audit entities such as (http://www.dri.rs, date of accession: January 30, 2019): filing of misdemeanor charges, filing criminal charges, informing the National Assembly, and requesting dismissal of the responsible person.

In order to bring closer the functioning of the State Audit Institution and its role in the implementation of audits, it is necessary to point out the types of audits carried out by the State Audit Institution, which are the following types of audits (www.dri.rs, date of accession: January 30, 2019):

1) **Audit of financial statements** which involves examination of documents, documents, reports and other information,
2) **An audit of the regularity of operations implies** examination of financial transactions and decisions in relation to income and expenses, in order to determine whether the relevant transactions have been carried out in accordance with the law, other regulations, given authorizations and for the intended purposes and
3) **An audit of the expediency of a business** relates to the examination of the spending of funds from the budget and other public funds in the function of obtaining sufficient,

adequate and reliable evidence for reporting whether the assets by the auditee have been used in accordance with the principles of economy, efficiency and effectiveness, and in accordance with Planned goals.

To better understand the significance of the functioning and the effects that the State Audit Institution accomplishes with its activities, we will show the effects of its work for 2015 based on the data contained in the Statement of Activities of the State Audit Institution:

Table number 2: *Effects of the functioning of the State Audit Institution of Serbia in 2015*

Planned volume of audits in 2015	**Review of audit reports**	**Types of opinions expressed on the basis of financial statements**	**Identified irregularities in the financial statements**	**The amount of irregularities identified by audit entities in the financial statements**
158 audit reports	Report on the Audit of the Final Account of the Budget of the Republic of Serbia - **1**	Unencoded / positive opinion - **23**	Incorrect data in the financial statements in the amount **of 232.2 billion dinars**	RS budget users - **95.3 billion dinars**
	Report on the audit of users of budget funds of the Republic of Serbia - **18**	Modified Opinion / Opinion with Reserve - **130**		The beneficiaries of budgetary funds of the local government - **77.9 billion dinars**
	Audit Report on Users of Budgetary Resources of the Local Government - **94**	odified thinking / negative thinking - **2**		Public companies - **4.7 billion dinars**
	Report on the Audit of Obligatory Social Insurance Organizations - **4**	Modified thinking / abstaining from thinking - **1**		Beneficiaries of organizations of mandatory social insurance - **6.2 billion dinars**
	Audit Report on Public Enterprises - **26**			
	Audit Report of the National Bank of Serbia regarding the use of public funds and operations with the state budget - **1**		Irregularities in dealing with the reported data in the amount of **135 billion dinars**	Political parties– **2,7 billion dinars**
	Report on the Political Parties' Review - **3**			Other users of public funds - **45.5 billion dinars**
	Report on the Audit of the Users of the Republic Health Insurance Fund - **9**			
	Audit report of other users of public funds - **2**			

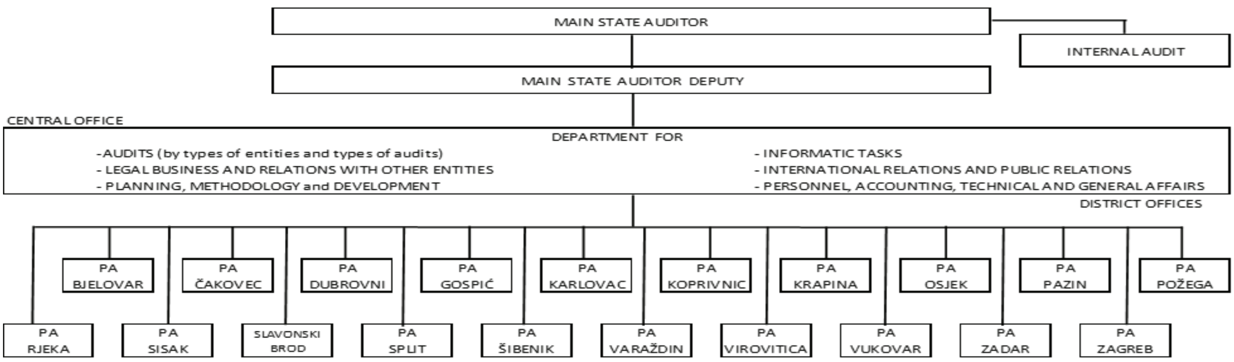
Source : www.dri.rs, date of accession: 30.01.2019. years

Analyzing the previous table, we can notice that the effects of the State Audit Institution are more than clear, because due to its operation, numerous irregularities have been detected and further irrational spending of budgetary funds has been prevented and efficient management of public assets has been made possible, which enables achieving a higher degree of overall efficiency of operations.

The state audit in the Republic of Croatia was established in 1993 by the adoption of the Law on State Audit, while in actual performance of its tasks started in November 1994. The current operation and work of the state audit of the Republic of Croatia are regulated by the Law of the State Audit Office (Official Gazette 80/11).

The State Audit Office is conceived as a single institution with headquarters in Zagreb, in which the central office operates, as well as 20 regional units operating in the county's headquarters (Croatia). The headquarters of the State Audit Office of the Republic of Croatia have designed sectors that cover certain types of audits, as well as functions that provide support for performing basic state audit tasks such as legal, personnel, accounting, and internal audit work. In addition, the State Audit Office also performs public relations activities and carries out activities related to international cooperation. The State Audit Office has the State's Chief Auditor, who is then the Deputy Chief State Auditor, as well as the Expert Panel representing the advisory body of the State Auditor General, comprised of the Chief State Auditor, as well as the seven external members, generally recognized experts designated by the Principal State Auditor. For the purpose of easier understanding of the functioning of the State Audit Office of the Republic of Croatia, we will present its organizational structure through the following graphic presentation:

Picture number 2. Organizational structure of the State Audit Office of the Republic of Croatia



Source: http://www.revizija.hr/datastore/imagestore/original/1399541063shema.jpg , date of accession: January 30, 2019. years

By analyzing the given figure number 2, we note that the State Audit Office is managed by the Chief State Auditor, who has his deputy. The headquarters of the State Audit Office are the sectors that carry out audits by types of entities and types of audit, as well as numerous functions that support the quality audit work, as well as 20 regional units located in the headquarters of all Croatian counties.

In the scope of audits carried out by the State Audit Office of the Republic of Croatia (Law on the State Audit Office, Narodne novine 80/11, Article 6), we include the audit of state revenues and expenditures, financial reports and financial transactions of state sector units, local self-government units and regional self-governments , Then all legal entities financed from the budget, entities in which the state, units of regional and local self-government have the majority ownership, the role of founders or the right to manage, as well as the use of European Union funds. The State Audit Office conducts an audit of the Budget Execution Report each year, and the Report on the conducted audit is submitted to the Croatian Parliament by 1st June of the current year for the previous year.

Based on the data contained in the Report of the State Audit Office for 2016, we note that there were 294 subjects for the audit with a total of 1671 orders and recommendations, and it is noted that 467 orders or prepools were not executed, which makes 27.9 % of total issued orders and recommendations. In the observed period, 210 financial audits were carried out, whereby 98 entities or 46.7% expressed positive opinion, while in the remaining 112 entities or 53.3% one of the other audit opinions was expressed (refraining from opinion, opinion from Reserve and negative opinion). All this indicates that, as in the case of the Republic of Croatia, the performance of the state audit has achieved numerous positive effects on the functioning of the public sector.

The role of the state audit institution in Bosnia and Herzegovina has the Audit Office of the institutions of Bosnia and Herzegovina, whose activities are regulated by the Law on Auditing of Institutions of Bosnia and Herzegovina "Official Gazette of BiH, No. 12/06". In its operation, the Audit Office of BiH institutions aims to provide independent and reasoned opinions on the execution of the budget of BiH and financial reports, through the implementation of audits, on the manner of resource management and the use of state property within the government and other public institutions of Bosnia and Herzegovina. Through the realization of this goal, the Audit Office of BiH institutions provides reliable reporting on the implementation of the budget, as well as transparent and quality management of public revenues, public expenditures and property owned by BH. Through the expressed findings and recommendations, the Audit Office of BH institutions informs the public about the functioning of the institutions of Bosnia and Herzegovina, which are contained in the audit reports.

Article 8 of the Audit Law of the institutions of Bosnia and Herzegovina defines that the Audit Office is in charge of conducting financial audits, performance audits and other specific audits. The Audit Office of the BiH institutions is managed by the Auditor General, which has two deputies, appointed by the Parliament of Bosnia and Herzegovina.

When we speak and observe the organization of the audit institutions of Bosnia and Herzegovina, one specificity is reflected in the existence of the Coordination Board of the audit institution, which is based on the three laws that regulate audit issues at the level of Bosnia and Herzegovina, as well as individual entities, which are: Law on the Audit of Institutions of Bosnia and Herzegovina, "Official Gazette of BH", No. 12/06, Law on Auditing of Institutions in the Federation of BH, "Official Gazette of the Federation of BiH", No. 22/06 and the Law on Public Sector Audit of Republika Srpska, "Official Gazette of Republika Srpska ", No. 98/05. The aforementioned Coordinating Committee of the Supreme Audit Institutions has been drafted on the basis of the Entity Concept, by which the Coordinating Board is composed of Auditors General and their Deputies at the entity level, the Federation of Bosnia and Herzegovina and Republika Srpska, as well as the Auditor General and its Deputies based on the Central Audit Office BH institution.

The Coordination Board is chaired by the Auditor General of the Audit Office of the institutions of Bosnia and Herzegovina, and in the case when he is absent, the Coordination Committee is chaired by his deputy on the basis of his authorization. As part of its activities, the Coordination Board has certain competencies related to the following (http://www.revizija.gov.ba/koordinacioni_odbor/Default.aspx, date of accession: December 2, 2018): Establishing consistent guides and orders Based on INTOSAI auditing standards, the improvement of the exchange of professional experiences and the tendency to ensure consistent quality in the audit, and the organization and coordination of development activities of all three audit offices, the distribution of audit responsibilities for joint activities, as well as the appointment of representatives of BH auditing institutions in inter-governmental organizations. Finally, when we talk about the Coordination Committee, its specificity is also in the voting system, which is reflected in the fact that each audit office has one vote.

In the previous analysis, different modalities of the organization of state audit institutions were indicated in the observed three countries, where it is important to point out that there are certain differences in their organizational structure, where their goal and principle of operation is unique in controlling the lawful spending of funds with the aim of preventing irregularities in the functioning Public sector in the function of raising the efficiency of all entities. Although the revision in Serbia and Bosnia and Herzegovina on a recent date, unlike Croatia, the effects are noticeable for a short period of its operation, which indicates that significant improvements can be expected through the improvement of existential conditions and the establishment of an adequate legal framework through the activities of the state audit And generate significant savings in the public sector with the aim of raising the efficiency of spending public funds for whose efficiency of spending are interested all taxpayers.

Concluding considerations

All three countries mentioned in this paper have a system of state audit, with the tradition of the auditing institution in Hrvataska the longest. In order to fully achieve its goals, the state audit should continue to strive for its actual institutional independence and the establishment and strengthening of the chain of accountability between the Supreme Audit Institution and Parliament, as the supreme legislative and increasingly supervisory financial body. In order to fully realize the non-financial effects of the state audit, it is necessary to further popularize the scope of activities it carries out so that all stakeholders understand its significance, as well as its personnel, material and institutional strengthening, in order that its activity and scope Work is fully realized.

The state audit, which has been dominantly focused on the financial audit in the upcoming period, should focus on the revision of the usefulness, since it is precisely this revision that can significantly improve the efficiency of the public sector, which is one of the significant goals of its operation, because the audit aims To prevent and eliminate deviations and prevent their reappearance, thus realizing activities in the direction of raising public sector efficiency, as one of the basic roles of the state audit institution.

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FINANCIAL RISK MANAGEMENT PRACTICE AMONG HOTELS IN CROATIA

ABSTRACT

Internal – and, especially external - forces have significant influence on the hotel industry resulting with very fast changes under the high pressure of maintaining profit margins. In general, the hotel industry is highly capital-intensive, which correlates with long-term investments in material assets and high rates of fixed costs. Due to all of the above, without proper financial risk management hotels may quickly experience negative financial results. This study aims to investigate the existent practices of financial risk methods and techniques for risk analysis and measurement among four- and five-star hotels in Croatia. For the purpose of this research a survey was distributed among hotel managers (hotel directors/divisions and departments managers). Findings imply that financial risk are not adequately managed among four- and five-star hotels in Croatia. Furthermore, advanced methods for financial risk management as well as sophisticated methods and techniques for risk analysis are not sufficiently used. Results indicate a worrying low level of practice of complex methods for risk management among hotel managers. Additionally, findings raise questions regarding risk management of basic financial risks such as interest rate risk, foreign currency exchange rate risk, etc. The main research limitation is the relatively small sample of respondents.

Key words: *Risk Management, Financial Risks, Croatian Hotel Industry,*

1. Introduction

Contrary to general opinion, global hotel industry is not homogeneous; quite the opposite, it is rather diverse with common issues and future trends being incredibly difficult to identify (Jones, 1999). When describing the Croatian hotel industry in five words for the past thirty years, the theme would be: 'transition; uncertainty; opportunity; seasonality; changes'. Hotel sector in Croatia is still going through privatisation. Olgic Drazenovic and Kusanovic (2016, p. 768) imply that for capital market development it is crucial to continue with the policy of investment liberalisation for institutional investors and to initiate and implement the measures for stimulation of savings and investments. The following word that describes hotel industry is *uncertainty*. The issues that were uncertain under the impact of war and post war conflict were political, economic and social. Today uncertainty is inclined toward economic and taxation policies, business environment, lack of workforce etc. Besides all above there is opportunity for further development and investments especially of international chains. *Seasonality* remains a main weakness of the Croatian hotel industry. One of the first things that the industry should tackle is the objective of profitability. Nevertheless, changes are something that is unavoidable - particularly market changes associated with mergers of main players and foreign direct investments that influence, directly or indirectly, the performance and the overall value of the industry in the end.

Based on the above, it can be concluded that Croatian hotel industry is pressured between Scylla and Charybdis, i.e. changes and uncertainty from one side, and seasonality from the another. In order to tackle future issues, management should prepare strategies to address those questions. Nocco (2006, p. 8) defines that "a corporation can manage risks in one of two fundamentally different ways: (1) one risk at a time, on a largely compartmentalized and decentralized basis; or (2) all risks viewed together within a coordinated and strategic framework". Risk management as tool to handle uncertainty and possible risks challenges is at the hand to all interested parties. Also, it should be stated that risk appetite is directly linked to the risk control and risk culture (Power, 2007; Mikes, 2009; Hayne and Free, 2014; Agarwal and Kallapur, 2018). Gontarek (2016, p. 120) defines that risk governance is ingrained in objectives of the Board and it is their responsibility to execute it effectively, hence they must include board-level risk committees, empowered chief risk officers (CROs), use risk appetite statements (RAS) and establish a robust risk culture.

In this study authors investigate financial management practice among five- and four-star hotels in Croatia. The reasons for implementing this study have emerged from the challenges that Croatian hotel industry is facing. Additionally, one of the reasons for this study has transpired from the desire to investigate knowledge and usage of methods and techniques for financial risk management and financial risk evaluation by the management. The paper is structured as follows: Section 1 provides the introduction, Section 2 examines existing literature of financial risk management practice. Section 3 deals with data and use of methodology. Sections 4 and 5 present the empirical findings of financial risk management practice in four- and five-star Croatian hotel, while Section 6 concludes.

2. Financial Risk management in Hotel Industry: A Literature Overview

For the past thirty years, risk management has come to the forefront of finance and business management overall. The accelerated pace of cyclical financial and economic crises in the past decades has imposed risk management as core instrument against risk and uncertainty. Complexity of risk management appears from the fact that it implemented in all areas of human activity. Origins of risk management are insurance and financial industry. Furthermore, it should be highlighted that in the past many financial and economic crises (Great Depression, Global Financial Crisis, Dotcom bubble, Asia crisis etc.) have emerged as a result of the activity and under the impact of the financial industry. It is due to these reasons that the financial sector is regulated and risk management is deeply incorporated in its fundaments. Non-financial industries like hotel industry have developed awareness for risk management mainly from previous destructive experiences. Also, the information and successful application of risk management have spread through business management network.

In the past couple of decades, risk management has come under the spotlight of academia. Smithson and Simkins (2005) have proved positive impact of risk management to company value. Bodnar *et al.* (2013) have investigated risk management practices in non-financial companies and arrived at the conclusion that only two risks are managed; currency and interest rate risk. Additionally, addressing to the Global Financial Crisis they have concluded lack of financial literacy among Italian firms. Dmitrieva (2015) has investigated risk management practices in non-financial Russian firms and concluded that lack of qualified personnel and low derivative market liquidity are main reason for non-using derivate as tool of risk management. Lack of information and knowledge are main reasons for unsuccessful risk management practices (Hudakova, Buganova, and Dvorský 2015; Pesic 2011). Studies carried out in Croatia on the topic of risk management practice in non-financial companies indicate inadequate level of knowledge and practice among companies especially in small and medium companies (Dumicic, Cizmesija and Pavkovic, 2005; Dumicic, Dumicic and Cukrov, 2005; Dumicic and Knezevic, 2007; Milos Sprcic, 2007; Karanovic and Goric, 2017; G. Karanovic, Karanovic and Stambuk, 2018).

Risk management in hotel industry has been in the spotlight during the last decade (Tsai, Pan and Lee, 2011). It needs no further emphasis that past studies (Dalbor and Upneja, 2004; Lee and Upneja, 2007; Lee, 2008; Lee and Qu, 2011) on risk management in hotel industry revealed atypical financial risk measures in relationship to other industries. Orgaz-Guerrero, Mar-Molinero and Menendez-Plans (2017) in their study investigated the relation between systematic equity risk of European Hospitality Industry and chosen companies' statistics. Their conclusion was that atypical factors (like growth, liquidity, size, productivity, sales margin, asset turnover and operating leverage describe) share's risk. Chen (2013) arrived at similar results for the hotel industry in China, but besides stated financial variables, only leverage and size appeared as important risk determinants in that study. Singh (2009, p. 413) investigated relation between interest rate derivative positions, debt maturity structure for the hotel industry. He concluded that most effective strategy for lodging managers is combination of different risk management strategies in combination with interest rate options. In study of Karanovic, Karanovic and Stambuk (2018, p.103) the authors conclude that fundamental financial analysis, combined with descriptive statistical analysis, can provide a holistic financial risk management approach for hotel industry.

Besides studies on risks measures and strategies, there are examinations on hotel companies' and management risk appetites, perceptions and risk behaviours. Zhang, Paraskevas and Altinay (2018) have discovered seventeen factors that influence risk appetite. In addition, they have definite that all these factors could be utilised in all types of companies. (Bharwani and Mathews, 2012, p. 425) reports that in the perception of Indian hospitality managers six risks are underlined as most significant (terrorism, competition, foreign exchange rate volatility and guest health and safety). Vojnic (2012, p. 333) has investigated risk behaviour of hotel managers in Croatia and has concluded that managers tend to modify risks rather than simply choosing between safe and risky alternatives.

3. Data and Methodology

A survey has been distributed among four- and five-star hotel managers (hotel directors/divisions and departments managers) to investigate hotels' practice on financial risk methods and techniques for risk analysis and measurement. A structured questionnaire was used. Five-point Likert scale questions were used for assessment of the importance of risk methods and techniques and dichotomous questions (y/n) were used for inquiry of practice on financial risk methods and techniques. Also, for demographic data, dichotomous questions and multiple-choice questions were employed. ”Level of knowledge and use of methods and techniques” was set up based on (Dumicic, Cizmesija and Pavkovic, 2005; Dumicic, Dumicic and Cukrov, 2005; G. Karanovic, Karanovic and Stambuk, 2018). “Identification of the risk that non-financial companies perceive” was set-up based on research (Fatemi and Glaum, 2000; Milos Sprcic, 2007; Bodnar et al., 2013). The survey was carried out from November 1, 2017 until March 1, 2018. The sample was 313 (276 four-star and 37 five-star) hotels. The total response rate was almost 18 %, i.e. 53 surveys were gathered. The survey had a limitation primarily regarding the response rate. Descriptive statistics were used for the purpose of statistical analysis.

4. Demographic and general hotel and company data

Sociodemographic information on survey respondents is presented in tables below.

Table 1: *Company headcounters NUTS2 regions*

Regions	No	%
Continental	12	22.6
Adriatic	41	74.4
Total	53	100

Source: the authors

Table 2: *Company ownership*

Ownership	No	%
State	2	3.8
State and private	3	5.7
Private	48	90.6
Total	53	100

Source: the authors

Table 3: *Company type*

Ownership	No	%
Limited liability company	28	52.8
Joint stock company	25	47.2
Total	53	100

Source: the authors

Table 4: *Company indexed at Zagreb stock exchange*

Indexation	No	%
Yes	32	60.4
No	21	39.4
Total	53	100

Source: the authors

Table 5: *Member of hotel group/chain*

Member	No	%
No	19	35.8
Member of domestic hotel group/chain	27	50.9
Member of foreign hotel group/chain	7	13.2
Total	53	100

Source: the authors

From tables 1-5 it may be concluded that majority of four- and five-star hotels investigated are located in the Adriatic region. It should be underlined that four- and five- star hotels are predominantly located on the coast i.e. the percentage of inquired hotels are in line with the sample proportion based on geographic location. Majority of investigated hotels are private hotels and more than 60% of hotels are part of some group/chain. Additionally, more than 60% of hotels under investigation belong to companies that are indexed on the Zagreb stock exchange. During summer-season majority of the examined hotels (51%) employ from 50-249 employees, 30% of hotels employ over 250 employees and 17% hotels employ between 1and 49 employees.

5. Financial Risk Management Practice in the Croatian Hotels

In this section, authors will present data for practice of Croatian hotel industry a) risk management methods, b) risk identification methods and techniques and c) methods and techniques for financial risk measurement.

Table 6: *Risk management methods*

Method	**No**	%	**Yes**	%
Close cooperation with the bank (open credit line and/or the possibility of quick loan realization)	**17**	32.1	**36**	67.9
Close cooperation with the owner (potential source of funds)	**22**	41.5	**31**	58.5
Asset and Funding Analysis (Capital Structure and/or Cost of Capital)	**22**	41.5	**31**	58.5
Cash flow analysis and control	**8**	15.1	**45**	84.9
Forward contracts	**30**	56.6	**23**	43.4
Futures contracts	**38**	71.7	**15**	28.3
Options	**41**	77.4	**12**	22.6
Swaps	**43**	81.1	**10**	18.9

Source: the authors

From the data presented in table 6 it is can be concluded that swaps, options, futures and forward contracts are insufficiently used methods, in average below 70%. Results indicate that hotel industry is not better than rest of industry and results are in the same line with previous studies (Dumicic, Cizmesija and Pavkovic, 2005; Dumicic, Dumicic and Cukrov, 2005; Milos Sprcic, 2007). Cash flow analysis and cash flow control is most used risk management method by Croatian hotels over 85%, then follows close cooperation with the bank with almost 69%. Close co-operation with the owner as potential source of funds and Capital Structure and/or Cost of Capital methods are in third place with practice in 60% of investigated hotels.

Table 7: *Risk identification methods and techniques*

Methods/technique	No	%	Yes	%
What if analysis	**25**	47.2	**28**	52.8
Cause and effect diagram example	**41**	77.4	**12**	22.6
Survey/interview method (manager, employee)	**20**	37.7	**33**	62.3
Risk score	**46**	86.8	**7**	13.2
Risk mapping	**41**	77.4	**12**	22.6
Probability and impact matrix	**36**	67.9	**17**	32.1

Source: the authors

Data on risk identification methods and techniques practice in Croatian four- and five-star hotels indicated genuine level of risk management exercise. Only what if and survey/interview methods are applied over 50% of analysed hotels. All other methods are utilised in just 20 u to 30% of investigated hotels. First step in risk management is identification if risks are not identified it is impossible to be managed them properly.

Table 8: *Methods and techniques for financial risk measurement*

Methods/technique	No	%	Yes	%
Sensitivity analysis	**33**	62.3	**20**	37.7
Scenario analysis	**29**	54.7	**24**	45.3
Monte Carlo analysis	**48**	90.6	**5**	9.4
Decision tree analysis	**41**	77.6	**12**	22.6
Beta coefficient	**52**	98.1	**1**	1.9
Volatility (standard deviation)	**49**	92.5	**4**	7.5
Financial ratios	**16**	30.2	**37**	69.8
Breakeven point	**21**	39.6	**32**	60.4
Cash flow analysis	**12**	22.6	**41**	77.6
Gap analysis	**39**	73.6	**14**	26.4

Source: the authors

Most utilized methods and techniques for financial risk measurement in Croatian four- and five-star hotels are breakeven point (70%), cash flow analysis (78%) and gap analysis (60%). Scenario analysis is used in 45% of investigated hotels. Gap analysis and decision tree analysis and used in distressing below 30% of investigated hotels. Volatility and Monte Carlo analysis are used just by 4, i.e. 5 managers, while beta coefficient is used just by one manager.

From data presented in previous tables it may be concluded that majority of hotel managers are oriented towards hotel operations. Division managers, especially from departments of finance and controlling, have better knowledge on financial risk management, but again inadequate. Overall results indicate that risk management and specifically financial risk management is not an issue in the focus of the hotel companies' management. Based on the above, one could expect industry failures and potential financial difficulties in the future.

6. Conclusion

Overall, this paper brings to light a few results that run contrary to popular judgements. While Croatia's tourism and connected hotel industry has been undergoing remarkable expansion in every sense during the last decade, the hotel industry has lowered its guard on risks and risk management.
This study has brought few additional information on the overall risk management among Croatian hotel companies. First and most important, with regards to risk identification, it is worthy to note that middle and upper management is not appropriately and sufficiently using methods for risk identification. If the risk identification is not used at all or if identification is not used properly the question that can be raised is how risk are managed if they are not identified. The second conclusion of the study carried out is that Croatian four - and five-star hotels are using just unsophisticated and basic methods for risk management and financial risk measurement. This fact could imply that there is lack of knowledge of sophisticated identification risk methods and methods of risk management. Furthermore, these facts expose hotel companies to financial risks and demonstrate inadequate risk management. Based on all of the above, it may also be advised and recommended to the top management of hotels to think about additional education on risk management among all employees, but especially among middle and upper management. By doing so, they would develop and improve much needed competences that would benefit them so as to detect and successfully manage various risks, in particular financial risks. This paper offers fundaments for future research questions on risk management practices among Croatian hotels.

Nonetheless, while revealing a specific number of conclusions, this study has its limitations. Most important limitation is small sample. Furthermore it should be highlighted that in large companies' main responsibility of hotel directors are hotel operations and in their scope of work there is lack of risk management.

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CONTRIBUTION OF FINANCIAL LITERACY TO BUSINESS PERFORMANCE: FINDINGS FROM THE CROATIAN HOTEL INDUSTRY

ABSTRACT

Financial literacy has become a topic of exceptional importance, both on the scholars and policymakers' agenda worldwide, as an epilogue of the recent global financial crisis. Namely, the aspect of financial literacy is assumed to be among the crucial drivers of financial welfare. Surprisingly, measuring financial literacy and estimating its determinants occupy academic researchers' attention more often than calculating its outcomes. Hence, beneficial effects of the higher levels of financial literacy seem to be accepted somewhat uncritically, and at the same time almost unconditionally promoted via unavoidable policy recommendations related to financial education and/or curriculum modifications. Furthermore, both causes and the consequences of financial literacy are examined mainly in the field of personal, rather than corporate finance. Therefore, this paper aims to focus on the aforementioned insufficiently explored areas of the financial literacy concept by investigating implications of a certain level of business financial literacy. The questionnaire research was conducted on a sample of the professional managers in order to quantify assumed positive influence of their financial literacy level on business performance. Hotel industry is at the centre of our study due to its large-scale significance for the Croatian economy, especially for the Split-Dalmatia County in which tourism, hospitality and hotel industry have rocketed in the last few years, and from which managers from 32 hotels filled out a survey. Results confirm beneficial effects of hotel managers' financial literacy level to business performance (measured by an average annual occupancy rate) as well as an important role that financial literacy plays for the managers' attitudes toward risk, satisfaction with bank services and financial behaviour in general. Despite that, research results reveal that even among the professional managers there is a space for improvement of both, financial literacy level and financial behaviour. This is why contribution of financial literacy to an overall financial well-being should not be taken as granted, especially on the level of personal finance.[2]

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Key words: *Corporate finance, Financial literacy, Hotel managers, Business performance, Questionnaire*

1. Introduction

Financial (il)literacy has been accepted globally since the 2008 massive financial earthquake, as one of the priority issues under the scope of various policymakers and organizations as well as numerous scholars. The first mentioned endeavour to diminish rather sizeable financial illiteracy among population by designing and promoting various public programs of financial education as a positive impact of financial education on the financial literacy level is assumed. The second ones i.e. the scholars strive to increase a general understanding of the financial literacy phenomenon and deal with the challenges such as: reaching a clearer definition of financial literacy, measuring more precisely the financial literacy level, answering whether financial education resolves the financial illiteracy, explaining disparities in the financial literacy level, investigating the effects of financial literacy level on financial-decision making, and finally, concluding on its benefits and possible counterproductive effects. The rising importance of this topic on the researchers' agenda is also evident when searching the Web of Science database. Namely, there is a rapid increase in publications and citations per year concerning the terms "financial literacy" and "financial knowledge", as a 3-year moving average is only one paper per year in the period from 2002-2004 and yet 26 papers per year between 2013-2015, while the number of citations rocketed from 2 citations per year in the period from 2004-2006 to an annual average of 346 citations for 2013-2015 time span (Stolper and Walter, 2017, 583-584). To sum up, in a short while financial literacy concept became an unavoidable phenomenon in the contemporary economic thought and practice. Generally, it supports the idea of enhancing financial market transparency with aim of reducing information asymmetry and increasing market efficiency. Namely, public disclosure policies were goaled to increase the quantity of data which are necessary for making more informed financial decisions, free of charge from their potential users' point of view, while greater financial literacy level ought to raise an understanding and relevance of publicly available data, and turn them into appropriate information for financial decision-making. Altogether, financial literacy is considered to be an important pillar of financial market transparency and consequently a building block of its efficiency. The recent financial crisis revealed numerous destructive trends in financial markets such as "the oversupply (of providers and products), overintermediation (too many layers of intermediaries), and overcomplexity (of products) extracting and destroying value in the supply chain" (Wehinger, 2012, 7). In such circumstances and insufficiently developed financial consumers protection, promoting the necessity of financial literacy improvement is inevitable, justifiable and understandable.

Financial literacy is an umbrella term which is mainly used in the area of personal finance to describe "the knowledge, skills, confidence and motivation necessary to effectively manage money" (Remund, 2010, 276) or in other words encompasses financial knowledge, attitudes and beliefs which drive financial decision-making towards favourable financial outcomes. In studies on financial literacy outcomes, financial well-being is usually approximated with increased saving capabilities, lower indebtedness level, reduced borrowing costs, more

of Economics, University of Split. The diploma thesis oral exam was successfully completed on 19/05/2016. The diploma thesis is available at: https://repozitorij.efst.unist.hr/islandora/object/efst%3A107/datastream/PDF/view [Accessed: 15th March 2019] prudent financial choices e.g. regarding the risk profile as well as use of informal borrowing sources, and higher consumer satisfaction with bank services. It might even affect individuals to have lower inflation expectations (de Bruin et al., 2010). After all, improved financial literacy should increase financial inclusion and demand for financial services, and thus throughout spurring economic growth and development multiply its macroeconomic effects. Still, higher financial inclusion might be troublesome in the financial instability period, as individuals that use a variety of financial products, especially if they invested in the stock market, might face larger losses than those with the poor usage of diverse financial products and usually lower financial literacy level (see e.g. Bucher-Koenen and Ziegelmeyer, 2011).

Whatever the reasons might be, there is a serious empirical gap regarding the financial literacy outcomes in the field of corporate finance. Hence, in this paper we examine the contribution of the financial literacy level to business performance, with a stronghold in diverse occasional papers about the financial literacy in the SME sector (Stefanitsis, Fafaliou and Hassid, 2013; Bayrakdaroğlu and Şan, 2014; Korutaro Nkundabanyanga et al., 2014; Bongomin et al., 2017). Clarifications of the research strategy, methodology and presentation of obtained results follow after the review of studies which are among the most relevant for this topic, while in the last section conclusions are drawn.

2. Real vs. expected outcomes of financial literacy: an insight into empirical literature

There is certain empirical evidence concerning the beneficial effects of financial literacy, with households usually at the centre of those studies. Firstly, higher financial literacy is expected to be associated with sound financial decisions i.e. higher saving capacity, lower indebtedness and better loan terms. In that way, Mahdzan and Tabiani (2013) proved that higher financial literacy level increases the odds for individual saving among approximately 200 Malaysian survey respondents. This is in line with findings for Croatia obtained by Cvrlje, Bahovec and Palić (2015) according to which financial education adds to more responsible saving behaviour of 494 respondents that participated in research in the year 2014. Next, if financial literacy is positively linked to personal savings, then its negative impact on overspending and going into debt is expected. Thus, based on 2,487 responses of Brazilian residents obtained in the year 2015, Grigion Potrich and Mendes Vieira (2018) confirmed that financial literacy impacts negatively on compulsive buying, materialism and propensity to indebtedness. In addition, Disney and Gathergood (2013) demonstrated (for the year 2010) that UK residents who involve themselves at a higher degree in the costly consumer loans possess worse financial literacy when compared to those who do not borrow consumer credit products significantly. More prudent borrowing behaviour is also backed by the higher financial literacy level in case of 550 Turkish financial consumers (Sevim, Temizel and Sayilir, 2012). Further, Huston (2012) concluded that, in the 2009-2011 time span, financially illiterate US consumers were more likely to pay higher costs of borrowing for credit cards and mortgage loans than their fellow-citizens with higher financial literacy. In general, according to Klapper, Lusardi and Panos (2013) financial literacy improves individuals' ability to deal with severe macroeconomic and income shocks likewise those induced by the recent financial crisis. The aforementioned authors disclosed results for the Russian household sector in the period from 2008-2009 according to which higher financial literacy level contributes to participation in formal financial markets, increases unspent income, and lowers usage of informal sources of borrowing. Altogether, acquiring financial literacy is expected to improve individual's personal finance and consequently its financial consumer satisfaction.

With reference to the latter, Akin et al. (2013) conducted nationwide credit card user survey for Turkey in the year 2009, and based on 2,227 observations found out that financial literacy is a crucial driver of customer contentment with this financial product. Poor financial literacy is linked with less rational decisions, debt-related problems and consequently less satisfied customers. In addition, Ali, Rahman and Bakar (2015) examined the data obtained from 1,957 survey respondents who attended investment educational seminars in Malaysia in the period from 2012-2013 and concluded that financial planning affects financial satisfaction the most, whereas financial literacy is an essential antecedent of financial planning. Finally, according to Škreblin Kirbiš, Vehovec and Galić (2017) who collected 900 responses of Croatian citizens, financial behaviour is of the utmost importance for the financial satisfaction, while financial knowledge did not explain disparities in the financial satisfaction level.

Based on the reviewed body of literature it is clear that a certain consensus on financial literacy beneficial effects to personal wealth exists. However, linking the risk-tolerance of individuals with their financial numeracy highlights somewhat opposite remarks. Shih and Ke (2014) revealed results for 535 college students in Northern Taiwan according to which higher level of financial product knowledge and the practice of financial literacy are positively related to their current and the likelihood of their future investing in high-risk financial products. Somewhat earlier, based on the survey responses of 247 midwestern US citizens, Sages and Grable (2010) disclosed similar results, as the lowest level of financial risk-tolerance was noticeable among those with a poor financial literacy level. To sum up, although financial literacy might improve saving capacity, reduce indebtedness, cause better credit terms and make bank customers more satisfied it could also drive high-risk financial investments. Investments in high-risk financial products could be harmful for individual's well-being in case they become overconfident regarding their financial knowledge and various growing financial literacy initiatives might boost economic agents' self-assurance about it (Asaad, 2015). At the same time, undoubtable evidence that financial education will work for all in direction of sound personal finance is still missing. For instance, Mandell and Schmid Klein (2009) cast doubt on the long-term effectiveness of high school financial literacy courses as by comparing the financial literacy level and subsequent financial behaviour of 79 US high school students they did not found significant difference between those who had and had not taken a course in personal financial management. A decade later, Son and Park (2019) demonstrated that financial education has limited scope for the improvement of personal finance among Korean low-income customers. Finally, Willis (2008) warned that financial education, which creates an unhealthy dose of financial consumers' confidence, would probably end up with even worse personal finance management.

So far, we have only summarized the studies that investigated the implications of the certain financial literacy level for the households/individuals as the literature on the business financial literacy is still rather scarce and mostly SME-oriented. For instance, Bayrakdaroğlu and Şan (2014) analysed the questionnaire responses of 120 SMEs' managers in Turkey, and confirmed hypotheses on the greater participation in the stock markets of the more financially literate managers, as well as a positive determination of their subjective (perceived) and objective (measured) financial literacy level with the financial training. The benefits of higher financial literacy level for the SMEs access to finance was demonstrated at least twice for Uganda. Firstly, Korutaro Nkundabyanga et al. (2014) concluded that financial literacy level and lending interest rates explain 31% of disparities in the SMEs access to formal credit market in that country. To be more precise, on the basis of questionnaire responses obtained from 384 SMEs owners or managers it was found that higher financial literacy level and favourable lending interest rate increase SMEs access to loans. After that, Bongomin et al. (2017) analysed 169 survey responses and reported a positive impact of financial literacy on access to finance and growth of Ugandan SMEs. To our best knowledge, up to now, there were no examinations regarding the impact of business financial literacy on enterprises performance in Croatia, regardless of the size of enterprises and industry in which they operate. Therefore, with a stronghold in the previously described empirical literature we made an assumption that financial literacy of professional managers explains disparities in corporate performance, with a hotel industry in the Split-Dalmatia County in the research focus. Arguments for such a data sample approach are given in the following section.

3. Business decision-making and performance in the Croatian hotel industry – does financial literacy matter?

3.1. Research strategy and methodology

The empirical research of the financial literacy level contribution to business performance of the Croatian hotel industry was carried out on a primary data collected in the two-month period (November/December of the year 2015) via an in-depth questionnaire, which was e-mailed or personally handed in to managers of 120 hotels in the Split-Dalmatia County. The response rate was approximately 27% i.e. professional managers of 32 hotels filled out the survey. An extensive questionnaire was designed in order to determine not only the level of financial literacy of survey respondents and its effects on the business performance, but also its drivers. Nevertheless, the state of financial literacy and its key factors were already encompassed with our previous research (Kundid Novokmet and Žalić, 2017). In the preceding study we also pointed out two main reasons for the aforementioned sampling: 1) significance of the tourism, hospitality and hotel industry for the Croatian economy, and 2) developed business network of one of the paper’s authors with hotel managers in the Split-Dalmatia County, which led to higher data collectability and satisfying response rate in two-month time span. In addition, focusing on the hotel managers in solely one Croatian county was a reasonable decision as consequences of the financial literacy level were examined. Namely, financial performance of any business is explained with not only the internal, controllable factors, but also external factors, e.g. attractiveness of certain region as a tourist destination in this case.

In order to measure the financial literacy level of hotel managers, responses on the questions regarding their financial knowledge as well as their attitudes, beliefs and behaviour in financial decision-making were required. Questions that served to examine financial knowledge are usually adopted in the empirical literature for measuring financial literacy, while Stefanitsis, Fafaliou and Hassid (2013) inspired other questions. Next, scoring methodology was applied on the obtained answers. Table 1 discloses questions and scoring methodology that were used to measure financial literacy. The minimum theoretical value of the financial literacy score is -2 and the maximum one is 7 points. Further, from the financial literacy scores we derived financial literacy levels. Thus, if the empirical financial literacy score ranged from -2 to 3 points or respondents achieved 4 and 5 points or 6 and 7 points, we considered them to have the low, intermediate and higher level of financial literacy, respectively. Detailed analysis of the responses defining financial literacy score and level was a subject of prior study of ours (Kundid Novokmet and Žalić, 2017), and is beyond the scope of this paper.

Business decision-making of hotel managers was explored via several questions depicting: 1) sources of information on which professional managers rely in their business, and types of professional advising service they require in strategic decision-making with regards to corporate finance and hotel management, 2) frequency of the professional advising service usage and praxis of updating the knowledge about the financial products key attributes, and 3) attitudes towards professional specialization and perceived financial literacy relevance for the risk management. Furthermore, business performance was approximated with the following aspects of doing business: 1) an average annual occupancy rate of hotel, 2) hotel managers' risk-tolerance and 3) satisfaction with bank services. Thus, if the financial literacy matters for the business decision-making and performance in the Croatian hotel industry, differences in the risk-tolerance, customer satisfaction with bank services and average annual occupancy rate will occur. Herein, we acknowledge that Stefanitsis, Fafaliou and Hassid (2013) and Amari and Jarboui (2013) were our main sources of ideas when designing questions about types of information and frequency of their usage in the business-decision making, while Pavić, Dulčić and Alfirević (2007), and Vojinić (2012) were our stronghold for the risk-tolerance measurement. The detailed insight into the questionnaire is available upon request. All calculations and figure were made in SPSS 23.0.

***Table 1:** Measuring financial literacy – methodology.*

Financial literacy	Questions	Answers	Scoring
Financial knowledge	If you have 100 HRK in your savings account, and the annual interest rate is 2%, after 5 years you will have exactly 102 HRK in your account?	Agree Disagree I don't know / I am not sure	-1 point 2 points 1 point
	If the annual interest rate on your savings account is 1%, and the annual inflation is 2%, after one year you will be able to buy the same amount of value with the money in this account?	Agree Disagree I don't know / I am not sure	-1 point 2 points 1 point
Attitudes, beliefs and behaviour in financial decision-making	Do you look for professional advising service in strategic decision making with regards to corporate finance and hotel management?	Yes No	1 point 0 point
	Have you attended seminar or workshop in the field of finance and tourism in the last two years?	Yes, once Yes, more than once No	1 point 2 points 0 point

Source: Authors' presentation.

3.2. Descriptive statistics and research findings – financial literacy as a driver of business decision-making and performance

The most of hotel managers, to be more precise, 81.2% (26 survey respondents) recorded intermediate or higher level of financial literacy, while the rest of them had low financial literacy level. In order to detect the effect of their financial literacy level on the business decision-making and consequent business performance an in-depth analysis of their responses was made, followed by statistical evaluation.

3.2.1. Business information sources and professional advising services in focus – relevance for the business decision-making

Firstly, professional managers were asked to rank sources of information, which they use in business according to a usage frequency. As we listed seven the most common sources of business information (business newspapers, professional journals, professional seminars and workshops, Internet portals, consulting with professionals/professional associations, family, friends and colleagues, and other sources of business information e.g. fairs) a rank scale has values from 1-7, where point 1 means "I use the most often", while point 7 means "I use the least". Interestingly, all listed options were ranked at least once as the most often used business information source. However, out of 32 respondents only 8 of them ranked other sources of business information, so we excluded this option from the following analysis. Surprisingly, professional managers use Internet portals as a source of business information the most often as the mean rank for this option was the lowest, to be more precise 2,25. On the other hand, among listed options, consulting with professionals/professional associations was used the least as the mean rank for this source of business information was the highest (4,21). Table 2 summarizes survey responses on the aforementioned question.

Table 2: *The most common sources of business information for hotel managers.*

Business information source	Mean	N
Internet portals	2,25	32
Family, friends and colleagues	3,36	28
Professional seminars and workshops	3,52	29
Business newspapers	3,55	29
Professional journals	3,64	28
Consulting with professionals/professional associations	4,21	28

Source: Authors' calculation.

With goal of obtaining the frequency analysis of responses on the previous question, ranks were translated into a certain level of usage frequency of each business information source. Thus, if a certain option was ranked as the first, second or third the most common source of business information, a conclusion on that source being the most often, very often and often used was made. Otherwise, if some source of business information was ranked at fourth, fifth and sixth place that was interpreted as a source that was somewhat used, partly used or used the least. According to results revealed in table 3, Internet portals, business newspapers, family friends and colleagues recorded ranks from 1-3 in 78,1%, 55,2% and 53,6% of survey responses respectively, which means that they are the most frequently used information sources for business decision-making of hotel managers. Contrary to that, professional journals and consulting with professionals/professional associations were used the least as in both cases recorded ranks from 1-3 amounted 39,3% of survey responses.

Table 3: *Frequency of usage of business information source.*

Business information source	Cumulative percent for 1-3 ranks	N
Internet portals	78,1	32
Family, friends and colleagues	53,6	28
Professional seminars and workshops	48,3	29
Business newspapers	55,2	29
Professional journals	39,3	28
Consulting with professionals/professional associations	39,3	28

Source: Authors' calculation.

Finally, Kruskal-Wallis test confirmed that the financial literacy level is not linked with the usage frequency of certain business information type, when the threshold of 5% of statistical significance was applied. Only in case of Internet portals and the threshold of 10% of statistical significance, financial literacy is connected to a frequency of usage of the aforementioned business information type (Chi-square=4,953; sig.=0,084).

Next, hotel managers were asked to point out how often they request professional advising service. Out of 32 survey respondents, 23 of them require professional advising service sometimes (19 responses), often and very often (4 responses). The rest of them ask for professional advising service seldom or never. Even in case of strategic business decision-making with regards to corporate finance and hotel management there are still 25% of respondents (8 hotel managers) which do not seek any professional advising option. Namely, they usually perceive themselves to be sufficiently qualified in the area of corporate finance and independent business decisions-making (6 professional managers). Interestingly, that the degree of self-confidence is not backed with their financial literacy level, as out of 6 aforementioned hotel managers, only 1 achieved higher level of financial literacy. This certainly speaks in favour of one of the most common behavioural finance phenomenon according to which the lower level of financial knowledge is usually in dependence with the higher level of confidence in personal investment capabilities (Brajković and Radman Peša, 2015).

Furthermore, for those who seek professional advising services/additional information when business decision-making is of strategic importance the hotel accounting department is of the utmost importance (mean rank=1,54) followed by the bank relationship manager (mean rank=2,38). Relevance of other business information sources that serve to reach strategic decisions is transparent from table 4. Similar to one of the previously discussed questions, ranks (1-7 rank scale) were translated into a certain level of frequency usage of each source of business information in the strategic decision-making. Thus, out of 24 survey respondents, 23 ask the most often, very often and often hotel accounting department for strategic consulting assistance, while out of 21 hotel managers, 19 of them rely on their relationship managers the most often, very often and often.

Table 4: *Sources of business information in strategic decision-making.*

Business information source	Mean	N
Hotel accounting department	1,54	24
Bank relationship manager	2,38	21
Financial advisory/consulting company	3,24	17
Family, friends and colleagues	3,26	19
Lecturers on professional seminars and workshops	4,00	15
Professors that lectured me during study	5,58	12

Source: Authors' calculation.

At last, survey respondents were asked to express their attitudes towards professional specialization and financial literacy importance as well as their praxis of updating the knowledge about the financial products' key attributes. Likert 1-5-points scale where point 1 means "to strongly disagree with the statement" and point 5 means "to strongly agree with the statement" was adopted. The most of 32 hotel managers agrees with the statement that "financial literacy decreases risks in business decision-making" (mean points=4,28) as well as that "professional specialization is of exceptional importance and indispensable for the manager position" (mean points=4,25). Somewhat less degree of agreement was achieved with the statement "I inform myself regularly about the key attributes of financial services which I use or intend to use e.g. interest rates, fees and other contractual terms and conditions" (mean points=3,66). Altogether, professional managers are aware of the general importance of financial literacy and professional specialization for the business performance. However, they could cherish more a praxis of a constant update of their knowledge about financial services they use or have in mind to use.

3.2.2. Financial literacy level and business performance

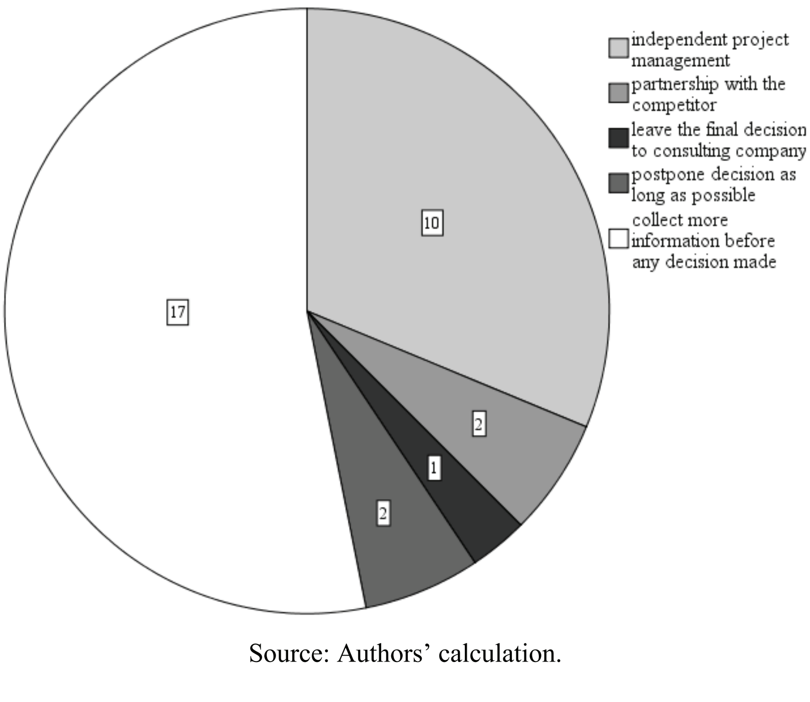
An average annual occupancy rate of hotel, hotel manager's risk tolerance and satisfaction with bank services were put into relation with the financial literacy level in order to detect potential beneficial effects of higher financial literacy level for the hotel business performance.

In order to define hotel managers' risk profile as an integral element of their financial behaviour we requested responses on two questions. The first one was goaled to find out potential risk management praxis of hotel managers faced with certain investment options, while the second one revealed their real risk appetite. Thus, a conclusion on disparity between planned risk management strategy and real financial behaviour could be made. The first question seeks an answer to the following business scenario. *"Imagine that there is an investment in hotel facilities reconstruction and two possibilities – to undertake that project independently or in partnership. You engaged consulting company to estimate probabilities and outcomes of the aforementioned options. In case of individual project management there is a 33,33% chance that the project will be successful, while the return on investment could reach 22%. Nevertheless, there is a 66,67% chance that the project will be only somewhat successful, while the return on investment would be only 10%. On the other hand, if you go into partnership with your competitor that possesses a certain experience in the similar projects, the return on investment would be 14%."* Hotel managers had to choose between the following options: 1) independent project management, 2) partnership with the competitor, 3) leave the final decision to consulting company, 4) postpone decision as long as possible and 5) collect more information before any decision made. The most of hotel managers would require more information before any decision made (17 responses or 53,1%) or enter the project independently (10 responses or 31,3%). If we sum the number of managers which would require more information before any decision made with other risk averse or risk modification options (5 responses), a conclusion that risk-averse managers dominate the sample is made (graph 1). This means that only 31,3% of hotel managers have risk-taking behaviour.

Nevertheless, when managers' self-estimations of the probability (in percentage) that they will enter project independently are compared with the previously presented responses, there is a clear disparity between risk strategies that they assume they would take and the risk strategy they would adopt (table 5). Namely, hotel managers that did not choose an option of independent project management and thus have elements of risk-averse behaviour responded that there is a range from 50-75% of probability that they would enter reconstruction project alone. This means that their risk-tolerance is underestimated - it is higher than they think it is.

Next, professional managers were asked to express their satisfaction with bank service, by assigning 1-5-points to each aspect of the bank service, where point 1 means "completely unsatisfied" and point 5 means "very satisfied". Hotel managers were satisfied the most with the bank employees' cordiality (mean points=3,88), range of products and services (mean points=3,59), and individual customer approach (mean points=3,56). Somewhat lower customer satisfaction was recorded when bank understanding of customer financial needs (mean points=3,41) and bank concern about customer's problems (mean points=3,44) were rated. Finally, hotel managers were the least satisfied with the amount of interests and other credit parameters (mean points=3,16) as well as amount of payed fees (mean points=3,22). However, if we sum all rated aspects of bank customer satisfaction, a mean value of composite index of bank customer satisfaction (SAT_INDEX) is still rather high, to be more precise, 24.25 out of 35, which is a maximum index value.

Graph 1: *Planned risk management strategy of hotel managers.*



Source: Authors' calculation.

Table 5: *Planned vs. real risk management strategy (self-estimation of the % probability that hotel managers will enter project independently).*

Risk profile	Mean (% probability)	N	Std. Deviation	Std. Error of Mean
Independent project management	86,9	10	21,56360	6,81901
Partnership with the competitor	75,0	2	21,21320	15,00000
Leave the final decision to consulting company	50,0	1	-	-
Postpone decision as long as possible	55,0	2	7,07107	5,00000
Collect more information before any decision made	60,25	17	27,47861	6,66454
Total	68,85	32	26,69703	4,71941

Source: Authors' calculation.

At last, the data concerning hotel business performance were requested. According to survey responses, out of 32 hotels, 29 of them recorded profit increase in the last five years, and for the rest profit stagnated. However, 13 hotels recorded losses once or more than once in the last five years, what speaks in favour of hotel industry as a rather dynamic one. In addition, the most of hotel managers think that recorded losses were partly caused by an insufficient knowledge (5 responses), while others pointed out some of the following reasons: the start of business, capacity increase, hotel indebtedness and global crisis. As the most of hotels were operating with profit, we focused on an average annual occupancy rate as one of the most important business performance indicators in the hotel industry. Thus, hotel managers were asked to fill out the questionnaire with the data about average annual occupancy rate (in days for the last available year in the moment of collecting survey responses – the year of 2014). Descriptive statistics of this indicator is transparent from table 6. The mean value of an average annual occupancy rate in days for the year 2014 for 32 hotels encompassed with this research was around 224 days, while the minimum and maximum indicator values witness that there is a huge space for business performance improvement.

Table 6: *Descriptive statistics of average annual occupancy rate.*

	N	Minimum	Maximum	Mean	Std. Deviation
Average annual occupancy rate in days for the year 2014	32	120	365	223,97	58,403

Source: Authors' calculation.

We assumed that the financial literacy level adds to hotel business performance, which is approximated with the following aspects of doing business:

- risk-tolerance level (self-esteemed % probability that hotel managers will enter project independently),
- hotel manager's satisfaction with bank services (composite index of bank customer satisfaction i.e. SAT_INDEX), and
- average annual occupancy rate (in days for the last available year in the moment of collecting survey responses – the year of 2014).

One-way ANOVA was adopted to test our assumption after the condition of Leven's test of homogeneity of variances (α > 5%) was fulfilled (table 7).

Table 7: *Test of homogeneity of variances.*

	Levene Statistic	df1	df2	Sig.
Risk-tolerance	0,253	2	29	0,778
SAT_INDEX	1,873	2	29	0,172
Average annual occupancy rate	0,560	2	29	0,577

Source: Authors' calculation.

According to the results revealed (table 8), financial literacy level explains disparities in risk-tolerance (sig.=0,006), and the average annual occupancy rate (sig.=0,031). Based on the findings summarized in table 9, the following conclusions are reached. Hotel managers with the higher level of financial literacy are less risk-tolerant. Namely, mean value of their self-esteemed probability that they will enter project of hotel reconstruction independently was approximately 54%. Survey respondents with the intermediate financial literacy have certain risk-seeking characteristics (mean value of risk-tolerance=85,15%), while those with the low financial literacy level are somewhat more risk-averse (mean value of risk-tolerance=66,67%) than hotel managers with intermediate financial literacy, but still more risk-tolerant than those with higher financial literacy level. In addition, higher the financial literacy level, higher the average annual occupancy rate of hotel. Although some disparities in the hotel managers' satisfaction with bank services are recorded, conclusion that hotel managers with higher financial literacy level are more satisfied with bank services can be made only from the descriptive statistics point of view.

Table 8: *ANOVA.*

		Sum of Squares	df	Mean Square	F	Sig.
Risk-tolerance	Between Groups	6521,866	2	3260,933	6,073	0,006
	Within Groups	15572,802	29	536,993		
	Total	22094,667	31			
SAT_INDEX	Between Groups	17,321	2	8,660	0,264	0,770
	Within Groups	952,679	29	32,851		
	Total	970,000	31			
Average annual occupancy rate	Between Groups	22486,443	2	11243,222	3,917	0,031
	Within Groups	83250,526	29	2870,708		
	Total	105736,969	31			

Source: Authors' calculation.

Table 9: *Descriptive statistics.*

	Financial literacy level	N	Mean	Std. Deviation	Std. Error
Risk-tolerance	Low	6	66,6667	25,81989	10,54093
	Intermediate	13	85,1538	18,34324	5,08750
	Higher	13	53,5638	26,14348	7,25090
	Total	32	68,8541	26,69703	4,71941
SAT_INDEX	Low	6	23,1667	3,86868	1,57938
	Intermediate	13	23,9231	7,33100	2,03325
	Higher	13	25,0769	4,40571	1,22192
	Total	32	24,2500	5,59378	0,98885
Average annual occupancy rate	Low	6	174,83	39,972	16,319
	Intermediate	13	221,92	53,707	14,896
	Higher	13	248,69	58,201	16,142
	Total	32	223,97	58,403	10,324

Source: Authors' calculation.

Altogether, there is a certain evidence that financial literacy level might be beneficial to business performance, when Croatian hotel industry is in focus, and previously described methodology applied. Herein, we acknowledge the following research limitations: small number of observations, single industry approach and rather simplified financial literacy measurement. Whatever the reasons might be, the financial literacy effects on the corporate finance/management are still quite neglected in empirical examinations, and we believe than this and any further attempt to deal with such an issue should be praised and welcomed.

4. Conclusion

In this paper, we sought to find an evidence about financial literacy and business performance nexus in the Croatian hotel industry. Our assumption that financial literacy level could explain disparities in hotel managers' business performance, which is approximated with risk-tolerance and bank customer satisfaction, was derived from the empirical background linking financial literacy and personal financial management, while an average annual occupancy rate is employed as an overall measure of hotel performance. Namely, even the most recent studies in the field of financial literacy witness that consequences of financial numeracy to corporate performance have been poorly explored, regardless of the geographical area, size of enterprises or industry in which they operate. Since tourism, hospitality and hotel industry are of the exceptional importance for the Croatian economy, but also due to practical reasons i.e. developed business network of one of paper's authors in this industry that enabled us to achieve prompt and satisfying response rate, we collected the data from the hotel managers in the Split-Dalmatia County. The most of them recorded intermediate or higher level of financial literacy measured by scoring responses on questions regarding their financial knowledge as well as their attitudes, beliefs and behaviour in financial decision-making. Further, based on the one-way ANOVA results, we confirmed that their financial literacy level explains variations in the risk-tolerance and average annual occupancy rate, while the differences in bank customer satisfaction were not statistically significant. Thus, a conclusion is made that the financial literacy level matters for the business decision-making and corporate performance. Nevertheless, we would by no means claim that solely financial literacy drives business decision-making or corporate performance, but that it adds to both. In addition, we disclose some interesting findings regarding the information used by managers in strategic and operational decision-making. Anyway, there should be more research with regards to financial literacy effects on the corporate finance/management, and hopefully ours will inspire some of them.

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THE CORRELATION BETWEEN PROFITABILITY AND TAX BREAKS IN THE AREA OF SPECIAL NATIONAL STATUS

ABSTRACT

In the period of 1996–2002, Croatian state authorities have already administratively designated certain areas of the country, declaring them as areas of special national status. Components of the above areas examined by this paper are Group I, II and III areas of special state care, the City of Vukovar and the highland area. Use of tax breaks in these areas, through a system of income taxation of entrepreneurs, represent various forms of incentives and breaks allowing taxpayers to reduce the basis for tax calculation and/or the amount of tax liability. This paper observed the correlation between the given variables; net profit margin representing entrepreneurs' profitability, tax breaks reducing the basis for the income tax (net reduction of tax liability and tax credit carried forward), tax breaks reducing tax liability, actual tax burden, population density, costs of gross salary, enterprise growth and productivity of work. The paper also observed correlation between profitability and efficiency of the tax breaks to individual components in the total tax breaks in areas of special state concern. The research includes the period of 2005–2013. The observation also takes into account the effect of a period of recession through a binary, the so-called dummy variable for the period of 2009–2013. Spearman's and point biserial correlation coefficients were used to test correlation of given variables. The observed correlation of the tax breaks and profitability considering the components of areas of special state concern is clear in the Group I and Group III areas of special state concern and in the City of Vukovar. Considering the observed correlation of profitability and efficiency of the tax breaks to individual components in the total tax breaks in the special national status area, it is clear that there is significant unpredictability of correlation between the observed variables.

Key words: *tax breaks, profitability, areas of special national status, correlation*

1. Introduction

With the legal regulative, Croatian authorities have, in the period 1996-2002, singled out specific local self-government units (cities and municipalities) in the area of special national status according to the following criteria: war circumstances caused by aggression on Croatia, economic (under) development, structural and demographic difficulties, and natural and geographical characteristics that constitute hindered living conditions (Act on Areas of Special State Concern, Act on Reconstruction and Development of the City of Vukovar, Act on Highland Areas). The main short-term goal of singling out areas was to remove the consequences of war and the long-term development of the mentioned area (Office for Development Strategy of the Republic of Croatia, 2001). The development of such an area included, inter alia, the promotion of entrepreneurial activity in the area.

Profitable entrepreneurial activity of taxpayers has been encouraged by the government through the system of tax expenditures, i.e. tax breaks (relief, exemptions, incentives, etc.). Thus, income tax payers could have used the possibility of *reducing tax base*, as well as *reducing tax liability* by performing activities in these areas, with fulfilment of the conditions prescribed by the government (Act on Income Tax). Croatia strived to efficiently and in detail improve, on the one hand, socio-economic status of the population of the area in question, and on the other hand, the success of business entities.

Bajo (2011, 142) in his paper emphasizes that non-transparent stimulation of local units through the state budget funds is not effective if there is no correlation between goals and indicators of development. Miljenović (2013, 167) considers that an area of a special state concern is primarily defined as a developmentally endangered area, i.e. the area with difficulties, not as a development resource. Furthermore, the author states that the constituents of areas of special state concern had different rights of participation in some of the measures aimed at improvement and development. Thus, different participation assumed a certain level of development, but when classifying local self-government units into a particular constituents of an area of special state concern, it did not take into consideration the criteria of development.

According to authors, Bratić (2011, 40) and the European Commission (2014, 3) by introducing tax expenditures (breaks), the state waives its tax revenues for the purpose of: obtaining preferential treatment for a particular group of people or activities, financing public spending outside the budget framework as well as achieving economic and political goals. Shick (2007, 10) emphasizes that tax breaks represent a loss of tax revenue on the one hand, i.e. reduction of tax liability on the other hand. Many Croatian researchers in their papers have often referred to the need for redefining certain rules in the tax break system, due to reduced income tax revenues in the state budget, (Bratić and Urban 2006, Bratić, 2012., Marković et al., 2013, Dražić, Lutulsky and Bernat 2016). Authors Klemm and Van Perys (2012), Monungo (2016) and Fahmi (2012) in their papers point to the fact that the application of appropriate tax breaks does not yield equal effects in all observed areas. Furthermore, the aforementioned authors also state that breaks cannot serve as a substitute for inadequate entrepreneurial infrastructure, economic or political instability, etc.

Tax breaks should create positive effects on profitability, as they reduce the base and liability of income tax. Taking into account the constituents of areas of special national status, the remainder of this paper examines the correlation of tax breaks and other selected variables with the profitability of business entities performing their activity in the mentioned area.

2. Data and Methodology

As stated above, all data on business entities performing activities in the area of special national status were observed for the 2005-2013 period.[1] The data were collected based on Verified Income Tax Applications (Tax Administration, 2016), and other relevant and available sources (Financial Agencies, Central Bureau of Statistics, State Geodetic Office, etc.). The dependent variable in the paper is determined through profitability indicator, i.e. *net profit margin* (net income/total revenue). Observed independent variables[2] and a certain direction of correlation of the same with the net profit margin (*nmp*) are the following:

- *decrease of the income tax base* (*sopd_neto*) - net value of the breaks (difference between the amount of tax undiscounted expenses and items that reduce the accounting profit in the income tax form); predicted *positive* direction of connection,
- *tax credit carried forward* (*ppg*) - value of tax carried forward that the taxpayers can use during the five year period, predicted *positive* direction of connection,
- *reduction of tax liability (spo_olak)* - value of the breaks that income taxpayers can use after the established tax liability, given the territorial affiliation of taxpayers, predicted *positive* direction of connection,
- *actual tax burden (spt)* when taxing profit - the ratio of actual tax liability and gross profit (profit before tax or accounting profit), predicted *negative* direction of connection,
- *costs of gross salary (tbp)* - the total cost of the employer for employee salaries, predicted *negative* direction of connection,
- *productivity of work (pr_rad)* - productivity per employee denotes the way in which efficient use of inputs ensures maximizing profits, i.e. achieving success; predicted *positive* direction of connection,
- *enterprise growth (rt_pod)* - total realized income; predicted *positive* direction of connection and
- *efficiency of tax breaks (pot_ukpot)* - share of the amount of breaks (sopd_neto, ppg and spo_olak) in total breaks for the area of special national status; predicted *positive* direction of connection

The paper also lists the *dummy*[3] variable that marks the period of impact of recession on economic trends (2009-2013). Therefore, regarding the defined dependent and independent variables, it was observed whether there is:

- correlation of dependent and independent variables[4] for each individual constituent of the area of special national status and
- correlation between the dependent variable and the efficiency of tax breaks[5] for a particular constituent of the area of special national status.

Validity of correlation between dependent on independent variables in the paper was tested using the correlation analysis. The measure used to describe the correlation between dependent and independent variables is Spearman's correlation coefficient. According to Horvat and Mioč

[1] Data collected as part of the research for the purpose of the doctoral dissertation.
[2] In addition to independent variables related to tax subsidies (sopd_neto, ppg and spo_olak), other selected variables that could have an impact on the profitability of business entities were also observed.
[3] *Dummy* variable represents a variable that cannot be numerically expressed and assumes values 0 or 1. Dummy variable takes the value of 0 for a period of events' non-existence, and the value of 1 during the existence of an event (Vojković, 2015, 27).
[4] All independent variables are taken into account, except the variable relating to efficiency of tax breaks (*pot_ukpot*).
[5] Only an independent variable related to the efficiency of tax breaks is taken into account (*pot_ukpot*)

(2014, 488), the coefficient does not assume the condition of linearity, symmetry and size of the sample, making it acceptable in this analysis. Since the data analysis contains a dichotomous, i.e. binary, variable *(dummy_recession),* point biserial correlation was used to establish the correlation between the said dichotomous (binary) variables and profitability. Point biserial correlation represents a special case of Pearson's correlation and measures the correlation between a continuous variable and other dichotomic (binary) variable (Sheskin, 2003, 808).

3. Research Results and Discussion

3.1. Relationship between Tax Breaks and Entrepreneur Profitability

Tax breaks, which result from the reduction of the tax base (*sopd_neto and ppg*), can be used all by taxpayers under the same conditions regardless of the classification of the area. However, grants that reduce income tax liability (*spo_olak*) are differently defined for each of the listed constituent in the area of special national status. That means that there is a possibility of different impacts on profitability measured by the net profit margin.

Table 1: *Correlation coefficient between net profit margin and independent variables on constituents in areas of special national status*

Area	*Area of special state care*			*The City of Vukovar*	*Highland area*
	Group I	*Group II*	*Group III*		
Variable	*nmp*	*nmp*	*nmp*	*nmp*	*nmp*
nmp	1.00	1.00	1.00	1.00	1.00
dummy_rec	0.6076	0.5676	0.6238	-0.9215 *	0.4239
sopd_neto	0.7333 *	0.6500	0.8500 *	-0.1667	0.3667
ppg	0.7667 *	0.1833	-0.2333	-0.0667	-0.1339
spo_olak	-0.4000	-0.3500	-0.7167 *	0.8333 *	-0.3833
spt	-0.6167	-0.7000 *	-0.6833 *	-0.9167 *	-0.3833
tbp	0.0833	0.1333	-0.1500	-0.6833 *	-0.2333
pr_rad	-0.6000	-0.0667	0.4500	-0.5167	0.2833
rt_pod	-0.5500	-0.2167	-0.5000	-0.4833	-0.3500

Stars denote significance at significance level of 5%*
Source: Author's research

According to the results listed in Table 1, it is evident that there is a significant 5% significance link between the dependent variables in area of special state care Group I, i.e. the *net profit margin* and the independent variables related to breaks that decrease of the income tax base (*sopd_neto*) and tax credit carried forward (*ppg*). Profitability in area of special state care Group II, i.e. net profit margin (*nmp*), is only linked to the actual tax burden (*spt*) at significance level of 5%. Net profit margin (*nmp*) in area of special state care Group III demonstrates a link at significance level of 5% with tax breaks that decrease income tax base (*sopd_neto*), tax breaks that reduce tax liability *(spo_olak)* and actual tax burden (*spt*). Net profit margin (*nmp*) in the area of the City of Vukovar has a strong linkage of 5% significance with the recession period (*dummy_rec*), tax breaks that reduce the tax liability (*spo_olak*), actual tax burden (*spt*) and costs of gross salary (*tbp*). In highland areas, the net profit margin does not have a significant correlation with either of the observed independent variables.

It is also important to emphasize that the result of the link between net profit margin (*nmp*) and the variable related to reduction of tax liability (*spo_olak*) for area of special state care Group

III requires additional explanations. Negative linkage of breaks that reduce tax liability (*spo_olak*) and net profit margin (*nmp*) may be affected by the low level of realized breaks in area of special state care Group III. Namely, in area of special state care Group III the said break in the observed period represents only 21% of the same break in the area of the City of Vukovar (Tax Administration, 2016), where a strong link between the said independent variables and profitability was noted.

The results obtained by correlation analysis, looking at them in a wider context, are in line with the results obtained in the works of other authors. Namely, Klemm and Van Perys (2012, 419) conducted a study on tax breaks in the period 1985-2004 for the area of Latin America, the Caribbean and some African countries, indicating that the use of lower rates of taxation and the prolongation of tax holidays (breaks) affects attracting foreign investment in Latin America and the Caribbean, but not in Africa. It also emphasized that the effect of tax rates and tax holidays does not exist when taking into account total investment and growth of observed areas. In his research, Munongo (2016, 241) in his research, through the presented four categories of tax breaks (tax holiday, reduced tax liability, tax credit carried forward and tax liability reduction with regard to certain sectors), points to the situation that tax breaks cannot produce the same development effects on each of the observed areas of the South African Development Community. The research was conducted for the period 2004-2013. The results point to the conclusion that a tax mix, which provides for efficient use of tax breaks, can affect the inflow of direct foreign investment.

Absence as well as inequality in achieving the link between observed tax breaks and dependent variables in the observed area can be justified by the fact that tax holidays, i.e. breaks can never compensate for inadequate infrastructure, economic and political instability and poor government policy (Fahmi, 2012, 91).

3.2. Relationship between Efficiency of Tax Breaks and Entrepreneur Profitability

The total value of breaks for an area constitutes the sum of breaks that reduce income tax base (*sopd_neto and ppg*) and tax breaks that reduce the tax liability (*spo_olak*).
In this paper, it is assumed that there is a significant positive correlation between the efficiency indicators of tax breaks of individual areas in total breaks of areas of special national status (*pot_ukpot*) and net profit margin (*nmp*). The assumption of the stated linkage would have two meanings for each constituent of areas of special national status. Tax breaks used by business entities operating in the observed areas should contribute to increased profitability. On the other hand, the state would justify the resulting budget loses due to reduced income tax in a certain area that is a part of incentive system.

Table 2: *Spearman's correlation coefficient between the net profit margin and efficiency of tax breaks per constituents of areas of special national status*

Variables	Area of special state care Group I	Area of special state care Group II	Area of special state care Group III	The City of Vukovar	Highland area
nmp	1.00	1.00	1.00	1.00	1.00
pot_ukpot	0.2167	0.4333	0.9167 *	0.0833	-0.3833

Stars denote significance at significance level of 5%*
Source: Author's research

Examining Spearman's coefficient results shown in Table 2, it is observable that the correlation coefficient ($r_s = 0.9167$, Prob > | t | = 0.0005) shows a strong correlation between the observed variables at a statistical significance of 5% only for area of special state care Group III. Thus, despite the extremely low level of break share in total breaks that is evident for area of special state care Group III, the intensity of their linkage to profitability in the said area is statistically significant and the direction is expected. In all other areas, despite a considerably larger share of total breaks, there is no statistically significant correlation with profitability. Namely, area of special state care Groups I and II during the observed period participate with their share of 37.5%, i.e. 42.02% in total breaks (Tax Administration, 2016),

Therefore, these results, as highlighted in the works of other Croatian authors, confirm the fact that it is necessary to deal more rationally with tax breaks within income tax system. Bratić and Urban (2006, 162) in their research indicate that the share of lost income from income tax in total state budget revenues is significantly increasing from year to year in the observed period. The aforementioned situation, as well as the share of lost income, are not insignificant in the opinion of the aforementioned authors. Taking into account the deficit problem that exists in the state budget, but also in the budgets of a large part of the local self-government units, the situation becomes even more worrying (Ministry of Finance, 2005-2013, 2007-2015).

With an aim of estimating the benefits of introducing certain tax expenditures (breaks) into the tax system, Bratić (2011, 128) states that the tax authority should implement a more significant reform of the tax system related to tax breaks within income tax system. Furthermore, Bratić (2012, 86) emphasizes that there are considerable structural difficulties and lagging in economic development in the specially treated areas (area of special state care Group I, II and III, highland area and the City of Vukovar). The same author states that tax authorities should carry out a more significant tax reform of existing tax breaks, examine their efficiency, or completely abolish them and replace them with subsidies. The survey conducted by Bogovac (2012) points to the fact that tax system security is more important to taxpayers than the possibility of using tax breaks (Rogić Lugarić, Bogovac, 2014, 1163). In addition, when observing tax breaks for the period 2007-2010, in areas of special national status, authors Marković et al. (2013, 118) state that the purpose of performing entrepreneurial activity should not be directed towards the use, i.e. utilization of tax breaks. The entrepreneur's activity, according to the aforementioned authors, should be based on a developed business strategy and have economic justification.
Observing the tax and legislative aspect of tax expenditures Rogić Lugarić and Bogovac (2014, 1166) point out that there is a lack of "official" attention paid to tax breaks in the Croatian tax system. Dražić Lutilsky and Bernat (2016, 9;7;18) emphasize in their work emphasize that surveyed entrepreneurs consider the realization of existing tax breaks very difficult due to complicated and insufficiently clarified procedures and often ambiguous legal regulations. The same authors state that entrepreneurs do not see the use of tax breaks as an area for increasing competitiveness. Furthermore, entrepreneurs consider tax breaks to have little impact on investment, employment and the economy as a whole. The aforementioned paper confirmed that the largest number of entrepreneurs (in the period 2013-2014) used state support for education and training, followed by reinvested earnings and tax credit carried forward. Usage of, to a large extent, tax credit carried forward speaks enough about the situation that entrepreneurs are in for a long time regarding their successfulness.

4. Conclusion

The expected results in the paper assumed a statistically significant intensity of correlation with a positive direction between tax breaks (*sopd_neto, ppg and spo_olak*) and profitability measured by the net profit margin (*nmp*). Taking into account the observed constituents of areas of special national status, the assumed direction and intensity of linkage between the mentioned tax breaks and profitability and other selected independent variables and profitability is evident in all of the above-mentioned constituents except in the Highland area. Negative, i.e. unexpected linkage direction of a break that reduces the tax liability (*spo_olak*) to profitability, i.e. the net profit margin (*nmp*) achieved in area of special state care Group III may be a consequence of low levels of received breaks in the observed period.

Given the observed relationship between the profitability of entrepreneur activity (*nmp*) and the efficiency of realized breaks (*pot_ukpot*), there is a strong statistical linkage of positive direction only to PPDS Group III. Thus, the obtained result represents information for managers and business owners that regardless of efficiency level of the support, it is not possible to predict the movement of profitability of the mentioned area.

The results obtained in this paper can serve the managers and owners of business entities in creating business policy. However, they need to take into account some other sources of profitability (technological achievements, cheaper sources of financing, innovation, etc.), alongside tax breaks, in order to increase profitability.

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INSIGHTS INTO GENDER DIFFERENCES IN FINANCIAL LITERACY OF YOUTH

ABSTRACT

It is argued that financial literacy has been identified at the top of the list of young people's concerns across Europe. As a core life skill for participating in modern society, financial literacy can be broadly defined as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. Since gender differences in financial literacy of youth may contribute to the differential levels of individual financial wellbeing between young women and men, the aim of this study is to identify possible gender gap in financial literacy of youth.

This is a quantitative study, where we use non-probability sampling methods where participants are recruited by e-mail. Financial literacy is operationalized through variables representing its key elements: financial knowledge, financial behaviour and financial attitude. Financial knowledge is measured by total financial knowledge score that was created by summarizing the number of correct answers on the financial knowledge test. Instrument used for measuring financial behaviour and financial attitude was based on the OECD INFE Core Questionnaire (2011). To gain better insights into gender differences in financial literacy of youth we use descriptive statistics, t-test and correlation analysis.

Findings of this study suggest that differences in financial knowledge, financial attitudes and financial behaviour between young women and men can be confirmed.

The paper is expected to produce useful pieces of information which might be helpful for government decision makers in the process of creation specific gender sensitive financial literacy programs to support young people.

Key words: *Financial literacy, Youth, Gender differences*

1. Introduction

It is argued that financial literacy has been identified at the top of the list of young people's concerns across Europe. As a core life skill for participating in modern society, financial literacy can be broadly defined as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.

Since gender differences in financial literacy of youth may contribute to the differential levels of individual financial wellbeing between young women and men, the aim of this study is to identify possible gender gap in financial literacy of youth.

The research should result in responses to the following question: Is there a gender gap in financial literacy among young women and men?

Having in mind the above said, the central research hypothesis shall be as follows: Differences in financial knowledge, financial attitudes and financial behavior between young women and men can be confirmed.

Possible limitation of this study is the small sample that limits generalization of the findings.

The results of this study are expected to shed more light on possible gender gap in financial literacy of youth. Understanding different levels of financial literacy between young women and men is crucial to developing policies aimed at reducing the gender gap. Therefore, the paper is expected to produce useful pieces of information which might be helpful for government decision makers in the process of creation specific gender sensitive financial literacy programs to support young people.

The paper is organized as follows. After the introduction, part one gives a short overview of theoretical framework that is relevant to the main objective of the paper. Part two outlines the data and research methodology. Part three is the center of the paper and contains analysis and discussion of the original empirical results. The last part contains some final remarks and conclusions.

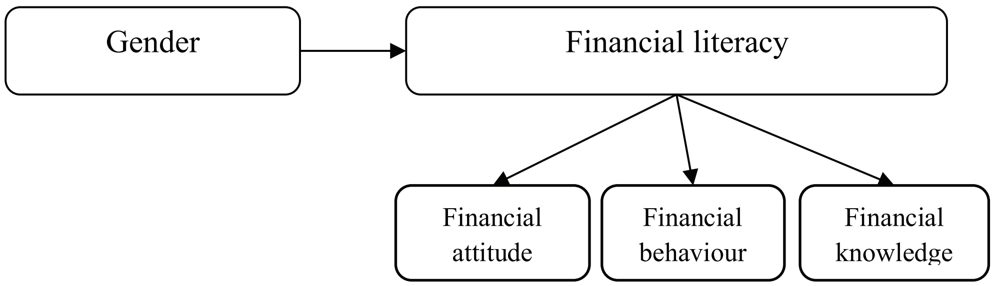
2. Theoretical background

It is probably true to say that first results regarding measuring financial literacy can be found in the work of Lusardi and Mitchell (2009) and Lusardi (2008a, 2008b, 2012a, 2012b). In this research we will use definition of financial literacy given by the OECD INFE (2011) and Atkinson and Messy (2012), where this concept is defined as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.

The central issue addressed in this paper is the possible gender gap in financial literacy of youth that may contribute to the differential levels of individual financial wellbeing between young women and men. So far, a significant number of scientific research has been conducted on the gender gap in financial literacy. In many of those research gender differences in financial literacy have been found. Bucher-Koenen, Lusardi, Alessie and van Rooij (2014) have found strikingly similar gender differences in financial literacy across countries. According to this research, when asked to answer questions that measure financial knowledge, women are less likely than men to answer correctly and more likely to indicate that they do not know the answer. Furthermore, authors claim that women give themselves lower scores on financial literacy self-assessments than men. *Summa summarum*, both young and old women show low levels of financial literacy. Fonseca, Mullen, Zamarro and Zissimopoulos (2012) have also found gender differences in financial literacy utilizing a single comprehensive measure that is a combination of multiple measures of financial literacy. They found women perform 0.7 standard deviations lower than men on our financial literacy index. Yu, Wu, Chan and Chou (2015) have also documented a gender gap in financial literacy that can be partially explained by gender differences in risk tolerance, computational ability, and self-reported financial knowledge. Furthermore, Falahati, and Paim (2011) found evidence of gender differences in different dimensions of financial literacy, in which males were more knowledgeable in financial matters than female students. Khurshed and Iftikhar (2014) came to similar conclusions. Greimel-Fuhrmann and Silgoner (2018) have also confirmed the existence of a gender gap in financial knowledge.

Since the theoretical point of reference of this research has its central foundation in preceding studies possible gender differences in financial literacy, the theoretical concept can be presented as follows (Figure 1).

***Figure 1:** Theoretical concept*



Source: Authors' own work

3. Methodology

3.1. Data source and sample

In the UNDP youth strategy 2014-2017, term "youth" refers to young women and men, in all their diversity of experiences and contexts, taking into consideration the existing definitions of youth used at the country and/or regional level(s). UNDP (2014) proposes to focus principally on young women and men ages 15−24, but also to extend that youth group to include young men and women ranging from ages 25−30 based on contextual realities and regional and national youth policy directives. In this research sample of youth are students from the Faculty of Economics, University of Tuzla, Bosnia and Herzegovina. Using the purposive sampling technique, 128 participants were selected. Research was conducted during the third quarter of 2018. Table 1 gives brief overview of basic characteristics of the sample.

Table 1: Overview of basic characteristics of the sample

Characteristic		Frequency	Percent
Gender	Male	37	71,10
	Female	91	28,90
Living enviroment	Urban	76	59,40
	Rural	52	40,60
Average monthly allowance (in BAM)	less than 50	9	7,00
	51-100	21	16,40
	101-150	24	18,80
	151-200	16	12,50
	201-250	10	7,80
	more than 250	48	37,50

Source: Authors' own work

The youngest respondent from our sample is 19 years old, and the oldest is 29 year old. Average age is 22,30 years with standard deviation of 0,14.

3.2. Variables

Financial literacy is operationalized through variables representing its key elements: financial knowledge, financial behaviour and financial attitude. Instrument used for measuring financial literacy (financial knowledge, financial attitude and financial behaviour) was based on the OECD INFE Core Questionnaire (2011) and some previous work of Atkinson and Messy (2011, 2012) as well as Lusardi and Mitchell (2011).

Financial knowledge was measured by total financial knowledge score. This score was created by summarizing number of correct answers on the financial knowledge test that included following questions:
1) 1.000,00 BAM available today is worth more than the same amount in the future.
2) It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares.
3) Suppose you put 100,00 BAM into a savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?
4) … and how much would be in the account at the end of five years?
5) Imagine that the interest rate on your savings account is 1 percent a year and inflation is 2 percent a year. After one year, would the money in the account buy more than it does today, exactly the same or less than today?
6) Do investments with higher expected returns come with more risk?
7) Does high inflation mean that the cost of living is increasing rapidly?

Other two components of financial literacy, *i.e.* financial behaviour and financial attitude, were measured by using 5-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

Financial attitude was measured by using following statements:
1) I consider myself a thrifty person.
2) I believe that one need to live today, without thinking about tomorrow.
3) I think I need to give the best of me so my family could have a better life someday.

4) I find it more satisfying to spend money than to save it for the long term.
5) Money is there to be spent.
6) I tend to live for today and let tomorrow take care of itself.
7) I am willing to risk my money.

Financial behaviour was measured by using following statements:
1) I am saving money.
2) I stick to weekly and monthly budget.
3) Before I buy something I carefully consider whether I can afford it.
4) I pay my bills on time.
5) I keep a close personal watch on my financial affairs.
6) I set long term financial goals and strive to achieve them.

3.3. Methods

To gain better insights into possible gender differences in financial literacy of youth we use descriptive statistics, independent-samples t-test and correlation analysis. Before going any further with the analysis, it is necessary to conduct a reliability analysis, *i.e.* to examine the reliability of used instruments. To see how well selected instruments measure what they really should, we use Cronbach's Alpha.

3.4. Instrument validity

The scores for each subscale were calculated as a total score for the items representing each dimension, *i.e.* financial behaviour and financial attitude. However, before that we assessed whether the subscales had satisfactory reliability (Table 2).

Table 2: *Scale statistics*

Measure	N	Number of items	Mean	Standard deviation	Cronbach's Alpha
Financial attitude score	128	7	16,95	4,68	0,703
Financial behaviour score	128	6	23,97	3,76	0,734

Source: Authors' own work

Cronbach's Alpha is a measure of reliability that ranges from 0 to 1, with values of 0,60 to 0,70 deemed the lower limit of acceptability (Hair, Black, Babin & Anderson, 2014). Having that in mind it may be concluded that both scales, financial behaviour and financial attitude, had an acceptable level of reliability.

3.5. Research design

The research is organised in three phases. The first phase brings an analysis of basic parameters of descriptive statistics of the selected variables. These results have been considered of immense importance in terms of proper understanding of specificities of the sample. In the second phase, we will use an independent-samples t-test to examine the difference in the characteristics different groups of respondents as well as correlation analysis to check for the possible relationship. In the last phase, the empirical results of the research have been presented.

4. Results and discussion

First step of the analysis (Table 3) is to analyse descriptive statistics for financial knowledge score (FKS), financial attitude score (FAS) and financial behaviour score (FBC).

Table 3: *Descriptive statistics for FKS, FAS and FBS*

Measure	Men				Women			
	Minimum	Maximum	Mean	Std. Dev.	Minimum	Maximum	Mean	Std. Dev.
Financial knowledge score	3	7	5,49	1,04	2	7	5,07	1,14
Financial attitude score	11	33	18,41	4,90	8	31	16,36	4,48
Financial behaviour score	13	30	23,24	3,93	14	30	24,26	3,66

Source: Authors' own work

Considering the results presented in the previous table it can be concluded that:

- based on the financial knowledge score, men (M = 5,49, SD = 1,04), have better financial knowledge comparing to women (M = 5,07, SD = 1,14);
- based on financial attitude score men (M = 18,41, SD = 4,09) have higher propensity to risk their money comparing to women (M = 16,36, SD = 4,48);
- based on the financial behaviour score women (M = 24,26, SD = 3,66) have higher propensity to save comparing to men (M = 23,24, SD = 3,93).

In order to gain better insights into gender differences in financial literacy of youth results will be presented separately for male and female respondents. First we will analyse results of results of financial literacy test (Table 4).

Table 4: *Result of financial literacy test*

Financial knowledge test	Label	Male		Female	
		% of correct answers	% of incorrect answers	% of correct answers	% of incorrect answers
1.000,00 BAM available today is worth more than the same amount in the future	FK_1	72,97	27,03	67,03	32,97
It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares	FK_2	75,68	24,32	67,03	32,97
Suppose you put 100,00 BAM into a savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?	FK_3	100,00	0,00	85,71	14,29
… and how much would be in the account at the end of five years?	FK_4	56,76	43,24	41,76	58,24
Imagine that the interest rate on your savings account is 1 percent a year and inflation is 2 percent a year. After one year, would the money in the account buy more than it does today, exactly the same or less than today?	FK_5	64,86	35,14	67,03	32,97
Do investments with higher expected returns come with more risk?	FK_6	86,49	13,51	86,81	13,19
Does high inflation mean that the cost of living is increasing rapidly?	FK_7	91,89	8,11	91,21	8,79

Source: Authors' own work

Based on the results of independent t-test, evidence of a statistically significant difference between the financial knowledge score and gender, (t(128) = 2,01, p =0,048) has been found.

When it comes to specific questions from the financial knowledge test, evidence of a statistically significant deifference in the number of correct aswers to question that refers to time value of money (FK_3) has been found (t(128) = -3,87, p =0,000).

When it comes to individual items of financial attitude and behaviour, their descriptive statistics is given in Table 5.

Table 5: *Descriptive statistics for financial attitudes and financial behaviour*

Component	Item	Label	Men		Women	
			Mean	Std. Dev.	Mean	Std. Dev.
Financial attitude	FA_1(Re)*	I consider myself a thrifty person	2,73	1,39	2,27	1,15
	FA_2	I believe that one need to live today, without thinking about tomorrow	2,14	1,13	2,33	1,23
	FA_3(Re)*	I think I need to give the best of me so my family could have a better life someday	1,59	0,83	1,35	0,69
	FA_4	I find it more satisfying to spend money than to save it for the long term	3,27	1,31	2,67	1,11
	FA_5	Money is there to be spent	3,22	1,11	3,25	1,14
	FA_6	I tend to live for today and let tomorrow take care of itself	1,92	1,09	1,93	1,04
	FA_7	I am willing to risk my money	3,54	1,12	2,55	1,09
Financial behaviour	FB_1	I am saving money	3,46	1,02	3,62	0,96
	FB_2	I stick to weekly and monthly budget	3,19	1,29	3,73	1,04
	FB_3	Before I buy something I carefully consider whether I can afford it	4,08	0,89	4,19	0,97
	FB_4	I pay my bills on time	4,41	1,07	4,66	0,62
	FB_5	I keep a close personal watch on my financial affairs	4,35	0,95	4,49	0,71
	FB_6	I set long term financial goals and strive to achieve them	3,76	0,93	3,58	1,11

Note: * - Reverse-scored items
Source: Authors' own work

Based on the results of independent t-test, evidence of a statistically significant difference between the financial attitude score and gender, (t(128) = 2,28, p =0,025). When it comes to individual items, evidence of a statistically significant difference between the FA_4 and gender, (t(128) = -2,63, p =0,009) has been found as well as the FA_7 and gender, (t(128) = -4,63, p =0,000). This means that young men find it more satisfying to spend money than to save it for the long term (FA_4) and they are more willing to risk their money (FA_7) than young women.

When it comes to financial behaviour score, difference wasn't statistically significant. Viewed by individual items, there was a statistically significant difference only in FB_2, which means that young women are more adhering to the weekly or monthly budget (t(128) = 2,45, p =0,015) than young men.

Results of correlation analysis between the items of financial attitude, financial behaviour and financial knowledge score for male survey participants are presented in Table 6, and for female participants in Table 7.

Table 6: *Correlation matrix (male participants)*

		FA(Re)	FA2	FA3(Re)	FA4	FA5	FA6	FA7	FB1	FB2	FB3	FB4	FB5	FB6	FKS
FA1(Re)	Pearson Correlation	1	,147	,095	.502**	.382*	.334*	,132	-,303	-.453**	-,251	-,149	-,179	-,161	-,041
	Sig. (2-tailed)		,384	,576	,002	,020	,043	,435	,068	,005	,135	,378	,289	,342	,810
	N	37	37	37	37	37	37	37	37	37	37	37	37	37	37
FA2	Pearson Correlation		1	.442**	.350*	.329*	.638**	-,081	-,200	-,208	-,312	-,184	-,149	-,021	-,268
	Sig. (2-tailed)			,006	,034	,046	,000	,634	,236	,216	,060	,275	,380	,903	,109
	N		37	37	37	37	37	37	37	37	37	37	37	37	37
FA3(Re)	Pearson Correlation			1	,001	,128	.484**	-,295	-,069	,048	-,141	-,029	-,026	-,276	-,118
	Sig. (2-tailed)				,994	,451	,002	,077	,684	,779	,404	,866	,880	,098	,485
	N			37	37	37	37	37	37	37	37	37	37	37	37
FA4	Pearson Correlation				1	.650**	.387*	,144	-.410*	-.494**	-.329*	-,101	-,213	,125	,003
	Sig. (2-tailed)					,000	,018	,394	,012	,002	,047	,552	,205	,461	,987
	N				37	37	37	37	37	37	37	37	37	37	37
FA5	Pearson Correlation					1	,291	.328*	-,115	-.594**	-,214	-,147	-,233	-,056	,195
	Sig. (2-tailed)						,081	,047	,497	,000	,203	,386	,166	,744	,249
	N					37	37	37	37	37	37	37	37	37	37
FA6	Pearson Correlation						1	,014	-.342*	-,266	-.478**	-,234	-,106	-,130	-,135
	Sig. (2-tailed)							,934	,039	,112	,003	,164	,533	,442	,425
	N						37	37	37	37	37	37	37	37	37
FA7	Pearson Correlation							1	-,078	-,169	,010	,044	,130	,077	.339*
	Sig. (2-tailed)								,647	,317	,951	,796	,444	,652	,040
	N							37	37	37	37	37	37	37	37
FB1	Pearson Correlation								1	,165	.325*	,208	.519**	,270	,098
	Sig. (2-tailed)									,328	,050	,217	,001	,106	,565
	N								37	37	37	37	37	37	37
FB2	Pearson Correlation									1	,300	,226	,194	.390*	-,132
	Sig. (2-tailed)										,071	,179	,250	,017	,435
	N									37	37	37	37	37	37
FB3	Pearson Correlation										1	.373*	,293	.327*	,046
	Sig. (2-tailed)											,023	,078	,048	,788
	N										37	37	37	37	37
FB4	Pearson Correlation											1	,295	,131	,117
	Sig. (2-tailed)												,077	,440	,489
	N											37	37	37	37
FB5	Pearson Correlation												1	.448**	,047
	Sig. (2-tailed)													,005	,783
	N												37	37	37
FB6	Pearson Correlation													1	,068
	Sig. (2-tailed)														,688
	N													37	37
FKS	Pearson Correlation														1
	Sig. (2-tailed)														
	N														37

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' own work

Table 7: *Correlation matrix (female participants)*

		FA1(Re)	FA2	FA3(Re)	FA4	FA5	FA6	FA7	FB1	FB2	FB3	FB4	FB5	FB6	FKS
FA1(Re)	Pearson Correlation	1	.243*	-,067	.441**	.252*	,127	-,015	-.497**	-.363**	-.379**	-,102	-,198	-.356**	,045
	Sig. (2-tailed)		,021	,525	,000	,016	,230	,884	,000	,000	,000	,338	,061	,001	,669
	N	91	91	91	91	91	91	91	91	91	91	91	91	91	91
FA2	Pearson Correlation		1	,111	.383**	.423**	.694**	,121	-.398**	-.318**	-.361**	-,128	-,164	,037	-,039
	Sig. (2-tailed)			,296	,000	,000	,000	,255	,000	,002	,000	,226	,119	,728	,711
	N		91	91	91	91	91	91	91	91	91	91	91	91	91
FA3(Re)	Pearson Correlation			1	-,050	-,001	,126	-,098	-,062	-.358**	-,167	-,081	-.293**	-,082	-,016
	Sig. (2-tailed)				,636	,991	,236	,358	,561	,000	,114	,447	,005	,439	,883
	N			91	91	91	91	91	91	91	91	91	91	91	91
FA4	Pearson Correlation				1	.613**	.454**	,171	-.298**	-.301**	-.431**	-.231*	-,159	-,150	,079
	Sig. (2-tailed)					,000	,000	,106	,004	,004	,000	,028	,132	,156	,457
	N				91	91	91	91	91	91	91	91	91	91	91
FA5	Pearson Correlation					1	.454**	,048	-,103	-,137	-,164	-,066	,105	-,074	-,004
	Sig. (2-tailed)						,000	,651	,333	,196	,119	,537	,320	,486	,967
	N					91	91	91	91	91	91	91	91	91	91
FA6	Pearson Correlation						1	.317**	-.302**	-.303**	-.441**	-,190	-,122	,005	-,080
	Sig. (2-tailed)							,002	,004	,004	,000	,071	,251	,964	,449
	N						91	91	91	91	91	91	91	91	91
FA7	Pearson Correlation							1	-,040	,017	-,035	-,115	,091	,184	,078
	Sig. (2-tailed)								,707	,873	,739	,278	,392	,082	,464
	N							91	91	91	91	91	91	91	91
FB1	Pearson Correlation								1	.457**	.437**	,151	.332**	.390**	,033
	Sig. (2-tailed)									,000	,000	,154	,001	,000	,754
	N								91	91	91	91	91	91	91

FB2	Pearson Correlation									1	.548**	.215*	.519**	.313**	,006
	Sig. (2-tailed)										,000	,041	,000	,003	,955
	N									91	91	91	91	91	91
FB3	Pearson Correlation										1	.331**	.500**	.209*	,009
	Sig. (2-tailed)											,001	,000	,047	,934
	N										91	91	91	91	91
FB4	Pearson Correlation											1	.365**	,033	-,031
	Sig. (2-tailed)												,000	,754	,772
	N											91	91	91	91
FB5	Pearson Correlation												1	.268*	,056
	Sig. (2-tailed)													,010	,601
	N												91	91	91
FB6	Pearson Correlation													1	-.215*
	Sig. (2-tailed)														,040
	N													91	91
FKS	Pearson Correlation														1
	Sig. (2-tailed)														
	N														91

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
Source: Authors' own work

By analyzing the correlation matrices, it was found that the financial knowledge of young man has statistically significant correlation to FA_7 ("I am willing to risk my money"), unlike the financial knowledge of young women that has statistically significant negative correlation to FB_6 ("I set long term financial goals and strive to achieve them").

Furthermore, several gender differences in correlations between the items of financial attitudes and financial behaviours can be identified. These differences are presented in Table 8.

Table 8: *Gender differences in financial attitudes and behaviours*

FK7	FA2	FA3(Re)	FA6	FA7	FB1	FB2	FB3	FB4	FB5	FB6
FA1(Re)	(2)		(1)		(2)		(2)			(2)
FA2		(1)			(2)	(2)	(2)			
FA3(Re)			(1)			(2)			(2)	
FA4								(2)		
FA5			(2)	(1)	(1)					
FA6				(2)		(2)				
FB1						(2)				(2)
FB2							(2)	(2)	(2)	
FB3									(2)	
FB4									(2)	

Note: (1) – Statistically significant correlation in case of male respondents
(2) – Statistically significant correlation in case of female respondents
Source: Authors' own work

Based on the presented results it can be concluded that gender gap is confirmed in case of financial knowledge, financial attitudes an financial behaviour. This is consistent with the findings of Bucher-Koenen *et al*. (2014), Fonseca *et al*. (2012), Yu, Wu, Chan and Chou (2015), Falahati, and Paim (2011) Khurshed and Iftikhar (2014) and Greimel-Fuhrmann and Silgoner (2018).

5. Conclusion

The analysis results have revealed the evidence of a gender gap in financial literacy of youth, particularly in case of financial knowledge and financial attitudes. It seems that men have better knowledge of fundamental financial concepts comparing to women. Also, while men have higher propensity to risk their money, women have higher propensity to save their money.

Understanding different levels of financial literacy between young women and men is crucial to developing policies aimed at reducing the gender gap. While more research is needed to understand the sources of gender differences in financial literacy, presented results may produce useful pieces of information which might be helpful for government decision makers in the process of creation specific gender sensitive financial literacy programs to support young people.

For future research, we propose a greater and more representative sample of youth and the inclusion of more detailed information about their profile.

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DETERMINANTS OF THE CORPORATE NON-PERFORMING LOAN VOLUME IN THE REPUBLIC OF CROATIA

ABSTRACT

In the Republic of Croatia banks are the most important financial institutions and their loans are a key source of funds for households and non-financial corporations. The ratio of non-performing loans, one of the key indicators of banks' performance and asset quality, for non-financial corporations in Croatia is currently nearly triple than those for households, being severely impacted by the global financial crisis and local weaknesses of the Croatian economy, but also because of many other factors. This issue certainly has an effect on the regional development, where data indicates strong disparities and underdevelopment of certain regions.

Therefore, to locate potential contributors for the economic growth, the aim of this article is to analyse banks specific and macroeconomic determinants of the non-performing loan ratio in three corporate economic subsectors (NACE activities C, F and G-I) which are key for the employment level and economic prosperity of Eastern Croatia. To estimate the long run relationship and cointegration between NPLs and independent variables in the period 2010-2018 Autoregressive Distributed Lag (ARDL) model is used. The model results indicate importance of macroeconomic factors for the levels of the NPLs in Croatia in the long run, especially the GDP growth rate, while bank specific factors are significant in the short run. The obtained results can be used to form policies to reduce bad loans and thus attributing to the stability of business environment, more favourable loan arrangements and higher overall economic development of Croatia.

Key words: *Non-performing loan ratio, banks, corporate sector, Republic of Croatia*

1. Introduction

The global financial crisis from 2008 and European sovereign debt crisis thereafter had a strong negative impact on the economic development and performance of most industries. One of the most affected subsectors were banks which faced several major challenges during the crisis period. The deterioration of debtors financial positions lead to the reduction of loan quality and consequently high upsurge of the non-performing loans (NPLs). The complexity and importance of this problem was so intensive that in July 2017, almost 10 years after the start of the last financial crisis, European Commission concluded an Action plan to tackle non-performing loans in Europe (European Commission, 2017,1). Beside European Commission, the adoption of mentioned programme included observations, suggestions and emerging reports from many stakeholders and institutions, such as European Central Bank, European Banking Authority and European Systemic Risk Board.

As in most European countries, banks are the key financial institutions in the Republic of Croatia. Their role in the financial intermediation, performance and structure of loan portfolio are therefore vital for the sustainable economic growth and household standard. Due to the structural weaknesses of the local economy, financial sector in Croatia was faced with much longer recession than in most countries which lasted for 6 years (2009-2014), thus having to withstand much tougher macroeconomic and business environment than their competitors in other countries. Consequently, it is not surprising that Croatia has one the highest level of NPLs in European union, which is much higher for non-financial corporations than for households.

The ratio of NPLs in the banking sector is affecting their loan volume, business decisions and opportunities for new loans and projects. This is, beside national, impacting the regional development and prosperity of counties. Analysis of economic indicators shows that Eastern Croatian counties have a lower than average GDP per capita and higher unemployment rates. Recently, the region has encountered extremely negative population emigrations, especially abroad, which is worsening potential prosperity even further. Researches focused on the regional financial intermediation in Croatia indicate that banks loan to the less developed counties above the local collected deposit bases and that counties are heterogeneous based on their level of development (Krišto and Mandac, 2015, 74; Krišto and Tuškan, 2016, 328). Underdeveloped counties tend to have lower percentage of loans to the non-financial corporations and more loans denominated in national currency mostly attributed to the higher percentage of overdrafts facilities of households (Krišto and Tuškan, 2016, 326).

The aim of this article is to analyse key factors impacting ratio of non-performing loans in Croatia in the short and long run. Both microeconomic (bank specific) and macroeconomic factors will be taken into account to determine this relationships for three corporate economic subsectors: NACE activities C (manufacturing), F (construction) and G-I (wholesale and retail trade, transportation, storage, accommodation and food service). Mentioned subsectors are key for the economic prosperity of Eastern Croatia due the number of employees and registered companies. Although the national data will be analysed due to the absence of publicly available regional NPL ratios, identification of factors impacting the NPL ratio could point out to the possible measures and policies to propel economic stability and development of Eastern Croatia. Further, article will try to observe key trends regarding banks' loans and measures conducted by the Croatian National Bank and banking sector to decrease NPLs.

This paper consists of six parts. The introduction describes relevance and aim of the paper. Second section is focused on the literature review regarding NPLs and regional development.

Sources of data, methodology and key trends of the Croatian banking sector are presented in the third section while the following section describes and analyses the results. The fifth section of this paper focuses on the undertaken measures to alleviate high NPL ratios and limitations of the paper. The conclusion of the paper again summarises key research outcomes.

2. Literature review

2.1. Non-performing loans

There is a vast and increasing literature regarding non-performing loans. The number of papers in this area has especially escalated after the beginning of the financial crisis, when the growth of the NPL ratio across globe was one of the main factors for the banking sectors instabilities and deterioration of the economic prosperity. Thus, crisis emphasized connection between financial sector and economy which has been in the focus of experts for a long time. The "financial accelerator", i.e. effect of a credit market development on the macroeconomy increases the response of an output to a monetary impulse and change of entrepreneurial wealth, therefore having a significant influence on the business cycles (Bernanke et al., 1999, 1372). Additionally, the effect of business cycles is further emphasized by the performance of the borrowers balance sheets, where higher quality in good times expands investments and upturns, while opposite effects occur in the bad times (Bernanke and Gertler, 1989, 28).

Generally, there are two main types of factors impacting the level of non-performing loans: bank specific factors (internal or microeconomic factors) and macroeconomic factors (external factors depending on the business cycle). Relationship between bank specific factors, mainly cost efficiency, capital and problematic loans, can be summarized by the four key hypotheses: "bad luck", "bad management", "skimping" and "moral hazard" (Berger and Young, 1997, 851). In the "bad luck" scenario, the increase of the non-performing loans, incurred by the external events, leads to the higher banks' expenses in dealing with this types of loans and consequently to the lower cost efficiency. Contrary, under the "bad management" hypotheses, low levels of cost efficiency are a sign of a poor managerial performance which, due to the inadequate analysis of loan portfolio and collateral, causes higher levels of non-performing loans.

Under the "skimping" hypothesis, the allocation of the resources between cost efficiency and loan monitoring determines the levels of both indicators. For instance, bank interested in the long run profits has a motive to decrease the level of loan monitoring, despite possible higher future level of non-performing loans. Thus, in this scenario higher cost efficiency leads to the higher level of NPLs. "Moral hazard" hypotheses emphasizes the impact of the banks' capitalization on risk tolerance and loan decision. Banks with lower levels of capital and their owners have less to loose in the case of bankruptcy and are thus more likely to have a riskier loan portfolio. Certain researches focusing on these hypotheses and their findings are presented in table 1.

Table 1: *Selection of the papers focused on bank specific factors of non-performing loans*

Authors	County	Hypotheses	Findings
Keeton and Morris (1987)	USA	Moral hazard	Support of moral hazard
Berger and Young (1997)	USA	Bad luck, bad management, skimping, moral hazard	Support of bad luck, bad management and moral hazard
Podpiera and Weill (2008)	Czech Republic	Bad luck, bad management	Support of bad management and rejection of bad luck
Louzis et al. (2012)	Greece	Bad management, moral hazard, skimping,	Support of bad management

Source: Authors' literature review

Regarding macroeconomic factors, their impact on non-performing loans is associated with the banks' cyclicality behaviour, i.e. banks tend to loan during good times and decline loan options during crises period when banks are additionally faced with the upsurge of the NPL ratio as a result of borrowers' lower income and performance. This theoretical framework was proved by several studies with the evidence of swift transmissions of macroeconomic shocks to the loan portfolio (Salas and Saurina, 2002, 218; Quagliariello, 2006, 132). A study which encompassed 75 countries worldwide concluded that a level of real GDP growth was the main driver of NPL ratio between 2001-2010, while the effect of exchange rates and stock prices is depending on the percentage of lending in foreign currency and size of the stock markets (Beck et al., 2013, 20). Another study for the advanced economies found evidence of the deep connection between macroeconomic performance and NPL ratio, leading to the reinforced effect on GDP growth and unemployment on NPL ratio and vice versa (Nkusu, 2011 ,20). In the Central and Eastern European countries (CEE) level of bad loans can mostly be attributed to the macroeconomic factors, while high NPL ratio could pose a serious threat to the future level of GDP growth (Klein, 2013, 20; Škarica, 2014, 53).

In the Republic of Croatia, there is evidence of a key impact of the macroeconomic factors on the NPL ratio in the banking sector. Firstly, macroeconomic shocks have an important and strong effect on the banking indicators, although banks posses a high shock-absorbing capacities (Erjavec et al., 2012 , 409). The macroeconomic factors, especially the GDP growth rate, have a strong impact on the non-performing placements and off-balance sheet liabilities, thus should be of a high importance for the bank management and regulators (Benazić and Radin, 2015, 85). Additionally, the performance of the Croatian economy has a key impact both on the NPL ratio of corporate and household sector, although unemployment rate is significant only in the corporate sector (Žiković et al., 2015, 26).

2.2. Regional economic development

In contemporary economy region becomes of great importance. Edwards (2007, 4) in simple terms emphasizes the indispensable role of regions in relation to the national perspective: "*National frontiers are not always adequate to define spatial units of analysis because functional regions transcend political boundaries.*" There are numerous various region definitions as well as various aspects of regions (economic, geographic, sociological, perspectives of other social sciences,…). When speaking about regions, Edwards (2007) emphasizes the lack of functional definition in relation to the administrative definition of the region. Functional regions are defined according to the specific type of homogeneity of certain territory that region appertain, while administrative regions refer to the division of a particular area as a result of political decisions. Edwards (2007) furthermore states that it is ideal if these two categories match, but unfortunately it is exceptionally rare.

The goal of regional economic activities, among others, is to make regional economic growth happen. The process of regional economic development is complex and Storper (2017, 35) outlines an important nature of changes that affect the regional system: "*The past may…be only the most basic of prologues for thinking about future dynamics, whether in developed or developing countries".* Acs and Sanders (2014) clarify that growth at the regional level implies an increase in economic activity in the region over time and that processes of growth and development are localized processes. Therefore it is possible to link economic activity and development with regional circumstances.

It is evident that regional economic development does not only depend on existing natural factors of a given area but also on investments in elements that represent endogenous development factors. Besides, it is evident that knowledge, innovations and other endogenous factors have become even more important after the interests of scientists that research concepts of regions and regional development have become broader than only the domain of the economic sciences. In this context, focus of regional development shifted to the spatial understanding of the region.

Regional economy, as stated by Capello (2016), relies on space dimension in its market analysis, considers the uneven distribution of production resources in the area and their concentration in a given space (for instance, region or town). However, it is crucial to point out that geographically represented resources and potentials for development are to a large extent defined by past and contemporary historical factors, for instance human capital, social fixed capital, the fertility of the land and accessibility referring to the distances of main centres of production; at the same time they are only minimally determined by exogenous factors i.e. by comparative advantages such as raw materials or natural advantages. Space has an important role for Dawkins (2003), who states that the initiators of innovation and economic growth in their nature are determined by space. In simple terms, according to Dawkins (2003, 132): *"[...] "space matters".*

Local and regional development are truly a global challenge (Pike, Rodriguez-Pose & Tomaney, 2017). When talking about the importance of regional economic development, similar tone is used by Higgins & Savoie (2018), emphasizing it as an important part of every developed national economy. It is also a reason why national economies pay special attention to regional development. Higgins & Savoie (2018: 2-3) underline the importance of regional structure in national economy and emphasize the following: : "*(i) Regional disparities create social and political problems[...]; (ii) Regional economies are aggregations of regional economies, which vary widely in the degree of integration among them. In some countries, some regions are more closely integrated with the world economy than with other regions in the same national economy [...]; (iii) Accelerating growth of the national economy as a whole requires an attack on the problems of retarded regions; (iv) [...]. Interactions between cities and regions are a fundamental aspect of these urban problems and of regional and national social and economic problems as well; (v) Some kinds of resource management - natural and human- are best studied and executed at the regional level, because the package of resources involved are best defined in terms of space. [...]; (vi) Improving the methodology of the social sciences, and* *improving policy and planning based upon these sciences, requires study of the principal actors where they are, on the spot; and this is best done at the community and regional level."*

Despite vast literature regarding regional development and NPLs, few studies have taken into account impact of the local economic conditions on bad loans. In the USA, there seems to be evidence that the variation in the level of bank losses and non-performing loans can be significantly explained by the local economic conditions or performance of specific industries (Keeton and Morris, 1987, 19). Consequently, certain papers suggest inclusion of the state-level economic conditions in the financial stress tests (Ghosh, 2015, 93). In Spain, the level of non-performing loans can be partially explained by the quality of regional loan contract enforcement and judicial efficacy, especially in the event of the financial crisis (Mora-Sanguinetti et al., 2017. 381).

3. Data and methodology

3.1. Data

This research is encompassing period from Q1 2010 to Q3 2018 since data for the NPL ratio of economic subsectors are not available for previous years. Analysis is based on quarterly data with the 35 time observations for each variable. Two different subsets of factors, macro and microeconomic, are chosen to determine the effect on the NPL ratios. Macroeconomic factors include: *consumer price index* (CPI), *export* (EXPO), *GDP growth rate* (GDP), *industrial production volume* (IND), *real effective exchange rate of the kuna* (REER) and *registered unemployment* rate (UNPL). Microeconomic factors in the model are: *capital/assets ratio* (CAP), *total amount of loans for C, F and G-I economic subsectors* (LOAN), and *return on assets* (ROA). The dependent variable in the model is NPL ratio (B and C risk category loans as % of total loans) of the above mentioned subsectors. Data are seasonally adjusted and variables are expressed as a quarterly year-on-year percentage changes. Values of the variables were taken from the official publications of the Croatian National Bank and Croatian Bureau of Statistics.

It is important to emphasize that definitions and monitoring of NPLs differ across countries and that a single or harmonized standard does not exist. According to the International Monetary Fund and Financial Soundness Indicator database, the loans are classified as non-performing if i) principal and interest are past due by 90 days or more, ii) interest rates correspond to 90 days or more have been capitalized, refinanced or rolled over and iii) loans with payments past due less than 90 days which are recognized as non-performing by the national guidance (International Monetary Fund, 2006, 183). In Europe, regulation framework, such as guidelines from European Banking Authority, often focus on non-performing exposures (NPE), similar but broader concept than NPLs since NPEs, beside loans, also include debt securities or off-balance sheet activities (European Central Bank, 2017, 99).

For purposes of this paper, relevant definition is the one defined by the Croatian National Bank as main source of data. According to the current regulation in force, the exposure is classified as category B or C if it is overdue for more than 90 days. Based on the impairment level, it can be classified into category B for partial impairments (level of impairments between 0%-30% (B1), between 30%-70% (B2) and 70%-100% (B3)) or C for full impairments (the level of impairment and provisions equals to 100% and conditions for the write-off of receivable have not yet been meet) (Croatian National Bank, 2018, 7).

3.2. Methodology

To estimate the long run relationship and cointegration between NPL and independent variables Autoregressive Distributed Lag (ARDL) model is used. The method is a type of the standard least square regression including lags of both the dependent and independent variables (Green, 2007, 682; EViews 10 User's Guide II, 2017, 295). It gained popularity in recent years when scientists determined that method provides consistent estimates of the long-run coefficients and can be used in series with different order of integration (I(0), I(1) or both levels, but not (I)2) (Pesaran et al., 2001, 315; Pesaran and Shin, 1999, 405). In order to determine the short run effects, the Error Correction Model (ECM) derived from the ARDL model is used, integrating the short run adjustments with long run equilibrium without losing long run information (Nkoro and Uko, 2016, 79).

After choosing the variables, the first step of the ARDL model is determining the optimal number of lags. In this paper, the Akaike info criterion (AIC) is used as a model selection criteria while maximum number of lags, due to the relative short period, was chosen by the automatic selection and set up at 2 to obtain the stability of the model. The analysis was conducted with the Eviews10 software package. The model was tested with different stability tests which are described in the results section of the paper.

3.3. Stylized facts

In recent years, the Croatian banking sector is faced with the decline of the value of total loans, approximately 16% from 2011 onwards, and consequently assets since loans are their key component. This stagnation is a result of the global financial crisis, but also of a long lasting recession of the Croatian economy. Banking sector is strongly capitalized and did not require any state financial aids from during the global recession. When the banks' loan structure by the sectors is analysed, it is clear that banks favour crediting households, especially in the bad times in which banks decreased loan volume of corporate sector in favour of households, thus indicating higher risks of this type of loans (table 2).

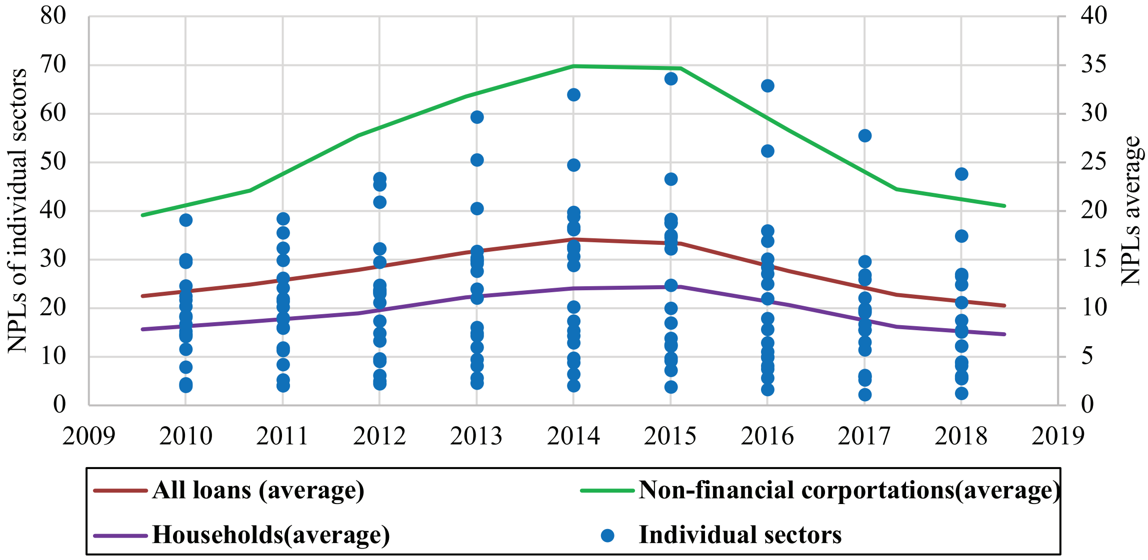
Table 2: *Banking sector indicators for the period*

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total assets*	345.1	370.1	378.4	91.1	406.9	399.9	397.9	395.2	393.4	388.7	391.3
Total loans*	222.1	252.7	261.1	274.9	291.7	283.9	286.9	279.9	275.4	261.2	245.9
Household loans**	50.6	49.8	46.8	46.2	43.9	44.5	43.1	43.7	43.7	43.4	46.6
Loans to non-financial corporations**	38.8	38.3	37.9	40.6	41.7	38.0	37.6	37.4	36.7	31.9	33.3
Total capital***	12.5	13.5	13.9	13.9	13.7	14.3	13.9	14.0	12.7	14.1	14.9

* Billions of Croatian kuna (official yearly average middle rate varied from minimum €1.00 = HRK7.306 to maximum €1.00 = HRK7.661)
** % of total loans
*** % of total assets

Source: Authors calculation from the Banks bulletin of the Croatian National Bank.

Figure 1: *Non-performing loans by sectors*



Data for 2018 refers to the end of the third quarter.
Source: Prepared from the statistics of the Croatian National Bank

This risk is more evident in the NPL levels of two sectors represented in figure 1. The ratio is much higher for the non-financial corporations than for households throughout the period and the difference in the NPL ratio between sectors is higher recently than at the beginning of the period. Corporate economic subsectors demonstrate diverging NPL ratios and trends. The subsector with the highest average NPL ratio is construction (52%), followed up by the information and communication (39%) and professional, scientific and technical activities (32%). The NPL ratio of all loans was increasing until 2014, reaching the maximum level of 17.1%, followed by an average 10% annual decrease onwards. Despite this positive trend, the NPL ratio is only 1% lower than it was in 2010, indicating certain structural and internal weaknesses of the Croatian economy. International comparison indicates that the national NPL ratio is one of the highest in the EU and CEE region (European Commission, 2018, 6; Raiffeisen Research, 2018, 17). Recent data indicate that, beside Croatia, only Albania had an NPL ratio higher than 10% in Central, East and Southeast Europe (Vienna Initiative, 2018, 3).

In respect of regional development, the counties in Croatia are divided into four groups according to the regional development index (Ministry of Regional Development and EU Funds, 2017a). The measurement takes into account six different variables: income per capita, income of local budget per capita, unemployment rate, population migration, education level and ageing index (Ministry of Regional Development and EU Funds, 2017b). Regarding Eastern Croatia, index shows that all five counties are in the second, lower part of the ranking process (4/5 counties are in the fourth, least developed group) and thus have a status of the supported counties based on the regulatory framework.

Additionally, although these counties comprise approximately 20% of either total Croatian population or land surface, their share in national gross value added is only 12%, further indicating industrial and economic underdevelopment of this region (Croatian Bureau of Statistics, 2018). Beside banking loan activity and structure, which was described earlier, this is certainly affecting loan quality of these counties and pointing out to the potential higher percentage of regional NPLs since they are usually highly affected by the macroeconomic and regional conditions.

4. Results

Before conducting ARDL method, all variables were tested for stationarity using Augmented Dickey-Fuller (ADF) test. Since most variables were not stationary at their original level, they were transformed using first difference. Three variables (CPI, IND and UNPL) were not stationary after this procedure and were omitted from the model.

Table 3: *Unit root test*

Variable	t-Statistic (First difference)	p-value
CAP	-4.607	0.001**
CPI	-2.245	0.197
EXPO	-2.880	0.064*
GDP	-4.177	0.003**
IND	-1.001	0.734
LOAN	-6.826	0.000**
NPL	-4.639	0.001**
REER	-2.888	0.063*
ROA	-5.409	0.000**
UNPL	-1.826	0.360

** and * - statistical significance of 1% and 10% respectively

Source: Authors' calculation

The results of the short and long run interactions are presented in table 4. In the long run, two variables are statistically significant: GDP and EXPO. The effect of the GDP on NPL ratio is intuitive and according to the literature, i.e. the increase of the GDP decreases the NPL level, while the export has a positive effect on the NPL ratio. The last macroeconomic variable, REER, is insignificant according to the model. Interestingly, all microeconomic variables are insignificant for the NPL ratio in the long run, indicating that macroeconomic variables are key determinants in the long run. The results of the bound testing (F-statistic:9.099) are higher than the retrospective upper bound critical value at the 1% significance level (4.430) showing cointegration and supporting long run relationship between dynamic regressors and NPL ratio in Croatia.

The Error Correction Regression indicates that the change in current and first lag of the capital ratio has a significant and negative effect on the NPL ratio. The loan volume has a negative impact on the dependent variable, although statistically significant only with its first lag. Therefore, in the short run, both the increase of the capital and loan volume tend to decrease the NPL ratio of Croatian banks. The Error correction term (cointegrating equation, $CointEq_{-1}$) is negative and highly significant, thus clearly indicating the existence of a long run relationship and additionally supporting the results of the F-bound test. Its value indicates a high speed of convergence to the long-run equilibrium, where nearly 66% of the past period disequilibrium is corrected in the current period.

Table 4: *Results of the ARDL model*

Method: ARDL				
Dependent variable: dNPL				
Dynamic regressors: dCAP, dEXPO, dGDP, dLOAN, dREER, dROA				
Model selection method: Akaike info criterion (AIC)				
Selected Model: ARDL (1,2,0,0,2,0,0)				
Long run form				
Variable	Coefficient	Std. Error	t-Statistic	p-Value
dCAP	-0.265	0.463	-0.571	0.576
dEXPO	0.484	0.231	2.098	0.052
dGDP	-4.776	2.587	-1.846	0.084
dLOAN	-0.995	0.703	-1.416	0.176
dREER	1.596	1.222	1.306	0.210
dROA	0.005	0.011	0.441	0.665
F-bounds test	F-statistic: 9.099 (k=6)			
	Significance	10%: I(0)= 2.120; I(1)= 3.230		
		5%: I(0)= 2.450; I(1)= 3.610		
		1%: I(0)= 3.150; I(1)= 4.430		
Error Correction Regression (ECM, Short run form)				
Variable	Coefficient	Std. Error	t-Statistic	p-Value
C	-0.965	0.554	-1.742	0,101
dCAP	-0.238	0.120	-1.990	0,064
$dCAP_{-1}$	-0.282	0.121	-2.340	0,033
dLOAN	-0.020	0.184	-0.109	0,915
$dLOAN_{-1}$	-1.202	0.184	-6.518	0,000
$CointEq_{-1}$	-0.659	0.070	-9.358	0,000
R-squared: 0.838; Adjusted R-squared: 0.801; S.E. of regression: 2.879; F-stat.: 2.279; Probability: 0.000; AIC: 5.140;DW stat.: 1.793				

*d before the variables denotes first difference.

Source: Authors' calculation

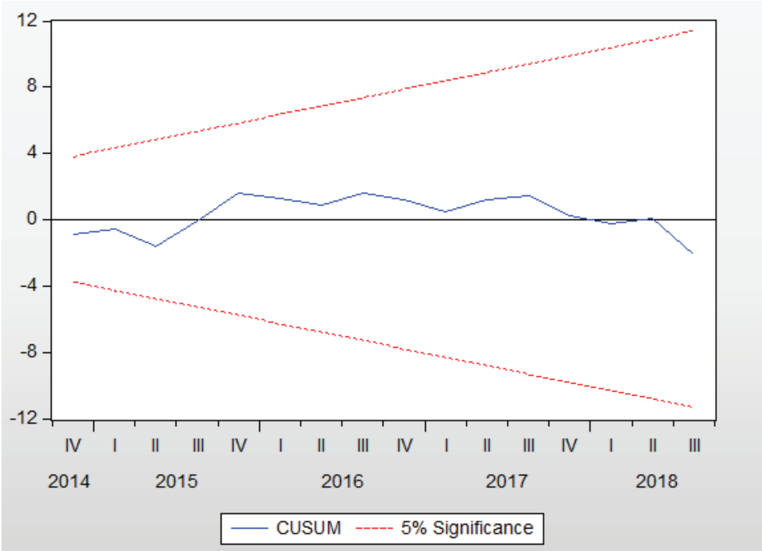
To ensure model stability, various stability diagnostics were conducted. The results, presented in table 5 and figure 2, indicate no serial correlation, homoscedasticity and overall stability of the model.

Table 5: *Model stability diagnostics*

Heteroskedasticity Test: Breusch-Pagan-Godfrey	
F-statistic: 1.354	Prob.F (11,16): 0.283
Serial Correlation LM Test: Brezsch-Godfrey	
F-stastic: 1.380	Prob.F (2,14): 0.284

Source: Authors' calculation

Figure 2: *CUSUM stability test*



Source: Authors' calculation

5. Discussion

The model results indicate importance of macroeconomic factors for the levels of the NPLs in Croatia, especially the GDP growth rate. These variables are significant in the long run, while in the short run, due to the optimal lag length of 0, they get absorbed by the long-run cointegrating equation. On the other hand, while microeconomic variables are insignificant in the long run, the capital ratio and loan volume are significant and with a negative effect on the NPL ratio in short run. This results are in accordance with the most literature and models in this area where macroeconomic factors are usually the most important variables affecting the NPL ratios. The higher growth of the GDP is strongly contributing to the deduction of NPLs, emphasizing the importance of wider economic performance on the banking sector efficiency. The impact of REER is insignificant and, despite high percentage of loans in or indexed to foreign currency, could be explained with the very high percentage of loans in euros whose exchange rate is very stable since it is a key policy of the national bank to aim price stability.

As mentioned earlier, the level of NPL ratio in Croatia started declining from 2014 and it is currently at the lowest level for the last 10 years. The improvement was certainly result of a better macroeconomic environment in recent years, but also a consequence of a CNB's regulatory decisions and sold loan claims by the banks. In 2013, CNB adopted decision and rule for the banks to gradually increase their value adjustments of the long term debtor's delinquencies (CNB, 2013, 6). Eventually, this lead to the increase of the coverage of B and C loan categories by value adjustment to the level of almost 60% in June 2018 (CNB, 2018). Mentioned regulatory framework intensified sell-off of non-performing loans with the 31 billion HRK of sold claims from 2010 onwards (CNB, 2018)

The recent improvements of loan quality could increase volume of bank loans in the near future and foster economic growth both on national and regional level. Due to the importance of banking intermediation, stronger level of entrepreneurship and industrial production is almost impossible without new placements. Although regional NPLs are not publicly available in Croatia, they are probably higher in the regions with lower than average GDP per capita or regional development index such as in the counties of Eastern Croatia. Therefore, the reduction of bad loans could have a potentially higher positive impact in Eastern Croatia attributing to the stability of business environment, more favourable loan arrangements and higher overall standard of life.

The obtained statistical model in this paper has certain limitations. One of the issues is the relatively short time period and data frequency which could affect the model accuracy and derived coefficients. Additionally, longer and different time frame could affect the optimal number of lags which is one of the biggest challenges for the ARDL model. Further researches in this area could focus on data at the level of individual banks, unlike whole banking system, which could enhance the analysis of bank specific factors or on the discrepancy of factors which impact the household and corporate loans in Croatia.

6. Conclusion

In the Republic Croatia, banks are their financial intermediation are key factor in ensuring adequate funds availability for the sustainable economic growth. In recent years, faced with the negative macroeconomic surrounding and rising NPL ratios, banks started decreasing their loan portfolio. The aim of this paper was to identify key factors affecting NPL ratio using ARDL model. The results indicate importance of the GDP growth in the long run and bank specific factors in the short run. Although Croatian National Bank and banks implemented certain measures which decrease NPL levels from 2014 onwards, the results of this paper point out the macroeconomic stability and progress as a key factor to lower levels of bad loans and better banks' performance which could enhance higher economic growth and standard in the underdeveloped Croatian regions such as Eastern Croatia.

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THE CORRELATION BETWEEN CASH MANAGEMENT AND COST MANAGEMENT

ABSTRACT

Cash and cost represent an essential element of each business. There is no business without cash and costs, therefore through the business management emphasis is placed on the cash management and the cost management. Starting from the fact that every activity cause the costs and that cost are impossible to avoid, the companies treat the costs as a negative business component which companies trying to reduce through the cost management. The old saying "cash is king", points the role and meaning of cash in the business. Cash represents the most significant assets of the company. The role of cash in the business is particularly pronounced in today's business conditions when access to cash is difficult and expensive. Cash managing has become a major challenge in business management and main tools for improving business performance. Cash management ensures liquidity and solvency of the company and avoiding bank loans and resulting financial cost. The cash gap presents cash management model for cash managing, which company trying to reduce. The cash gap reduction refers to the reduction difference in days between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. By cash gap reduction the companies trying to avoid expensive bank loans and additional financial cost. From this, it can be concluded that the companies with the shorter cash gap should have lower financial costs. Previous research explored the effectiveness of cash management through the impact on profitability and resulting indicators, they didn't explore the relationship between the cash gap and financial costs, so the aim of this research is determine correlation between cash management and cost management through the relation of cash gap and financial cost. The research was conducted on a sample of commercial companies which are the most represented sector in Croatia by using the statistics program SPSS.

Key words: *cash, cost, cash management, cost management*

1. The cash management

The old saying "cash is king" or "cash is life blood of the business" implicates cash as the most important current assets in the company. Cash comprises cash on hand and demand deposit. Cash equivalents are short term, highly liquid investment that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value (IAS 7, 1992). Cash flow is the life-blood of all growing businesses and is the primary indicator of business health. The effect of cash flow is real, immediate and, if mismanaged, totally unforgiving. Cash needs to be monitored, protected, controlled and put to work. (CIMA, 2004, 5). Today's business is marked by insolvency and expensive loans, so the cash management represents a fundamental activity which will ensure a business survival by managing the imbalances between cash inflows and cash outflows. Cash management is the art and increasingly the science of managing a company's short-term resources to sustain its ongoing activities, mobilize funds and optimize liquidity (Allman-Ward, Sagner, 2003, 2). The most important elements of cash management are:

- The efficient utilization of current assets and current liabilities of a firm throughout each phase of the business operating cycle.
- The systematic planning, monitoring and management of the company's collections, disbursements, and account balances.
- The gathering and management of information to effectively use available funds and identify risk.

Above mentioned implicate conclude that cash management is an imperative and major challenge in every business organization. Cash management is a part of treasury management, which is defined as a part of the main responsibilities of the central finance management team (Teigen, 2001, 23-24). By the treasury management, companies optimize their liquidity, improve solvency and reduce the financial risks. The effectiveness of cash management was explored by many researches, which confirmed the significant impact of cash management on business performance. The most researched area of the cash management impact is their impact on companies' profitability. In most studies were found a significant negative relationship between the cash gap and profitability. The significant negative relationship between cash gap and profitability explains by the fact that a shorter cash gap will generate more profit for a company (Lazaridis & Tryfonidis, 2006, 26-35). In addition, the companies with high profitability tend to have shorter cash gap than low profitability companies (Jose, Lancaster & Stevens, 1996, 33-46). In the modern corporation cash management involves two simple rules (Pandey, 2008):

- speed up cash collection (cash inflow)
- slow down cash disbursement (cash outflow).

By these simply rules companies improve liquidity and ability to answer on turbulent and dynamic market conditions. Implementation of a good cash management system will ensure better control of financial risks, increase the opportunity for profit, strengthen the company balance sheet, ensure increased confidence in the company and improve operational efficiency (Gallagher, 2002.). On another hand bad cash management result in loss of cash discount, loss of reputation due to non-payment of obligation on due dates and insolvency, which may result in operational shut down of the company (Tuller, 2008). Prior researches confirm that the main reason of business failure is cash flow problems what emphasis the significance of the cash management. The effectiveness of cash management can be measured by the cash gap. The cash gap presents a difference in days between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. Effective cash management trying to accelerate the cash inflows and slow down the cash outflows. On that way, they reduce the difference between cash collection and cash disbursement. By cash gap reduction the companies trying to avoid insolvency and possibly expensive bank loans which produce additional financial costs. For each day the cash gap is reduced, the daily interest cost saved flows through to profits (Boer, 1999). From this, it can be concluded that the fundamental purpose of cash management by reducing cash gap is to decrease the financial costs. So our intention is to explore if the companies with shorter cash gap have lower financial costs.

2. The cost management

Costs represent an unavoidable item of each activity, so the company has to find a way how to manage the costs, not to avoid them. 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 the investment of achieving the future benefits. (Belak, 2010, 50). Cost managing aims to have the maximum benefits of existing cost or achieve the goal with minimum cost. Cost managing by the cost accounting ensures the cost information's which are significant for business. Cost accounting collects and analyses the costs, assign the costs to activities and give cost information 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.

Focus on the costs and the cost managing helps the companies to improve their business. By the cost management, the companies have two directions, one to achieve as great benefit from the costs and another to reduce or avoid the costs. Nowadays are marked by the difficult and expensive bank loans, so the company by the cash management trying to ensure liquidity and solvency and avoid unnecessary borrowing and resulting financial costs. One of the most common questions today is ”How to reduce the costs and improve profitability?”. Because already exist studies which confirm improving profitability by the cash management, the intention is to explore the unexplored relationship between the cash management and cost reduction.

3. The correlation between cash management and cost management

Cash and cost are essential elements of each business, so through the business management emphasis is placed on the cash management and the cost management. The goal of cash management is to reduce the cash gap and ensure liquidity and solvency, while the goal of the cost management is to reduce unnecessary costs and together improve business profitability. So, to determine the correlation between cash management and cost management we research the possible relationship between cash gap and financial cost. The cash gap presents the difference in days between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. Cash gap was calculated by the following formula:

Cash Gap = Days in Inventory + Receivables Period – Payables Period

The Receivables Period represents the average number of days which customer needs for payments the invoices. The Days in Inventory represents the average number of days, which are required to sell the inventories. The Payables Period represents the average number of days to pay the suppliers of inventories.

The cash gap presents period which has to be financing by bank loans. The longer the cash gap period, the greater the likelihood it must be financed by bank loans, which adds financial costs and reduces company profitability. So, companies by cash management activities trying to reduce the cash gap. The companies using three directions of cash gap reduction:

- Decreasing the Days in Inventory,
- Decreasing the Receivables Period,
- Increasing the Payables Period.

The cash gap reduction refers to the reduction difference in days between the date when a company pays cash out for the inventory it purchases and the date it receives cash from customers for the same inventory. By cash gap reduction the companies trying to improve liquidity and solvency and on that way eliminate the unnecessary financial cost resulting from bank loans. From this, it can be concluded that the fundamental purpose of cash management is to ensure the liquidity and solvency by decreasing the cash gap period what should result in decreasing the financial costs. Therefore, the aim of the research is to determine the correlation between cash management and cost management through the relation of cash gap period and level of the financial cost.

4. Methodology and data description

The aim of this study was to explore if the cash gap has a significant influence on the financial cost. Research is done in statistic software STATA. The data was taken and calculated from the financial statements for 2016, which was collected from the page www.rgfi.hr. This study used only by large companies in the commercial sector of Croatia which covers almost completely Croatian market. The focus on large commercial companies arises from the availability of published financial information needed to conduct research because the large companies have the obligation to publish annual financial statements. Also, the focus only on commercial sector arises from their representation in the Croatian economy and because that different sector demands a different structure of cash flow and costs what can lead to different concludes. Descriptive statistic of dependent (Financial Cost) and independent variables (Customer receivables, Days in Inventory and Suppliers Payables) is shown in Table 1. As it can be seen from Table 1. the sample consists the 30 companies from commercial sector and average cash gap was 31,80 days.

Table 1: *Descriptive statistic*

Variable	Obs.	Mean	Std. Dev.	Min	Max
Financial cost	**30**	**40.408.305**	**142.777.123**	**790.585.000**	**1.385.000**
Customer Receivables	30	114.709.633	179.547.151	740.346.352	6.348.804
Days in Inventory	30	162.241.803	189.383.303	1.037.871.500	19.692.254
Suppliers Payables	30	292.782.574	516.393.741	2.670.039.000	5.628.840
GAP	**30**	**31,80**	**69,34**	**169,47**	**-102,02**

Source: authors' calculations

Using several independent variables can lead to a distorted and unrealistic assessment of contributions of individual independent variables when trying to explain the dependent variable. This problem resulting in high collinearity of two or more than two independent variables. Before the linear regression analysis, we explored the multicollinearity between the independent variables. An absolute value of the Pearson coefficient higher than 0.7 indicates a strong correlation between independent variables. As it can be seen from the Table 2. there is multicollinearity problem between independent variables Days in Inventory and Payables Period, but it is expected that the multicollinearity problem will arise between these two variables because inventories are closely related with the suppliers. Independent variables related on inventory (Days in Inventory) and on suppliers (Suppliers Payables) are crucial for calculating the cash gap so we can't exclude it from the analysis of the assumed correlation. Despite the observed multicollinearity problem, research was continued including the first-defined variables.

Table 2: *Correlation Matrix*

	Receivables Period	Days in Inventory	Payables period	GAP
Customer Receivables	1.0000			
Days in Inventory	0.3697	1.0000		
Suppliers Payables	0.6178	0.9076	1.0000	
GAP	-0.1790	-0.3108	-0.4865	1.0000

Source: authors' calculations

After examining the problem of multicollinearity between independent variables we tested is there a presence of heteroscedasticity. If the error terms do not have constant variance, they are heteroskedastic. If the heteroscedasticity is present, the standard errors are biased. This can lead to bias in test statistics and confidence intervals. To test the presence of heteroscedasticity Breusch-Pagan test for heteroscedasticity was fitted in research. Result of the Breusch-Pagan test is in Table 3.

Table 3: *Tests for heteroscedasticity*

Tests	chi2	p value
Breusch-Pagan	8,23	0,0041

Source: authors' calculations

Result of Breusch-Pagan test for heteroscedasticity showed that heteroscedasticity was present. Heteroscedasticity causes standard errors to be biased so robust standard errors in linear regression were used in research. Table 4. shows the result of linear regression analysis.

Table 4: *Linear regression analysis*

Linear regression					Observation	= 30
					F (4, 25)	= 17.09
					Prob > F	= 0.0000
					R-squared	= 0.8945
					Root MSE	= 50000
Financial_~t	Coef.	Robust Std. Err.	t	P > t	[95% Conf. Interval]	
GAP	**593081.7**	**171953.9**	**3.45**	**0.002**	**238936.1**	**947227.3**
Customer Receivables	-.3455403	.1204009	-2.87	0.008	-.5935107	-.0975699
Days in Inventory	-.1749175	.1227473	-1.43	0.167	-.4277203	.0778853
Suppliers Payables	.4171548	.0738769	5.65	0.000	.2650025	.5693071
cons	-3.260000	1.160000	-2.80	0.010	-5.65000	-8623048

Source: authors' calculations

Result of linear regression analysis shows the proportion of variance of the dependent variable interpreted by the model. The coefficient (R^2) is 0.8945, i.e. 89.45 % of the variance of the share of financial costs explained with the cash gap and contained variables. The coefficient (R^2) serves as a measure of representativeness of the model and the value indicates a highly representative model. Statistical significance of the model can be determined based on the p-values of the empirical F-ratios in Table 4. If the p-value of the empirical F-ratio is statistically significant, this leads to a conclusion that the independent variable significantly affects the dependent variable. More specifically, it can be said that the model is statistically significant. F-ratio of the tested models is less than 1%, and it can be argued that the model shown in equation 1 as a whole is statistically significant. The data in Table 4 show that the cash gap (independent variable) statistically significantly affects the financial costs (dependent variable) at the 1% level. Cash gap has a positive impact on financial cost [coef. 593081.7]. The cash gap is positively correlated with the financial costs and show if the cash gap increased by one day, the financial costs will rise for 593.081,70 kn. From Table 4. can be seen that the customer receivables and suppliers payables are also significantly affecting the financial costs at the 1% level. The customer receivables have a negative impact on financial cost [coef. -.3455403], what show if the customer receivables decreased for 1,00 kn, the financial costs will rise for 0,345 kn. This is obviously because of decreasing the sales, the company needs to find new sources of funds. The suppliers payables have a positive impact on financial cost [coef. .4171548], what show if the suppliers payables increased for 1,00 kn, the financial costs will rise for 0,417 kn. This is obviously because of increasing the suppliers obligations, the company need to find additional funds for payable.

5. Conclusion

Starting from the fact the higher level of financial costs has a negative impact on the business results the companies trying to decrease it. Nowadays business conditions are marked by expensive bank loans which implying significant financial costs, so the companies trying to find a better way to improve liquidity and solvency. If the companies want to reduce bank loans and resulting financial cost, they need to ensure liquidity and solvency. Cash management represents a tool for ensuring liquidity and solvency. By the cash management companies reduce the cash gap by decreasing receivables period, decreasing days in inventory and by increasing payables period. So we analyze the correlation between cash management and cost management. From this study, we find that the cash gap period significantly affects the financial costs at the 1% level. The results of this study suggest that cash management through cash gap reduction improve the business performance of commercial companies by decreasing the financial costs. So, our conclusion is that shorter cash gap period decreasing the financial costs. On the other hand, the longer cash gap period increasing the financial costs. From these points we conclude that commercial companies use cash gap as tools for impact on the cost structure and improving the business conditions. However, we recommend that future studies should investigate whether a significant relationship between cash gap and financial costs exists in the others business sectors.

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TRANSFORMATION INTO DIGITALLY ANALYTICAL CONTROLLING: CURRENT STATUS AND FUTURE AGENDA

ABSTRACT

Today's constantly and rapidly changing digital environment enables companies to use large amounts of data but also pressures them to target technologies and methods able to process them for effective and efficient decision-making. Because of the variety of data, the competitive advantage of companies is more than ever dependent on making right decisions upon data and information quality. Controlling, as one of the globally recognized functions which contributes not only to efficient decision-making but to the overall company's performance, is like many other functions facing the challenges that the new digital era is bringing. In order to be able to deliver adequate information related not only to past but predicted future, controllers need to embrace new digital techniques and methods. The purpose of this paper is to indicate the importance of the new digital age on the controllers' role as „business partner". This study is motivated by the so far infancy level of academic work examining the effects among digital technology and controlling. The aim of this paper is to explore relevant recent literature, to emphasise the importance of the impact that new technologies have and will have on controlling, and to shed light on this subject matter. Accordingly, a desk research methodology was used. Hence, this paper first defines the difference between four concepts to whose application researchers in the field of controlling are giving more attention in last years: Big Data, Business Intelligence (BI), Business Analytics (BA) and Business Intelligence and Analytics (BI&A). Further, a critical review on the so far emphasised relationship of the four concepts and controlling is given, along with related research among the field of information science. In the end, suggestions for future research are given through postulated research questions, as well the emphasised call for advanced multivariate methods use.

Key words: C*ontrolling, decision-making, Big Data, BI&A*

1. Introduction

Fast and constant market changes and associated risks have a significant impact on the process of making timely and quality management decisions. It is therefore of crucial importance that businesses, i.e. decision-makers dispose with detailed and transparent information that enable effective management. Although globalization and the fast-growing digital environment allow businesses to utilize large amounts of data, it simultaneously compels them to find appropriate functions, methods. and technologies that ensure their processing for efficient and effective decision-making. Thus, competitive advantage and survival of companies are more than ever dependent on making the right decisions upon high-quality data and information, whose validity is more and more questionable due to today's variety of data. Controlling, as a globally recognized function that contributes not only to the effectiveness of decision-making but also to overall business success, is responsible for providing adequate information to business decision makers. Hence, it represents an efficient contemporary performance management concept that, by analysing data and information from internal and external environments, gives management the "optimal output" i.e. report of conditions, risks and suggestions. Certainly, the ultimate effect on decision-making depends on various factors. First of all, the quality of data and information that controllers use as input variables within their analyses, their own characteristics and characteristics of managers, organisations, and environment. In conditions of the digital era, it also significantly depends on the level of application and adequacy of new intelligence and analytic technology solutions that secure quality in terms of relevance, analytics, accuracy, timeliness, and transparency. Thus, it can be said that the effectiveness of controlling, which is reflected in the quality of its output and the final impact on management decisions, is influenced by numerous factors. But when viewed from the standpoint of providing adequate information related not only to past but predicted future in today’s environment, controllers need to embrace digital techniques and methods in order to overcome the challenges that the new era brings.

Thus, the aim of this paper is to explore relevant recent literature that emphasise the importance of the impact that new technologies have and will have on controlling. Accordingly, a detailed desk research was applied to summarize the difference between four concepts of the digital era and to critically review on their so far emphasised relationship to controlling, along with suggestions for future research in terms of questions and statistical methods.

The paper is structured in five chapters. After the introduction, the second chapter defines the difference between four concepts of the digital era: Big Data, Business Intelligence (BI), Business Analytics (BA) and Business Intelligence and Analytics (BI&A). Third chapter presents the literature review of so far emphasised relationship of the four concepts and controlling, while chapter four forms suggestions for future research. Sixth chapter presents concluding remarks.

2. Big Data, BI, BA, and BI&A

Controlling is like many other functions facing the challenges that the digital era is bringing. In order to understand the impact on the controller’s role, a definition distinguishing between the concepts of the digital era associated with controlling, is firstly necessary. Those concepts to whose application researchers in the field of controlling are giving more attention in last years are: Big Data, BI, BA, and BI&A.

Big Data can be described as a large pool of data (Manyika et al., 2011) that consists of volumes of differently unstructured, structured and semi-structured data (Giri & Lone, 2014). According to Gärtner and Hiebl (2018, p. 3) “big data refers to the generation, storage, processing, verification and analysis of large, highly versatile and quickly growing volumes of data with the objective of creating valuable information”. Warren, Moffitt, and Byrnes

(2015) define Big Data as a set of data so large and unstructured that no system or software program is able to easily process and analyse them. On the other, Hansen and Porter (2017) describes it as a tool that brings together separate flows of data from all over the world, while Appelbaum, Kogan, Vasarhelyi, and Yan (2017) see it as a combination of internal and external data gathering through the enterprise system for the purpose of decision-making. Although there is no unique definition of Big Data, it is mostly characterized using three or five Vs: volume, velocity, and variety (Brynjolfsson & McAfee, 2012), i.e. veracity and value (Ishwarappa & Anuradha, 2015). Some authors even highlight additional Vs like validity, variability, venue or vocabulary (in Gärtner & Hiebl, 2018).

BI was first described by Howard Dresner in 1989, as a set of methodologies and concepts designed to improve decision-making through the use of facts and fact-based systems (Chou, Tripuramallu, & Chou, 2005). Today, it is considered as an important Big Data technology. It represents an application software foremost designed to analyse, report and present data that have previously been stored in a data warehouse (Manyika et al., 2011). According to Williams and Williams (2007), BI is a combination of products, methods, and technologies that ensure key information for managing and improving companies profit and overall performance. As such, BI transforms raw data into meaningful and useful information for effective strategic, tactical and operational insights and decision-making (Evelson, 2008), information into knowledge, and knowledge into plans (Loshin, 2002). In the late 2000s, BA was introduced as the analytical component in BI (Chen, Chiang, & Storey, 2012). Davenport and Harris (2007) defined BA as "the use of data, information technology, statistical analysis, quantitative methods, and mathematical or computer-based models to help managers gain improved insight about their operations, and make better, fact-based decisions" (Appelbaum et al., 2017).

Because of the little diversity, it is important to distinguish and understand the difference between the BI and BA concept. Maisel and Cokins (2014) emphasis that BA simplifies data to amplify its value, while BI mainly summarizes historical data through tables, graphs, and reports. More precisely, BI consumes stored information and answers basic questions, while BA produces new information, creates questions and has the power to answer them. Additionally, as stated by Richards, Yeoh, Chong, and Popovič (2017), while BI systems can serve as a method to reduce uncertainty by delivering large amounts of information, BA methods, such as data-mining, can discover meaningful patterns among large volumes of data and thus reduce ambiguity. Galetto (2016) describes the difference between BI and BA as following: BI can be treated as the first step in decision-making i.e. the process of data collecting, while BA represents the analysis of the answers that have been provided by BI. Hence, while BI answers only to the question of what happened, BA has the ability to answer why it happened and to predict if it will happen again. In sense of techniques BI "includes reporting, automated monitoring and alerting, dashboards, scorecards, and ad hoc query, BA, in contrast, includes statistical and quantitative analysis, data mining, predictive modelling, and multivariate testing" (Galetto, 2016). If combining this understanding of the two concepts with the classification of business analytics on descriptive, predictive and prescriptive (Appelbaum et al., 2017; Nielsen, 2018), and questions given by Maisel and Cokins (2014), BI and BA would understand following:

- BI - Descriptive analytics = what happened, how many times, how often, where is the problem, and what actions are needed?
- BA - Predictive + Prescriptive analytics = why is this happening, what if these trends continue + what will happen next?

However, according to Côrte-real, Ruivo and Oliveira (2014) today the terms BI and BA are unified into one concept due to their complementary. That concept is BI&A and represents all the positive attributes of both BI and BA. It is defined as "the techniques, technologies, systems, practices, methodologies, and applications that analyse critical business data to help an enterprise better understand its business and market and make timely business decisions" (Chen et al., 2012). Due to today's environment, it is no doubt that efficient and effective decisions can only be made upon the use of descriptive, predictive and prescriptive analytics. Therefore, it is important to analyse the application and implication of these concepts in and on the department of controlling.

3. The impact of digitization on controlling – literature review

Globally, there is numerous research regarding the controlling function i.e. their connection to firm performance, decision-making, change in tasks and instruments, enterprise resource planning and management accounting information systems applications, etc. However, the connection, benefits, and challenges of controlling to the concepts of digitalization, are still unclear and empirically in an infant stage.

The latest research on the level of BI implementation in Croatian firms was conducted by Bilandžić and Lucić (2018). According to their finding, the application of BI is very low. Precisely, only 24% (of 74 participants) confirmed the use of BI tools. Although the author's criticized the level of application, considering that the survey was addressed to the company in general, not to a specific department, the question is if this result can be directly pointed to the controlling department. From a practical point, controllers can use BI i.e. BI&A techniques on their own hand. For example, they can use the free Power BI function of Excel. Therefore, it cannot be generally emphasised that the use of BI systems is low in controlling departments across Croatia companies. Hence, this matter should be investigated for each company function separately.

It is well known that the effectiveness of decision-making depends on the reliability of data. According to Baier et al. (2019) survey research on BI trends conducted in the name of Business Application Research Center in 2018 among separate BI organisations and IT, finance and controlling departments, the most important characteristics of BI are data quality, data discovery/visualization, and self-service options. Hence, BI tools are used to visualize analyses for decision-making but on the other hand, they can also be a tool of recognizing the quality of data used in the analyses. As such they represent a powerful and unavoidable tool for controlling. Accordingly, as BI should secure data for efficient decision-making, a direct connection of its use in controlling is clear (Haufe, 2018). Therefore, Appelbaum et al. (2017) give an overview of BI functionalities for the support of controlling.

***Table 1:** BI functions to support controlling*

Categories	Function
Data consolidation	• *Integration of internal and external data* • *Simplified extraction, transformation, and loading of data* • *Deletion of unwanted and unrelated data*
Data quality reporting	• *Sanitize and prepare data to improve overall accuracy* • *User defined and standard reports generated at any level* • *Personalized reports for any level of management*
Forecasting and modelling	• *Supports analytics used in predictive and prescriptive analytics which use historical and real-time data, qualitative or quantitative*
Tracking of real-time data	• *Monitor current progress with defined project objectives/KPIs* • *Prioritize scarce system resources*
Data visualization	• *Interactive reports and graphics, possibly with real time updates* • *Scorecards and dashboards*
Data analysis	• *What-if analysis* • *Sensitivity/optimization analysis* • *Goal seeking/goal supporting analysis* • *Descriptive analysis*
Mobility Rapid insight	• *Portability to multiple devices and formats* • *Drill down features that enable many layers of analysis* • *Dashboards that are interactive and that can monitor trends and outcomes*
Report delivery and Share-ability	• *Deliver reports in common formats such as Microsoft Office* • *E-mail reports in different formats*
Ready to use applications	• *Pre-built meta-data with mappings defined considering performance and security needs* • *Pre-built reports, dashboards to support management*
Language support	• *Multiple language support*

Source: Appelbaum *et al.* (2017)

Daryabari (2018, p. 85) also supports the relationship between BI and controlling. Moreover, he calls it “clear” and “important”, and attributes it to the fact that BI “is seen in many organisation plans, and better data analysis and decision making can create value for organisations.” Although, there is not lot empirical research on the relationship between controlling and BI, nor BA and BI&A, the one of Gullkvist (2013) stands out. Even though BI was used as a control variable to the final dependent variable i.e. changes in controlling practices, and as an antecedent to three independent variables (data quality, information quality, and tasks), the significant impact on controller practice change has been confirmed. Hence, data quality and information quality were positively correlated to business effectiveness and consequently to the change of controlling practice, under the assumption that BI influences the data quality and controller’s tasks, but not information quality. This can be interpreted through the fact that it is the controller’s task to transform data into usable information by using BI&A tools. Or as Gärtner and Hiebl (2018, p. 11) interpreted Quattrone (2016), „there is still a need for human ‘wisdom’ to critically question the relevance of the gathered data and information“.

There is no doubt that BI is a crucial tool for efficient decision support. But in today's increasingly changing environment, advanced analytical methods and models are necessarily required for the prediction of future events and risk reduction. Hence, the descriptive view of performance measuring is shifting to predictive and prescriptive. Along with that, controlling needs to accept those charges and adapt. In other words, controllers need to improve their skills and competencies in accordance with the BA techniques (Cokins, 2013; Nielsen, 2018; Seufert & Treitz, 2017). As classified by Appelbaum et al. (2017), controllers should use the combination of five categories of analytical techniques: 1) basic accounting analysis, 2) unsupervised, 3) supervised, 4) regressions and 5) other statistics like structural models, Monte Carlo simulations, Analytical Hierarchy Processes, etc. Hence, while the first and second categories include techniques that cover the descriptive orientation of controllers, the rest can also be used for predictive and prescriptive oriented analytics. Therefore, it can be emphasised that for the future role of controllers, BA might be more important that BI due to its ability to overcome more complex and ambiguous decision-making conditions (Richards et al., 2017). Or more correctly, controllers need to use BI&A as the combination of all the BI and BA techniques.

The newest and least investigated concept in general and in connection to controlling is Big Data. As stated by Gärtner and Hiebl (2018, p. 2): "Big Data currently poses one of the greatest challenges for management accounting" i.e. controlling. Also, they emphasise that Big Data can no longer be understood as a completely new trend. It is a topic that affects controlling now. Therefore, controllers need to take advantage of the benefits that it created but also be aware of the additional demands that it sets in front of them. Accordingly, they gave an overview of reference selected, most important opportunities and challenges of Big Data for controlling through three broad phases selected due to the existing definitions of both, controlling and Big Data (Gärtner & Hiebl, 2018).

Table 2: *Opportunities and challenges of Big Data for controlling*

Phase	Opportunities	Challenges
1) Data generation and storage	• *integration of new data channels, unstructured data* • *automatic generation of data* • *cost savings* • *increasing value of data*	• *large volumes of data* • *information overload and data veracity* • *lack of resources*
2) Data processing, verification, and analysis	• *time savings* • *availability of data in real-time* • *automatization of data analysis and processing*	• *necessity of new technologies* • *loss of data sovereignty* • *automatization of data analysis and processing*
3) Reporting and decision support	• *improved decision support for top management* • *improved operational planning* • *improved strategic planning*	• *changing cost structures* • *making false decisions faster*

Source: Gärtner and Hiebl (2018)

In addition to the mentioned opportunities and challenges, the automatization and information system expert i.e. data scientist can be seen as a direct threat to controlling (Al-Htaybat & Alberti-Alhtaybat, 2017; Gärtner & Hiebl, 2018; Ossimitz, Wieder, Chapman, & Thirathon, 2017). But, as noted by Brynjolfsson and McAfee (2012), although the best data scientists are comfortable speakers of the business language, people with all the skills are difficult to find. Therefore, controllers need to keep up with the demands set by the digital age - proactive learn and adopt new techniques and methods. They need to be able to predict further outcomes and to give the decision-makers the best output of risks. In order to do that, they need to be engaged in analytics. According to Peppard, professor of European School of Management and Technology in Berlin, controllers across many sectors are already engaged in analytics (CGMA, 2016). But, for the efficient use of analytical tools which enable easy spotting of statistical patterns, trends, and relationships, and whose application consequently leads to actions that generate value, controllers need to be able to understand the causes behind those patterns (Lycett, 2013). Accordingly, Sharma, Mithas, and Kankanhalli (2014), emphasis that the first-order effects of BA are likely to be on decision-making processes and that the outcome, enabled by BA, is the improvement of organisational performance. Nevertheless, as stated by Côrte-real et al., (2014, p. 172) "in the era of Big Data, BI&A can help to improve organisational performance as a result of improvement on business decision making". Simply said, we can see Big Data as a data source and BI&A as tools for advanced analysing and reporting of data and information. All combined used for the purpose of efficient data collection, analysis and consequently effective business decisions.

Certainly, most research upon the influence of the four digital concepts is made in the field of information science. As such, they need to be taken into account when investigating the current and future role of controlling in decision-making and its transformation into a digitally oriented analytical function. Richards et al. (2017) argued that BI and BA system effectiveness influences planning and measurement which in turn has an impact on organisational process effectiveness. Although a strong relationship between BI system implementation effectiveness and BA effectiveness has been proven, the impact of BA on process effectiveness has not been shown as significant as the impact of BI. Hence, the authors suggest the use of the competence of staff using BI tools as an additional variable for better linkage exploration. Further, the study of Cao, Duan, and Li (2015) confirmed that the frequent use of BA mediated through a data-driven environment leads to the development of information processing capability, which in turn has a major impact on organisational decision-making. Thereby, they define information processing capability as the organisations capacity to "capture, integrate, and analyse data and information, and use the insights gained from data and information in the context of organisational decision making" (Cao et al., 2015 p. 385). Accordingly, by comparing this definition with the main task of controlling, it can be assumed that controlling can significantly influence the decision-making process through the use of BA. Thirathon, Wieder, Matolcsy, and Ossimitz (2017) confirmed that Big Data Analytics sophistication leads to more analytic-based decisions of managers i.e. that better interaction skills of analysts and managers'quantitative skills have a positive effect on analytic-based decision-making (Thirathon, Wieder, & Ossimitz, 2018).

We need to be aware that Big Data and BI&A bring a lot of advantages for many functions, but also risks if not responsibly and adequately handled. According to the thinking of Quattrone (2016, p. 120) Big Data will have a negative influence on decision-making i.e. "it will make people take wrong decisions much more quickly than before". Therefore, despite all the advantages that digital intelligence and analytics bring, controllers need to be sure that they make their analysis upon quality data, no matter where they collected them. Additionally, they need to have adequate techniques that will ensure them a quality analysis and decision suggestions towards the management. In line with the statements from previous researchers that would be the BI&A and Big Data (Appelbaum et al., 2017; Baier et al., 2019; Gullkvist, 2013; Rikhardsson & Yigitbasioglu, 2018). Hence, they contribute to controlling tasks through an efficient generation and analysis of appropriate and usable data and information to support their primary task – creating outputs i.e. reports for decision-making purposes.

4. Future research

Managers are those who set goals, make decisions and consequently direct the future of an organisation. Controlling on the other provides information about the future and as a co-responsive function i.e. "business partner" (Weber & Schäffer, 2014) helps managers in achieving best results. Accordingly, the decision-making function can be seen as the most important of controlling, especially in today's rapidly changing environment where decisions are expected to be made quality and ad-hoc upon available structured and unstructured data. Thus, controllers need to be aware and embrace their business analyst role of prediction and prescription through the application of appropriate digital technologies. Furthermore, research upon the controllers' influence on decision-making through skills and knowledge upgrade and degree of BI&A and Big Data application, are of crucial importance. Given the theoretical background and previous research finding, a set of research questions are postulated for future research in the field of controlling.

Table 3: *Postulated research questions for future research in the field controlling*

Themes	Postulated research questions
Data gathering.	• *What techniques are currently used and which should be used in terms of internal and external data gathering? Which enable best data quality and integrity for particular controller's analysis?* • *Which sources of Big Data secure the best outputs i.e. analysis and reports in controlling?* • *What new skills and competencies do controllers need to acquire in order to be able to gather quality data?*
Data analysis, reporting and decision-making support.	• *Does the use of BI&A influence data quality and integrity, as well as output quality of controlling? If yes, on what BI&A maturity level?* • *Does the long-time use of BI&A change the controlling practice?* • *What level of education and work life experience enables controllers to efficiently use BI&A, and does it affect the quality of their outputs?* • *What descriptive, predictive and prescriptive techniques controllers currently use and which do they need to apply in the future? How will their use impact the quality of the controller's outputs i.e. decision-making?* • *What is the optimal combination of controllers operational and strategic instruments (i.e. Balanced Scorecard, ABC costing, Target costing, Benchmarking, etc.) and business analytical techniques (i.e. statistical and econometrics)?* • *What other futures influence the quality of controllers outputs i.e. lead to more analytics-based decisions?*
Controller's tasks and cooperation.	• *With whom controllers need to cooperate in order to secure appropriate and quality input data?* • *To whom should the external data gathering be assigned to and in what extent?* • *Should controllers be afraid of the data scientist? Should they adopt their specific knowledge and to what extent?* • *What other organisational functions could have a significant impact on the controller's role in the future?*

In order to give answers to these questions and those posted recently by other researchers (Gärtner & Hiebl, 2018; Rikhardsson & Yigitbasioglu, 2018, etc.), different statistical models can be used. But, in line with recent literature, the use of Partial Least Squares Structural Equation Modelling (PLS-SEM) is suggested. PLS-SEM is a multivariate statistical modeling technique whose application has grown exponentially in the past few years, especially in marketing, strategic management, and management information systems (Hair, Hult, Ringle, & Sarstedt, 2017). However, its application in the field of controlling, despite all advantages, lags behind (Smith & Langfield-Smith, 2004), but is also recently significantly encouraged (Nitzl, 2018). Nitzl (2018) points following advantages of its use in controlling research: 1) suitable for fields where the theoretical bases are often weak and relied upon other theories, 2) allows to estimate not only reflective but also formative constructs, 3) allows easy integration of archival data, 4) allows the use of small sample sizes, and 5) allows estimation of very complex model with many constructs and indicators by maximize the explanation of one or more dependent variables. Accordingly, it is just the matter of time before the academic and scientific community, as well as controllers become aware of the potential that this method can bring in practice and theory (Nitzl, 2018). Therefore, it is important to further shed light on the use of this method, both in controlling and other similar disciplines.

5. Conclusion

The primary task of the controllers as co-holders of responsibility has and will always be to provide quality outputs i.e. analysis and reports, to managers for timely and accurate decision-making. However, today's dynamic environmental changes, and thus fast-growing technical and digital evolution call into question the future efficiency of the controllers' task fulfillment. Hence, it puts an ultimatum on its further development and survival as a function and profession. Therefore, controllers need to embrace the new concepts of digitalization in order to further deliver adequate information to decision-makers related not only to past but predicted future. They need to embrace the opportunities given by Big Data and BI&A, and accordingly upgrade their skills in term of predictiveness and prescriptiveness. Only by embracing solutions of new technologies controlling can overcome the challenges that the digital era has brought upon many organisational functions. Thus, controllers today need to be more than just analysts. They need to be able to recognize and generate key input data from "enormous piles of data", analyse them, interpret and propose solutions through real-time vitalization outputs, in ways that support strategic – future-oriented decisions. Concludingly, controlling needs to accept its transformation into a digitally analytical, prescriptive oriented decision-making function.

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THE NEW MONETARY POLICY TOOLKIT OF THE BANK OF ENGLAND IN RESPONSE TO THE GLOBAL FINANCIAL CRISIS AND THE EURO AREA DEBT CRISIS

ABSTRACT

In response to the intensification of the financial crisis in autumn 2008, the Bank of England (BoE), together with other world's leading central banks, has loosened its monetary policy using conventional and unconventional policy measures. In the United Kingdom, the primary element of unconventional monetary measures is the policy of asset purchase funded by central bank money or the so-called quantitative easing (QE). The main purpose of the paper is to analyse the new toolkit of monetary policy measures implemented by the BoE to combat the global financial crisis and the Euro area debt crisis. The methodology of the paper consists of theoretical and methodological study, comparative analysis, descriptive analysis, empirical study and critical analysis.
The study reveals that the BoE's QE programs lead to a decline in the British-government bond yields, to emergence of portfolio balancing effects, and to a rise in the volume of corporate bond and share issues. These measures are considered as very helpful in protecting the UK economy from collapse and deflation as a result of the Great Recession. While the Funding for Lending Scheme (FLS) contributes to a reduction in bank financing costs and to improved lending conditions for businesses and households, the QE program leads to reduced issuing costs in the capital markets. According to BoE's Governor, the set of monetary policy instruments and measures helps the country not to recede after Brexit. In an environment of high uncertainty around Brexit, in the short run the BoE is able to provide substantial support, but in the long run the country's economic development will depend mostly on the state of trade, competitiveness and productivity.

Key words: *Quantitative easing, Monetary policy, Bank of England, Unconventional measures, Brexit*

JEL Classification: *E52, E58, F30, G15; F42*

1. Introduction

Prior to the outbreak of the global financial crisis, the central banks of developed countries conduct traditional (conventional) monetary policy in a relatively predictable and systematic manner, and transmission mechanisms are widely known. As a key monetary policy instrument, central banks typically use the short-term interest rate and, to a large extent, the monetary aggregates and the exchange rate are left to adjust freely.

The course, strategy and instruments of the monetary policy of the developed countries' central banks are fundamentally altered in response to the global financial crisis. To combat the financial turmoil and the Great Recession, the world's leading economies take unconventional monetary policy measures, namely: first, maintaining key interest rates at levels close to zero and even below zero; secondly, taking actions to actively manage agents' expectations (so-called 'policy for future guidance'); third, expanding central bank balances by purchasing long-term government bonds and risky assets; and fourthly, introducing schemes to facilitate and promote bank lending (Lambert and Ueda, 2014, 3).

When short-term interest rates reach an effective lower bound, it is not possible for the central bank to provide further incentives to the economy by lowering the interest rate. In this case, a possible way to provide monetary stimulus to the economy is through quantitative easing (QE), such as the central banks' asset purchase programs. In recent years, the central banks of the world's leading economies have shown in practice that the term "zero lower bound", i.e. the impossibility of the nominal interest rates to become negative, is a limit only in the imagination of conventional economists (Stiglitz, 2016).

This study is focused on the new course of the BoE's monetary policy in response to the global financial crisis and the Euro area debt crisis, and, in particular, on the introduction of unconventional monetary policy measures. Such unconventional measures are the QE policy and the Funding for Lending Scheme (FLS), the actions taken by the BoE against distorted financial markets such as the purchase of corporate assets, the extended liquidity support policy through long-term repo operations, Discount Window Facility (DWF) and Special Liquidity Scheme (SLS).

The main objective of the article is to analyse the changes that occur in the operational framework of the BoE's monetary policy as a result of the global financial crisis and the Euro area debt crisis. This objective is decomposed into the following two main research tasks: 1) To briefly outline the objective of the BoE's monetary policy; 2) To explore the new toolkit of the BoE's monetary policy instruments in response to the global financial crisis and the Euro area debt crisis. This means to trace the peculiarities of the open market operations of the BoE, including the facilities for lending and swap transactions with foreign central banks, QE program, liquidity facilities, policy of lowering interest rates and reserve accounts. Finally, the article ends with a summary of the results of the study.

2. Objective of the BoE's monetary policy

The primary objective of BoE's monetary policy is to provide price stability over the medium term. According to the Bank of England Act of 1998, the BoE is independent in setting interest rates. The government has defined price stability by setting an inflation rate of 2%. This level represents a central bank monetary policy target, but there is practically a fluctuation band of ± 1% around the target level. The inflation target is expressed by the annual rate of inflation, measured as a 12-month increase in the consumer price index (CPI) in the UK (BoE, 2016, 1). However, the aim is not to achieve the lowest possible inflation rate. Inflation below 2% is considered as negative as inflation over the target. Therefore, the

inflation target is symmetrical. The inflation target is announced annually by the Chancellor of the Exchequer.
The 2% target does not mean that inflation will be maintained at this level constantly. This is neither possible nor desirable. In case of deviation of 1 percentage point of the inflation target in any direction (i.e., if the annual rate of inflation, as measured by the CPI is above 3%, or less than 1%), the BoE is required to disclose how will drive the inflation rate within the border. This interval gives some volatility of inflation and reduces the variation of short-term interest rates. The margin also reduces the scope of the so-called "inflation surprises". Since the central bank is unlikely to achieve a targeted inflation target while the economy is subject to various shocks, the choice of the BoE is correct and allows for the public confidence in the institution.
The operative tool preferred by the BoE to pursue an inflation targeting strategy is the short-term interest rate. This is the official interest rate, also known as the "Bank rate". Consequently, the monetary policy in Britain operates through the price at which the loans are granted – the interest rate. The BoE's Monetary Policy Committee (MPC) believes that the official interest rate can achieve the inflation target. A key condition for the effectiveness of monetary policy is its transparency and accountability. Monetary policy plays a crucial role in supporting the economy, with the UK government fulfilling its commitment to fiscal consolidation. The Financial Policy Committee, together with the MPC takes the necessary steps to enhance coordination between monetary and macro-prudential policies (BoE, 2016, 2).

3. BoE's monetary policy instruments in response to the global financial crisis and the Euro area debt crisis

As of March 2009, the implementation of the BoE's monetary policy includes two main elements: (a) maintaining short-term market interest rates in line with the base rate (i.e. the Bank rate); (b) purchases of assets funded by the creation of reserves at the central bank in accordance with the QE decisions of the MPC. These instruments are actively implemented together with the liquidity facilities and open market operations of the BoE.

3.1. Open market operations

The BoE's instruments have been preserved over the long years of the central bank's operation, with more significant changes being observed following the outbreak of the global financial crisis. Before the middle of the 1990s, BoE's open market operations (OMOs) were conducted almost entirely in the form of outright purchases and sales of securities (Tootell, 2002, 63). The repo market was too small to conduct the monetary policy of the central bank. Since the introduction of the OMOs, the assets accepted by the BoE for those operations have been mainly in the form of short-term Treasury bills.
The BoE is in a position to pursue monetary policy as there is a demand for its monetary obligations – "central bank money". This money is the only settlement asset in the UK economy. It takes two forms: firstly, banknotes and coins in circulation (cash), and secondly balances of commercial banks with the BoE (i.e. bank reserves). Reserves are a risk-free asset with undeniable liquidity. As households use banknotes and coins as a means of payment, the reserves are used by banks to settle their interbank payments and as a buffer to absorb unexpected shocks in payment flows.
The main purpose of the BoE's sterling open market operations is to conduct its monetary policy by stabilizing short-term interest rates in line with the key interest rate (official Bank

rate) set by the MPC. The BoE's key interest rate is determined each month with the purpose to ensure not only that the overnight interest rate is in line with the base rate, but also that these interest rates are expected to be maintained until the next monetary policy decision of the MPC. Market interest rates with maturity over that period are short-term, but may include a credit risk, liquidity risk and uncertainty premium. The cost of these risks is not an object to which the BoE seeks to directly influence through its open market operations.

In fulfilling its objectives, the BoE needs to ensure that the day-to-day banking system needs of overnight liquidity are met, both under normal conditions and under stress (crisis). Therefore, the BoE's framework of the OMOs is built in such a way as to adapt the sterling flows between the central bank and the banking system to the factors that are not directly related to the monetary policy framework, such as: fluctuations in bank reserves during different periods of year or the resulting changes from the central bank's activity; tangible changes in the demand for bank reserves in the event of a turbulence in the financial system; a collapse of the money market infrastructure, and so on. If the framework does not cover the wide range of circumstances that can lead to changes in bank reserves, not only the stability of the financial system can be jeopardized, but also the volatility of overnight interest rates will increase significantly. Thus, the objectives of the BoE's OMOs in terms of monetary policy and financial stability are closely linked. In response to the market turbulence prevailing after the summer of 2007, the BoE, together with other leading central banks, has taken additional measures to secure funding and hence to increase the confidence in the banking system.

The OMOs conducted by the BoE have two objectives stemming from the responsibility of the central bank to maintain financial stability: 1) Implementing the monetary policy by maintaining the overnight money market interest rates in line with the base interest rate (i.e. the interest rate of the BoE), so that the risk-free money market yield curve is flat until the next MPC meeting, and there is a very low intraday volatility of market interest rates for maturities longer than this horizon; 2) Reducing the cost of possible liquidity shortages and collapse of the payment services offered by commercial banks. With this aim the BoE balances the liquidity provision and the cost of creating incentives for banks to take greater risks.

The liquidity-providing operations conducted by the BoE in the open market are short-term (one-week), conducted once a week and are mainly in the form of loans (repo operations and swaps) and less in the form of final purchases of securities. The reason is that the final purchases are permanent transactions and as such they transfer financial risk to the BoE. The securities with which BoE performs its OMOs are of very high credit quality and liquidity. In view of the objectives of the BoE to protect the integrity of its balance sheet and under normal circumstances to have neutral effects on the relative asset prices, its liquidity-providing operations are primarily repo and swap transactions. Through appropriate valuation, using repo operations (and swaps), the central bank is able to leave the financial risk to its counterparties.

Traditionally, the BoE performs regular 3-month repo operations by conducting auctions. In the years before the reform of the OMOs in 2006, the central bank conducted the introduction of OMOs through fixed rate tenders. In this way, the BoE offers a fixed amount reserves at fixed price (i.e. at the rate of interest) or offers to withdraw a fixed amount of reserves at the same fixed price. The amount is determined endogenously by banks' targets for reserves in the light of expectations for the success of the central bank in stabilizing overnight interest rates in line with the base interest rate. These reserve targets determine the amount of reserves that the BoE needs to offer to inject in (or withdraw from) the banking system through each OMO, so that supply meets demand. In this way, the OMOs where the BoE lend money to its counterparties against collateral are the key way in which it ensures that the banking system as a whole is provided with sufficient reserves so banks can achieve their reserve targets. This is a prerequisite for meeting the target of the BoE to maintain overnight interest rates close to its key interest rate.

Since December 2007, and especially since September 2008, as a result of the outbreak of the global financial crisis, the BoE has been introducing changes to its regular repo operations by increasing their volumes and prolonging their maturity. The central bank increases the size and frequency of its 3-month repo operations. The BoE also starts long-term repo operations each month, crediting banks with 3, 6, 9 and 12-month maturity. Long-term repo transactions are not carried out at the BoE's official rate, but at market interest rates established at variable rate tenders.

The BoE also expands the set of assets that are eligible as collateral for repo operations. It also includes collateral in the form of residential mortgage-backed securities. The extension of the collateral framework for 3-month repo operations is in the direction of including certain types of unsupported high-quality securities. In this way, the BoE assists commercial banks in financing assets that have suddenly become illiquid.

In contrast, in the years before the crisis, only high-quality sovereign or supranational securities were accepted as collateral for long-term repo operations. In other words, long-term repo operations and short-term OMOs of the BoE are made using the same collateral as well as with the same counterparties. Only maturities and the frequency of operations are different. As established in recent years, the long-term repo operations of the BoE may contribute to its second goal – to reduce the economic costs of disrupting the provision of liquidity to the banking system and payment services.

Since December 2007, as part of a coordinated action with several foreign central banks, the BoE has increased the volume of its long-term repo operations and, since September 2008, its frequency. By altering the composition of open-market lending from 1-week maturity to 12-month maturity, the BoE is helping commercial banks to face acute market turmoil. With the stabilization of the financial markets, the central bank is expected to reduce the amount of its long-term repo operations.

In October 2008, the BoE introduced the so-called "Discount Window Facility" (DWF) to provide liquidity to the banking system. This facility is bilateral, used on demand, has a permanent effect, and is part of the BoE's framework for its money market operations in sterling. Participants in this facility are commercial banks, building societies, investment firms (primary dealers) and central counterparties that experience specific or market shocks. Under this facility, the participants can borrow Treasury bonds of the British government (the so-called "gilts") against a wide range of assets accepted for collateral at prices reflecting the type of collateral; the amount of the loan. Consequently, lending on this facility takes the form of a collateral swap where the BoE credits government debt against eligible collateral. The BoE may also agree to credit cash in sterling instead of government bonds. This is necessary when government bond repo markets are not functioning properly. Participants in the DWF may borrow highly liquid assets in exchange for less liquid collateral in potentially large amounts and for a different term (BoE, 2015b, 6, 12). Counterparties of this facility can apply for funds at any time. Borrowing is at the discretion of the BoE and is not permitted for banks with serious solvency problems. Since the facility is designed to make funding available and thus to help address stressful situations (both related to the company itself and the market as a whole), borrowing in normal circumstances from banks, building societies and primary dealers is 30-day maturity. Banks have the opportunity to repay loans at any time. The borrowing of central counterparties has a maturity of 5 days (BoE, 2015b, 12).

Transactions under the DWF do not affect the net provision of reserves by the BoE and therefore no neutralization adjustment is needed with other monetary operations of the central bank. They enable banks to use the UK government bonds with this facility in the regular OMOs of the BoE or in the marketplace as a way to raise money. The operations on the discount window are intended to prevent any unreasonable management of bank liquidity in the future. Recognizing that financial market turmoil continues, on January 19, 2009, the BoE announced that access to the DWF was extended to 364 days in addition to the normal 30-day window, which is still valid.

In addition, in April 2008, the BoE introduced the so-called "Special Liquidity Scheme" (SLS), which allows banks to perform swap transactions of some of their high-quality securities (such as mortgage-backed securities and other securities) for Treasury bills of the British Government for up to 3 years. The scheme is designed to finance a part of the excessive volume of illiquid assets in banks' balance sheets by temporarily exchanging them with more easily tradable assets. Securities formed from credits existing before 31 December 2007 are eligible for use under the SLS. The total amount of the scheme is significant – British Treasury bills as of amount of 185 billion pounds. In practice, the eligible collateral under this scheme is in a narrower circle than that on the DWF. Also, the collateral under this scheme is more limited to balance sheet assets before a certain date. The SLS window was initially open until 30 January 2009, but it was decided to continue the swap operations over the next years, thus providing liquidity support and security to the institutions involved in the scheme.

In addition, as of September 2008, the BoE started swap operations with the Federal Reserve Bank of New York. They are part of the overall coordinated action of US, Canadian, Japanese, Swiss central banks and the European Central bank (ECB) to support US dollar liquidity and, hence, the overall liquidity conditions of global financial markets. The reason is the increased tension in the short-term dollar markets. Every day, the BoE proposes to grant overnight US dollar loans against eligible collateral. The first such operation took place on September 18, 2008. Initially, the amount offered at each repo operation amounted to USD 40 billion. This amount is revised periodically on a regular basis in consultation with the other central banks. Repo operations in US dollars are in the form of auctions. Eligible collateral consists of securities that are commonly accepted as pledges for short-term repo operations of the BoE, as well as securities of the US government.

The BoE has entered into a reciprocal swap agreement (swap line) with the US Federal Reserve. Through this agreement, the Federal Reserve provides the BoE with USD funding to facilitate short-term dollar repo operations. The temporary reciprocal swap agreements between the BoE and the Federal Reserve and other central banks were extended until 30 October 2009. This extension is valid for the swap lines between the Federal Reserve and each of the following central banks: Australia, Brazil, Canada, the United Kingdom, Denmark, Korea, Mexico, New Zealand, Norway, Singapore, Sweden, Switzerland, Japan, and the ECB (BoE, 2009).

3.2. Reserve accounts

Reserve policy plays an important role in smoothing money market interest rates in the UK. The reserve accounts are in practice current accounts denominated in sterling which the counterparties maintain with the BoE. The balances on these accounts may fluctuate freely in order to meet the counterparty's daily liquidity needs, for example, to adjust to an unexpected drop in end-of-day payment flows. Reserve accounts are one of the most secure assets a bank can hold and are an important means of payment between banks. The balances on these accounts are considered as "liquid assets" for the purposes of the BoE's monetary policy. The central bank is currently providing reserves through the assets it purchases under the Program for Quantitative Easing and the regular Indexed Long-Term Repo Operations (ILTROs).

The interest rate paid by the BoE on the reserve balances held with it by commercial banks, building societies, primary dealers and central counterparties is a means by which the central

bank maintains market interest rates in line with its base interest rate. All these institutions are participants in the so-called “Sterling Monetary Framework (SMF)” of the BoE.
Typically, the monetary policy condition is expressed only by the base interest rate level. The BoE manages its balance sheet to maintain overnight market interest rates (the prices at which institutions trade on the money market) in line with the bank interest rate. As of March 2009, the implementation of the monetary policy in the UK includes both the maintenance of short-term market interest rates in line with the base interest rate and the purchase of assets funded by the creation of reserves with the central bank in accordance with the decisions of the MPC (the QE).
Under a reserve-averaging regime used at normal times, the BoE offers the amount of reserves required by counterparties to meet their aggregate reserve targets. In the event of oversupply of reserves against their demand, there is a downward pressure on market interest rates. As a result of the large purchases of BoE’s assets, the provision of reserves is more affected by the monetary policy committee's decisions than by changes in reserve requirements (BoE, 2015, 9). This potential imbalance between demand and supply of reserves may lead to a loss of control over market interest rates. As a result, since March 2009, the BoE has discontinued the averaging process of the required reserves.

3.3. Quantitative Easing (QE) and Funding for Lending Scheme

The QE was introduced for the first time in the UK in March 2009. It occurs when the central bank creates new money electronically to buy financial assets – mainly gild bonds (mid-term and long-term), but also in small volumes of high-quality corporate bonds issued by private companies. Such institutions may be insurance companies, pension funds, banks or non-financial firms. Assets are purchased on secondary markets through the Asset Purchase Facility announced on January 19, 2009. But this facility became a means of implementing monetary policy only in March of the same year the MPC has decided to make purchases of money-backed assets at the central bank.
By purchasing government bonds, it is possible to quickly increase the amount of money in the economy, and private debt purchase becomes cheaper and easier for companies to raise capital by improving the conditions of corporate credit markets. The latter stimulates spending in the economy (for goods, services and financial assets). Moreover, the purchase of financial assets by the BoE leads to an increase in their prices as their demand increases, which increases total wealth while the cost of borrowing falls (due to the reduced yield on the securities due to their rising prices). If inflation is higher than the target level, the central bank may sell the assets it has purchased, which aims to reduce the amount of money and limit spending in the economy.
The QE aims at lowering interest rates and increasing money supply. It leads to an increase in money supply by injecting money into financial institutions in order to encourage more loans and increase their liquidity. This unconventional monetary policy measure is perceived when short-term interest rates are at zero or close to zero and do not include the printing of new banknotes. The QE is aimed at directly increasing the private sector spending and returning inflation to its target level. The reason is that injecting money directly into the economy reduces the cost of financing and raises asset prices, fuelling spending, and hence making inflation return to its target level. In the event that actual inflation is higher than the target level, the BoE may sell financial assets, such as Treasury bonds of the UK government in order to limit the amount of money and spending in the economy. The practice of the central bank is to conduct multiple auctions, accepting the cheapest quotes from counterparties in terms of market prices. Changes in interest rates and purchases of assets funded by issuing

reserves (i.e. QE, however, inevitably have distributive effects on households and firms (BoE, 2012, 1). Purchases of government bonds by the BoE have following effects:

- Raising the price of government bonds and lowering their yields;
- Increase demand for other assets, including corporate bonds and shares;
- Raising the prices of a wide range of assets, not just Treasury bonds.

According to the BoE estimates, asset purchases have pushed stock prices up at least as much as the rise in the UK Treasury bond prices. By increasing the prices of a wide range of assets, the purchases of assets lead to an increase in the value of households' financial wealth.

For the period March 2009 – January 2010, the total amount of assets bought by the BoE is 200 billion pounds (mainly medium and long-term government bonds), which is equivalent to 14% of the country's annual GDP (Joyce, Tong, Woods, 2011, 200). Compared to previous BoE's liquidity support measures for the banking sector, these purchases entail a threefold increase in the share of the central bank's balance sheet in GDP compared to the pre-crisis period. The timeframe for the BoE's QE programs is presented in Table 1.

Table 1: *Bank of England's quantitative easing programs*

BoE's QE programs	Description
First quantitative easing program QE1	Declared on March 5, 2009 The initial decision was for the BoE to buy 75 billion pounds of assets for a period of 3 months funded by issuing central bank reserves. Purchases are mainly of government bonds of the British government, and in a small volume of corporate bonds. The bonds have a residual maturity of between 5 and 25 years. The first purchase of government bonds took place on 11 March 2009 and the first purchase of corporate bonds was on 25 March 2009. On May 7, 2009, the MPC announced that the volume of QE1 asset purchases would be increased with another 50 billion pounds to 125 billion pounds. On August 6, 2009, the Committee announced that asset purchases rose to 175 billion pounds, and government bonds with a residual maturity of more than three years were already included. On November 5, 2009, the Committee announced that purchases of QE1 assets rose to £ 200 billion. On January 8, 2010 the first sale of corporate bonds by the Bank was carried out. On February 4, 2010, the MPC announced that asset purchases would be maintained at £ 200 billion.
Second quantitative easing program QE2	Asset purchases were resumed in October 2011, mostly in response to the Euro area debt crisis. Additional purchases of 125 billion pounds of assets were made in the period up to May 2012. The first decision came from October 2011 to buy 75 billion pounds of assets and the second was February 2012 for additional purchases worth 50 billion pounds. Thus, since the start of QE1 up to the end of QE2, the BoE has purchased assets of total 325 billion pounds.
Third quantitative easing program QE3	Additional purchases of 50 billion pounds of assets were announced on July 5, 2012 and completed in November 2012. QE2 is a four-month process and is slower than the previous quantitative facilities. As a result of the three QE programs, the total amount of money spent by the government to buy government bonds is 375 billion pounds.
Fourth quantitative easing program QE4	On August 4, 2016, the BoE's Monetary Policy Committee adopted a four-step plan to mitigate the negative impact of Britain's exit from the EU. One of these steps is the additional purchase of 60 billion pounds of government bonds and corporate bonds worth up to 10 billion pounds. As a result, the total amount of money spent by the BoE on the purchase of UK government bonds is £ 435 billion.

Source: Joyce, M. (2013): The Bank of England's unconventional monetary policies: why, what and how, Speech delivered at the ECB Workshop on Non-standard Monetary Policy Measures, 18 June 2013; Allen, K., Elliot, L. (2016): Bank of England cuts interest rates to 0.25% and expands QE, The Guardian, 4 August 2016.

A week after the BoE decided to restart its fourth QE program, the so-called "Funding for Lending Scheme" (FLS) was introduced in 2012. Through this scheme, the BoE provides banks with cheap access to finance if they in turn extend loans to firms or homebuyers who are in need of fresh money. The opinion of the Treasury and the central bank is that this scheme is different in its essence – to help the British economy because the scheme binds the banks' access to it and the cost of using it directly with whether they will increase bank loans to businesses and households. The FLS facilitates lending by banks and building societies to first-time buyers and small and medium-sized enterprises – two groups that suffer serious difficulties to borrow funds from banks during the Euro area debt crisis. Banks and building societies participating in the scheme may borrow up to 5% of the value of loans granted to the real sector plus the amount of any net credit expansion. It was found that following the introduction of the scheme banking costs have declined significantly and there has been an improvement in lending conditions to businesses and households. Reflecting these changes, the scope of the scheme has been narrowed several times after its introduction.

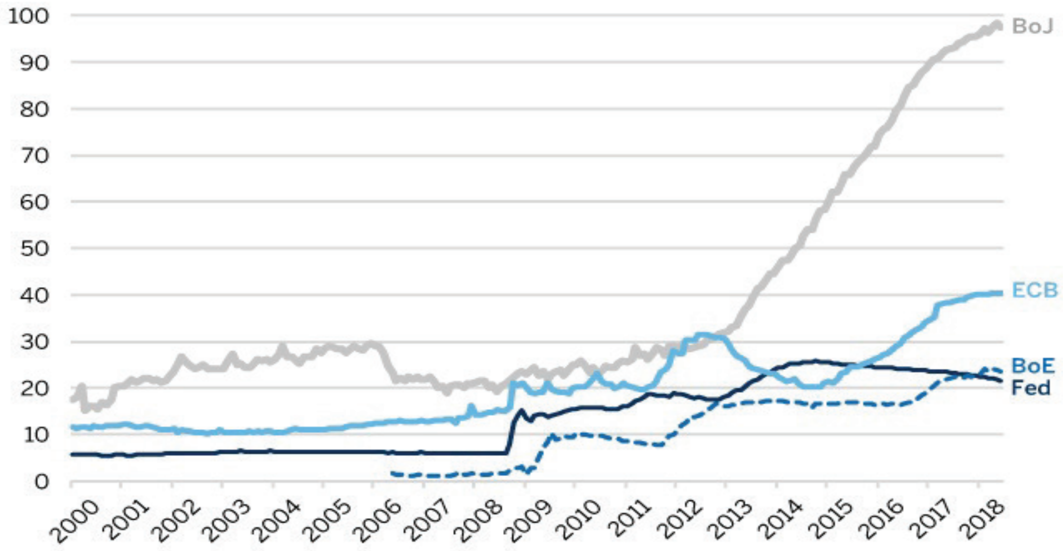
Several changes in the scheme have been made, including its extension announced on 24 April 2013 and its amendments on 28 November 2013, 2 December 2014, and 30 November 2015. For example, in 2015 the BoE and the Treasury announced 2-year extension of the FLS. The purpose of this extension is to provide additional flexibility for scheme participants to withdraw the unused portion of loans received for positive net lending over the past 3 years. According to George Osborne, Chancellor of the Exchequer: "*The Funding for Lending Scheme, which we launched with the Bank of England in 2012, has been a vital part of supporting the recovery, ensuring lending to households and businesses. It was due to expire in January but I am pleased to say that we are extending the scheme until 2018, supporting more loans. Given the improvement we've seen in credit conditions for households and large businesses, as our long-term economic plan moves from rescue to rebuild it is right that we continue to focus the scheme's firepower on the small businesses that are the lifeblood of the economy. The Funding for Lending Scheme will be gradually wound down as the recovery strengthens, delivering a managed exit from the scheme*." (BoE, 2015a, 3).

There are two parts to the FLS: the "first part of the FLS" and the "second part of the FLS" (BoE, 2019, 10): 1) The Drawdown Period for the first part of the FLS runs from 1 August 2012 to 31 January 2014. The price and quantity of funding available during the first part of the FLS depends on lending from 30 June 2012 to 31 December 2013. 2) The Drawdown Period for the second part of the FLS (the Extended Drawdown Period) runs from 3 February 2014 to 31 January 2018. The quantity of funding available during the second part of the FLS depends on lending from 1 April 2013 to 31 December 2015, with the exception of new groups, for which it depends on lending from 1 January 2016 to 31 December 2017.

For the first part of the FLS as participants are defined all monetary financial institutions and specialist mortgage lenders that are required to report statistical lending data to the BoE. In the second part of the FLS participants also include non-bank credit providers (NBCPs), which are part of the participant's broader group, as determined by the BoE. NBCPs are defined as "financial leasing corporations", "factoring corporations" and "mortgage and housing credit corporations (excluding SPVs related to securitisation)". For the first part of the FLS, the lending measure covers sterling loans to UK resident households and private non-financial corporations. In all cases, lending is in the form of drawn loans. Entities' holdings of securities, commercial paper, bills and acceptances are not included.

An important result of the QE policy is the significant increase in the balance sheet size of the BoE. Manu authors analyze the macroeconomic effects of central banks' measures aimed at increasing their balance sheets in times of crisis when the interest rates reach the zero lower bound (Gambacorta, Hofmann and Peersman, 2012).

__Figure 1:__ Balance sheet size of the ECB, BoE, Bank of Japan and Fed as % of the GDP of the Euro area, the UK, Japan and the US during the period 2000-2018



Source: Bloomberg Professional

3.4. Interest rate policy of the BoE

The BoE does not apply an upper limit on the base rate but applies a level below which it cannot be reduced, known as the effective lower bound (ELB). Under these circumstances, the MPC chooses to apply unconventional forms of monetary policy such as QE in order to provide further incentives for the economy. In the UK, the policy of lowering interest rates began as early as March 2009. The decline in the base interest rate is, by itself, a typical (conventional) measure of the central bank's monetary policy. As such, the subsequent decreases in the BoE's interest rate in response to the global financial crisis can also be determined.

On March 5, 2009, the MPC lowered the base interest rate to 0.5% and began implementing a quantitative facility with a volume of 375 billion pounds a year to achieve the 2% inflation target. In line with market expectations, the BoE leaves its base interest rate unchanged between March 2009 and August 2016 at a record low level of 0.50% (Table 2), as well as the volume of purchases of assets. The latest BoE decision comes amid mounting calls on BoE Governor Mark Carney to counteract the overheating of the housing market in the country, as fears that low interest rates raise house prices in the country are rising. In 2014, when the ECB and other leading central banks in Europe are lowering their key rates and introducing negative nominal interest rates, the BoE leaves its base rate unchanged at a record low of 0.50%. It remains unchanged until August 2016, when the BoE introduced new monetary policy measures to provide additional support to the British economy in connection with Britain's decision to leave the EU after the referendum held in June 2016. The aim is to help the economy to adapt to the new reality and uncertainty surrounding Brexit. There remain considerable risks, which include the response of households, businesses and financial markets to developments related to the process of EU withdrawal. The MPC decisions are aimed to respond to changes in the economic outlook as they affect the behaviour of households and businesses, and the outlook for inflation.

Instead of being one of the first leading central banks in developed countries to raise the base interest rate, such as market expectations, in view of the IMF's finding that the UK economy is growing at the fastest pace of all G7 member countries, the BoE did the opposite in 2016 – lowering the base interest rate to 0.25%. But this measure was only short-term, and since the end of 2017, the BoE has returned its base interest rate to a level of 0.50%, and in August 2018 it rises to 0.75%. This is the highest level in almost a decade in Britain.

As the MPC states on 2 November 2017: "*The decision to leave the European Union is having a noticeable impact on the economic outlook. The overshoot of inflation... predominantly reflects the effects on import prices of the referendum-related fall in sterling. Uncertainties associated with Brexit are weighing on domestic activity, which has slowed even as global growth has risen significantly. And Brexit-related constraints on investment and labour supply appear to be reinforcing the marked slowdown that has been increasingly evident in recent years in the rate at which the economy can grow without generating inflationary pressures*" (BoE, 2017).

The current forecast is for interest rates to go up again by mid 2020, but this will depend mostly on the outcome of Brexit. By 2020 the BoE base interest rate is predicted to have risen to 1.25%. Over the longer term, Britain's finance ministry has expected that the economy could be 8% smaller by 2035 after a no-deal Brexit than if Britain stayed in the EU.

A major issue of concern for the leading central bank policymakers is the risk that ultra-low interest rates pose to banks. For instance, fearing a sharp slowdown in economic growth, the ECB reversed course in March 2019, delaying a planned interest rate hike until 2020 and giving banks fresh access to ultra cheap central bank funding (Reuters, 2019a).

Table 2: *BoE base interest rate*

Year	Date changed	Rate
2007	11 January	5,25 %
	10 May	5,50 %
	5 July	5,75 %
	6 December	5,50 %
2008	7 February	5,25 %
	10 April	5,00 %
	8 October	4,50 %
	6 November	3,00 %
	4 December	2,00 %
2009	8 January	1,50 %
	5 February	1,00 %
	5 March	0,50 %
2016	4 August	0,25 %
2017	2 November	0,50 %
2018	2 August	0.75 %

Source: Bank of England, Statistical Interactive Database – official Bank Rate history.

Figure 2: *Dynamics of the BoE base interest rate*

Source: Bank of England.

4. Conclusion

The unconventional monetary policy measures taken by the BoE have a definite effect on the financial markets. The BoE's QE programs lead to a decline in UK government bond yields, to emergence of portfolio balancing effects and to a rise in the volume of corporate bond and share issues. They help the Britain economy to protect itself from collapse and deflation as a result of the global financial crisis. While the Funding for lending scheme leads to a reduction in bank financing costs and to improved lending conditions for businesses and households, the QE program reduces the costs of issuing in the capital markets. According to the BoE Governor – Mark Carney, the set of monetary instruments and measures by the central bank helps the country not to recede after the Brexit vote in June 2016. In the context of uncertainty around Brexit, in the short run the BoE is able to provide substantial support, but in the long run the country's economic development will depend mostly on the state of trade, competitiveness and productivity. The BoE estimates a worst-case Brexit involving markets losing confidence in Britain that could shock the economy into a 5% contraction within a year, nearly as much as during the global financial crisis (Reuters, 2019b).

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ANALYSIS OF DEMOGRAPHIC AND SOCIO-ECONOMIC TRENDS SIGNIFICANT FOR THE EUROPEAN REVERSE MORTGAGE INDUSTRY DEVELOPMENT POTENTIAL

ABSTRACT

A reverse mortgage is an innovative financial product intended for senior homeowners meant to assist them in financing a wide spectrum of everyday needs, primarily when other sources of funds in the form of savings, return on investments, or current income are insufficient to cover especially urgent or financially intensive costs. This product is, until today, present and used mostly in developed countries, predominantly in the USA, although both the perspective and a real need for its implementation, or offer as a financial possibility, exist in many other developed, as well as in less developed countries. The aim of this paper is to determine European reverse mortgage industry development potential according to the key demographic and socio-economic indicators movements. In different countries, homeownership is the main precondition, but not a guarantee, for reverse mortgage usage among senior population – even if, according to demographic or socio-economic trends, both obvious potential or necessity are present; yet some other factors, primarily cultural ones, in addition to their potential impact, that often cannot be quantified or analyzed the aforementioned sense, may prove as crucial and must, therefore, be taken into consideration. In this paper, the most important measurable demographic and socio-economic indicators significant for the reverse mortgage industry development potential and trends are identified, compared and analyzed on the sample of 28 EU countries by using descriptive statistics methodology and correlation analysis. The analysis results represent a valuable source of information for governments, both existing and potentially new reverse mortgage creditors and borrowers, pointing at the unused potential of the reverse mortgage and its potential role in solving their problems connected with the consequences of analyzed trends and financing an ageing population. In that sense, a reverse mortgage could not be observed only as a last resort, but as a living condition improvement tool for senior homeowners.

Key words: *reverse mortgage, demographic, socio-economic, seniors, funding*

1. Introduction

Seniors are a very vulnerable, often financially and socially excluded category of citizens with low income and limited access to the traditional loans and other sources of funds once they retire. Their income in retirement is mostly dependent on pensions and, additionally, on cash flow from savings and investments from the previous period, if any. On the other hand, the older population, in general, has a high homeownership rate among the total population. Reverse mortgage loan is a unique financial product intended for senior homeowners that have valuable homes, but struggle with financial problems such as how to pay their bills, repay existing mortgage or credit card debt, finance repairs and maintenance of their homes, cover their healthcare costs, improve their living conditions, etc., due to low income or limited access to the other sources of funds in retirement. In such a situation the reverse mortgages can help them in accessing home equity as well as converting the equity built up in their homes into cash (locked savings activator) without forcing them to sell their homes or move – without regular repayment obligation during the loan period. Seniors can draw on money from their home equity through a reverse mortgage for financing their everyday needs and other purposes as they wish while maintaining their homeownership. However, funds raised in this way are recommended to be used primarily for covering financially intensive or urgent costs and only when other financial possibilities are exhausted.

Since governments in many countries are struggling with the problem of sustainability of contemporary pension system due to high public expenditure on pensions and other social rights, a high budgetary dependence of pensions and the problem of contemporary and future pension level adequacy, both in connection to the negative labor market problems and demographic trends such as labor force emigration problem, population ageing, negative birth/death balance, etc., is it foreseeable that in the future the financial problems will be even more challenging for older people if their finances will be mainly dependent on pensions. If they want to avoid the risk of financial vulnerability in the old age, people should adjust their working and savings behaviour to such trends. A reverse mortgage can, in that sense, be observed as a secondary, or complementary, financial source for older homeowners, both as a credit and a savings instrument at the same time, as it actually helps to activate savings from previous real estate investment.

Strong family connections are the main cultural obstacle to the willingness to draw on money from their home equity through the reverse mortgage due to this property being a subject of heritage in the future and can have a stronger negative impact on the reverse mortgage implementation. This is emphasized in the less developed countries with a traditionally lower level of financial education, often accompanied by a higher homeownership rate. On the other hand, if a justified financial need exists, without any other possibilities available in a truly hopeless financial situation, even in those countries where those problems are emphasized, a better financial literacy and counselling may be crucial for reverse mortgage usage success, especially when the other financial possibilities are exhausted. However, it is hard to measure such cultural factors: obviously, there exists a stronger negative impact on the reverse mortgage usage and are negatively correlated with the reverse mortgage industry movements.

In that sense, the most important measurable demographic and socio-economic indicators that significantly impact the reverse mortgage industry development potential are identified, analyzed and compared in this paper. The general analysis compares indicators for the EU to those for the USA: in the research part, the analyzed sample includes EU countries. Ageing, as the most important demographic trend, is included in the analysis by the way of analysis of age structure of the population, old age dependency ratio, fertility rates, and life expectancy, all in order to determine the reverse mortgage industry development potential in the future. On the other side, the fiscal impact of ageing and the other interconnected socio-economic trends that are both included in the research through analysis of total cost of ageing with an emphasis on public spending on pensions, the poverty rate in total and, especially among seniors, homeownership rates, etc. The main goal of this research is to reach a more precise conclusion about the reverse mortgage industry potential and its correlation to the factors analyzed. The results of this research can be a valuable source of information not only for the scientific community and future researchers, but also for the professional community, as well as the existing and also (or especially) potential new creditors and borrowers who can consider the reverse mortgage as a product with many benefits and a huge financial potential for both, as it is for governments engaging in the creation of their socio-economic policies inasmuch as reverse mortgage has potential in solving their problems connected with the consequences of trends analyzed in this paper. Of course, all shortages and negative aspects of reverse mortgage lending and fundraising should also be taken into consideration.

2. Literature overview

Previous papers on the topic of a reverse mortgage are predominantly professional; the scientific papers containing a research component are not as comprehensive in the sense of analysis of global reverse mortgage trends and of expanding potential and/or factors depending on demographic and socio-economic trends. Additionally, current research is mostly focused on a single area, most often the USA, where the reverse mortgage is predominantly used at the moment; said research is also a lot less focused on the EU and other countries. In addition to that, the current research does not analyze the impact of demographic and socio-economic factors on the reverse mortgage industry trends and potential, or is infrequent, without encompassing a wide spectrum of factors as this research, conducted and presented here, accomplishes to.

Senior homeowners can use the value of their homes in a variety of ways without selling said homes or moving: this might mean taking a reverse mortgage, a home equity line of credit or cash-out refinance. But when it comes to deciding between the different methods of money withdrawal, reverse mortgages may positively impact the financial well-being of borrowers, according to the results of a study by Moulton et al. (2016) which uses a differences-in-differences approach in fixed effects panel regression. According to the results of that study, extracting home equity through borrowing allows the households to smooth the consumption access liquidity without substantial costs of selling their home. This also may allow seniors to pay off a higher cost debt and diversify their asset portfolio. However, unlike more common methods of equity extraction, such as home equity line of credit, the reverse mortgages (home equity conversion mortgages) provide a distinct advantage to borrowers in that they cannot be reset in future periods due to the declines in home values or borrower credit quality. Introduction of a reverse mortgage may provide a buffer against financial shocks, thereby increasing liquidity and reducing default, according to Moulton et al. (2016).

Prior studies have theoretically and empirically examined the conditions under which senior households are more likely to spend down home equity during retirement. Pfau (2015) explored the 6 various strategies for using a reverse mortgage in retirement income planning and how these strategies impact spending and wealth. While in past studies Pfau has employed Monte Carlo simulations for stock and bond returns, none of these studies simulated the future paths of interest rates, nor did they link future bond returns to future interest rates. Of the six methods explored, Pfau (2015) considered the strategy of supporting the smallest increase in success as being the one that embraces the conventional wisdom of using home equity as a last resort, and only utilizing the reverse mortgage when it is first needed. Meanwhile, opening a reverse mortgage line of credit at the beginning of retirement, in order to let the credit line grow before being tapped provides the highest increase in success rates. The basic understanding, according to Pfau (2015), is that strategies which open the line of credit early, but delay its use for as long as possible, will offer increasing success rates as more of the credit line is available to be drawn from – if, and when, it is eventually needed.

In the research undertaken by Coda Moscarola, F. et al. (2015), the reverse mortgage is analyzed as a tool intended to reduce old age poverty without sacrificing social inclusion. In that sense, income and wealth of seniors in European countries are analyzed by authors who brought the analysis results of homeownership rates among seniors and gross housing wealth in connection with the reverse mortgage potential. According to the analysis results, authors highlighted the trend of increase in economic vulnerability index among seniors aged 65+ per year, as well as household income, but also pointed out the vulnerability rates reduction in percentage points in the case of reverse mortgage usage. They conducted that reverse mortgages, together with targeted policy measures, could have an important role in reducing income vulnerability among seniors in such a way that might aid those households who have enough housing wealth and are ready to use it to finance the consumption without losing the house and without burdening their children with debt.

Doling and Overton (2010) suggest that governments have to do more to both encourage and enable the lower-income homeowners to draw on their housing equity. The general pattern within European Union member states is one of a positive correlation between income, both pre- and post-retirement, and both housing and non-housing wealth. For many of those in greatest need, housing equity is not a relevant solution – for providers, this can be a problem and a challenge (or opportunity) at the same time in terms of product design and the provision of appropriate information and advice; this also applies to other countries. Where housing equity is relevant to people's consumption needs, the research results of Doling and Overton (2010) suggest that reverse mortgages are used in different ways, with some using them for lifestyle purposes, others to pass on wealth to children, while some are having to use them to increase their financial security and relieve the financial difficulty, whereas factors that influence individuals to use reverse mortgage often differ from the factors driving government interest. Therefore, if governments want for the housing wealth to be used more widely by those who primarily rely on pensions for meeting welfare needs rather than consumption or early inheritance, then extending the legal framework alone would not change this, other than sharing the costs by government, subsidizing of the high start up costs of taking out reverse mortgages, the costs of information and advice, etc. (Doling and Overton, 2010, 55-56).

Angelini et al. (2010) noticed the remarkable reluctance of older people to downsize their wealth. On the other side, Borella et al. (2014) showed that consumption tends to drop at retirement. Such behaviour is actually expected for older people in general. Fornero et al. (2015) found that the reason for such behaviour could be an unwillingness to leave debt to the inheritors in the greatest part. However, Coda Moscarola et al. (2015) pointed out that those who had signed a reverse mortgage contract can still leave a substantial inheritance to their children due to the fact that reverse mortgage lending practice ensures that the sale of the property will always be able to cover the cost of the loan. However, Gwizdala (2015) studied the case of Polish market: based on SWOT analysis, he pointed out that cultural and legal obstacles could be crucial for reverse mortgage introduction and usage in general, and to an even greater degree on those markets where favourable demographic and socio-economic levels and trends are not confirmed.

All of these researches actually pointed out the potential of a reverse mortgage and the gain that could be obtained from the introduction of reverse mortgage in different financial systems through the credit institutions' offer of financial products intended for seniors and, consequently, the development of a reverse mortgage market. Of course, besides positive financial and socio-economic effects of reverse mortgage availability in a particular financial system, the total financial product supply, creditors and borrowers must be also aware of negative aspects of reverse mortgage lending that are, in greater part, financial. For the creditors, the single most important negative financial aspect (or risk) of reverse mortgage is longevity of borrower and, consequently, its influence on the total amount of money that credit institution must pay out according to the reverse mortgage contract and depending the money withdrawal model; another risk is represented by potential negative housing market movements. For borrowers, the most important negative financial aspect of drawing on money through the reverse mortgage is the relatively high fees and commission in addition to the total amount of money that is available through the different models of money withdrawal. According to Coda Moscarola, F. et al. (2015), good market regulation is crucial in the reduction of the mistrust from both demand and supply sides: it facilitates their matching. On the other side, as it was already mentioned in the Introduction, financial literacy improvement and obligatory counselling may be, in this part, crucial for reverse mortgage implementation and usage success, especially when other financial possibilities are exhausted. Besides, the negative social and cultural aspect of reverse mortgage lending expressed as a worry for future generation's inheritance and, consequently, the unwillingness to use reverse mortgage (Reifner et al. 2009; Tuškan, 2018) has already been proven. Reverse mortgage loans have evolved from loans intended for seniors in need as loans of last resort – and today have turned into an important financial planning tool with huge potential, especially in the future. In that sense, Merton and Neng (2016) have advocated improvement of reverse mortgage lending through the more efficient placement of reverse mortgages, in order to enhance the role of the housing wealth as a potential source of funds in retirement.

3. The role of reverse mortgages in senior population finance possibilities

Cash locked into residential property can be accessed in a number of ways during retirement. In general, seniors can sell their existing home and move to a cheaper home, thereby realizing some of the equity, or going to rental accommodation, realizing all of it. These options, however, require that the household moves. On the other hand, financial institutions offer home equity release products that do not imply selling and moving. In that sense, widespread traditional home equity line of credit (mortgage loans), or newer products such as reverse mortgages and home reversion plans in form of cash-out refinance, are offered. However, access to traditional loans can be difficult for seniors. Home reversion plans, in that sense, are not loans, but they still demand the sale of whole house or parts of the house for less than market value as the customer becomes a tenant in the house, in this case paying no rent and retaining the right to use and live in home until he dies, moves or sells the home. Innovative home equity release loan products intended for seniors that do not assume repayment of the loan until the borrower dies, moves or sells the home are the reverse mortgages.

In the USA, reverse mortgages are dominantly used from its beginnings until today. In Europe, this product is better known under the equity release scheme as lifetime mortgage model or home equity conversion mortgage model. It's a relatively new product in Europe and lacks the intensive usage from the USA. Despite this, owing to the contemporary demographic and socio-economic trends, especially after the onset of the last global financial and economic crisis – but also taking into consideration frequency and consequences of such a crisis in general on finance and living standards, especially among socially vulnerable population categories (such as seniors) as well, its usage and potential for wider application is significantly growing: in the future it could potentially attain an even more prominent role. In that sense, the reverse mortgage product is predominantly present in the most developed countries, yet there is a huge potential, and a need, for its implementation (or offer) as a financial option with potentially significant positive effects for both borrowers and creditors, in addition to governments, in many other developed countries, as well as in the less developed countries. Lifetime mortgages in Europe display the greatest similarity to reverse mortgage products offered in the USA. At one's retirement, or after one reaches the age and becomes eligible for application, the reverse mortgage contract is initiated, and the loan amount is transferred to the homeowner by following the dynamics agreed upon the contract whose total value depends on the model of money withdrawal. The homeowner can use the money accessed in this way to supplement the pension income by the, most often agreed, annuity payout (credit line) or by receiving a lump sum (all the agreed cash up front). Unlike a traditional home loan, where interest is charged on an amount that decreases with time, interest on reverse mortgages is charged on an increasing sum and added to the total debt on a continual basis: there are no regular repayments during the loan period, and the loan is repaid from the proceeds of sale at the time of owner's death or when the house is sold.

Obviously, a huge potential to solve many financial problems in general lies in the home equity. A reverse mortgage is, in that sense, a unique loan product intended for senior homeowners that allows them to access home equity while maintaining ownership and does not assume repayment of the loan until the borrower dies, moves or sells the home. Reverse mortgage loans potentially are, or can become, a valuable and acceptable source of funds for older homeowners which struggle themselves with financial problems – such as how to pay their bills, repay their existing mortgage or credit card debt, finance the repair and maintenance of their homes, cover healthcare costs, improve their living conditions, etc., due to their low income or limited access to the other sources of funds in retirement. Since the question of pensions and other social rights remains in the focus of governments in relation to the creation of social policies and due to challenges of financing them, it is foreseeable that governments could have stronger interest and role in reverse mortgage market development.

4. General overview of demographic and socio-economic factors' movements crucial for the reverse mortgage industry potential

Ageing of the population, a consequence of combining the increasing longevity and lower fertility rates, is the most significant global trend as well as a demographic problem with a wide spectrum of negative socio-economic implications. Fiscal costs linked to pensions, health care and long-term care are all expected to rise over the coming decades, as the European population continues to age significantly. The total population in the EU is projected to increase from 511 million in 2017 to 520 million in 2070 – but within it, the working-age population (people aged 15–64) is expected to decrease significantly (from 65% to 56%), while the share of those aged 65 and more are projected to increase (from nearly 20% to 28%) within the same period (Eurostat, 2018). Additionally, 27.3 million people aged 80 and more were living in the EU in 2017: that's 7 million more than ten years earlier (European Commission, 2018). These projected changes in the population structure reflect assumptions on fertility rates, life expectancy, and migration flows. Further increase of an average life expectancy in the next 20 years is expected in most European and other developed countries, up to the range 85–90 from current 80–85. The old age dependency ratio (people aged 65 and more relative to those aged 15–64) at EU level is projected to increase more strongly, from 29.9% in 2017 to 51.2% in 2070 (European Eurostat, 2018). This implies that the EU would have only 2 working-age persons for every person aged over 65 years until 2070; it also represents a significant decrease from the average of 3.3 in 2017.

In 2017, USA was home to more than 325 million people living in it; among them, nearly 50 million or 15.5% were aged 65 and more, whereas by 2030 all of the baby boomers will be 65 or older. It is therefore expected that the number of seniors will double before 2060 to 95 million, representing 23% of the total population whose number is projected to surpass 400 million by then. The population aged 75–84 is expected to reach 30 million by 2040 and the population aged 85 and older 14 million. The working-age population, on the other side, is expected to decrease slightly, from 65.5% to 60% in 2060. The old age dependency ratio (of people aged 65 and more relative to those aged 15-64) in 2017 amounted to roughly 22%: per US Census Bureau (2018), it's expected it will reach 41% in 2060.

The fiscal impact of ageing is projected to be a significant challenge to almost all of the European countries. Pension systems are different across the EU, but a large majority among them are public pension systems with strong public sector involvement that can provide old-age provision in addition to other types of pensions. The government budget is increasingly more burdened by unfavorable old age dependency ratios. Average old age dependency ratio at the EU level is projected to increase, from nearly 30% in 2017 to over 50% in 2070 (Eurostat, 2018). Many countries already struggle with the problem of pension system sustainability, especially those where total employees/total retirees ratio has already reached unsustainable levels, or less than 1.2. Overall, the total cost of ageing (including public spending on pensions, health care, long-term care, education, and unemployment benefits) is expected to increase to 26.7% of GDP before 2070 from 25% in 2016. Expenditure on pensions at the EU level in 2016 had a GDP share of 13%. Public spending on pensions is expected to steadily increase until 2040, before returning close to current levels by 2070 (European Commission, 2018; Eurostat, 2018).

At the same time, it is expected that the US government spending on pensions will amount to 7% of GDP before 2020; its highlighted growth from approximately 5.5% started somewhere at the same time, at the onset of the last financial and economic crisis in 2007/2008. Such a growth trend began after a longer period of stagnation around 5-5.5% of GDP that lasted nearly 30 years, from the 1980s until 2007. Total public social spending in 2017 reached almost 19% of GDP (OECD, 2018).

All of the aforementioned demographic and socio-economic trends analyzed lead to the conclusion that a noticeable improvement in existing pension systems' financing meant to assure higher adequacy and sustainability of pensions in the future truly is necessary, or other retirement financing sources need to be found and offered. On the other side, housing represents the largest part of elderly people's wealth. Other significant wealth categories held by seniors are bank accounts, financial papers, insurance and pension saving systems, etc.
Homeownership rate in the Euro area in 2017 reached about 66% with 70% at the EU level: this rate in most EU countries exceeds the USA homeownership rate that was 65%. Additionally, and globally observed, the homeownership rates in the most developed world countries that had at the same time already introduced reverse mortgage financing, i.e. USA, Canada, Australia, New Zealand and UK, range between 60% and 70% – averaging mostly around 65%. EU countries with higher homeownership rates typically also have a larger share of owners without mortgages or outstanding loans. In 2017, and in total by tenure status, almost 25% of EU population were homeowners with an outstanding loan or mortgage, and more than 45% homeowners were without a loan or mortgage. (Eurostat, 2018)

In general, the homeownership rates in European countries mostly remain unchanged after the onset of the last financial crisis, while the total amount of housing equity held by European households is founded on trends of increasing homeownership rates and increasing house prices. Furthermore, homeownership rates among the elderly mostly do not decline with age: according to previous researches as well as those analyzed in the literature overview in this paper, they are the highest among the population group aged 65 and more. High homeownership rates and high at risk of poverty rates among seniors merely highlight potential underconsumption due to a high degree of illiquidity of housing wealth (Coda Moscarola et al. 2015, 237). In the population of USA, on the other hand, the group of homeowners aged 65 and more has an approximate share of 80% (JCHS, 2014, 1). This rate is expected to be even higher in European countries, especially those with the highest homeownership rates among the total population in general. Moreover, if home ownership at EU level in total is observed by age structure, population aged 65 and more partakes with more than 4% if only households with a single adult aged 65 or over are considered (and with 10% if households with two adults, of which at least one is aged 65 or over) (Eurostat, 2018).

At the same time, according to data for 2017, more than 23% of total European population, or approximately 17% of total EU population, had incomes below poverty level, whereas among population aged 65 and more at EU level this share amounted to 14.6%, yet a high share of this population, or 13.4% of the population aged 65 and more, had incomes below the poverty level and were, at the same time, homeowners (Eurostat, 2018). Among seniors in the USA, more than 7 million people, or 14% of the senior population, had incomes below poverty level, and more than 21 million or 42.5% below 200% of poverty (Cubanski et al., 2018, 1). A better situation cannot be foreseen in the future since, according to the demographic trends analyzed and presented here, this indicator is expected to increase further. In addition to this, according to data for 2017 (Eurostat, 2018), almost 10.5% of EU population aged 0–59 lived in households with very low labour intensity, while 7.5% of total EU population lived in materially very difficult conditions – consequently, a further increase of population without any, or with very low incomes, is expected once they are retired.

5. Methodology and data

For the purpose of the research and in order to get information for a more precise conclusion about home equity access potential among senior population, the analysis that follows is undertaken by considering the five chosen, most important and comprehensive demographic and socio-economic indicators that might significantly impact the reverse mortgage potential accompanied by trends. Factors chosen are, furthermore, most closely connected to the problem of the research.

The demographic indicator included in this analysis is old age dependency ratio, defined as a ratio between the number of persons in general population aged 65 and over (i.e. age when people are considered generally economically inactive) and the number of persons aged 15–64, with the ratio expressed per 100 persons of working age (15–64). This indicator is chosen among other demographic indicators as it comprehensively reflects the changes in age structure of the population and points out finance problems of older population connected to the trends in that regard. Socio-economic indicators, which are further observed, are expenditure on pensions (as a % of GDP) and at risk of poverty rate among the senior population (as % in total aged 65 or over). Expenditure on pensions is chosen as it reflects government spending and burden of pensions on budget. It points (in)efficiency and (un)sustainability of current pension

systems and together with the third indicator analyzed, at risk of poverty rate among senior population, it reflects the pensions adequacy problem. At risk of poverty rate, on the other hand, also highlights the problem of financial and social vulnerability as well as the exclusion of senior population. The fourth indicator analyzed for the purpose of this research is the homeownership rate (in total by tenure status), as it directly highlights the potential of home equity access in a country. The cultural factors mentioned earlier in the paper are, however, not included in this analysis since they are difficult to measure and, in that sense, their impact on total potential of reverse mortgage is neither observed nor taken into consideration despite the fact that it can be, or is, a significant and, in some countries, crucial factor for reverse mortgage introduction and usage success.
The analysis is performed on the available Eurostat data and the sample of 28 EU countries. By applying the simple descriptive statistics methods the values calculated and analyzed are minimum-MIN, maximum-MAX, median-MEDIAN and average-AVERAGE values of those five indicators in the period between 2007 and 2017. Additionally, as a result of the application of correlation analysis, the individual correlation coefficients between pairs of chosen indicators for each country in the sample are calculated and analyzed. Since expenditure on pensions data for the 2016-2017 period are not available for all countries, and neither are the homeownership rates for Germany and Croatia for the 2007-2009 period, this analysis is performed for the 2010-2015 period.

6. Analysis results

Table 1 shows the results of analysis performed by using descriptive statistics methodology, which identified the most important comprehensive demographic, and socio economic indicators with potentially significant impact on the European reverse mortgage industry development potential and trends.

Year	%	MIN	MAX	MEDIAN	AVERAGE
2007	Old age dependency ratio	15.7 (IE)	30.5 (IT)	24.4	23.6
	Expenditure on pensions	4.9 (LV)	14.0 (IT)	9.7	9.4
	At risk of poverty 65+	5.5 (CZ)	50.6 (CY)	21.9	20.9
	Homeownership rate	(DE)	95.5 (RO)	*	*
2008	Old age dependency ratio	15.6 (IE)	30.7 (IT)	24.4	23.8
	Expenditure on pensions	5.7 (LV)	14.3 (IT)	9.9	9.8
	At risk of poverty 65+	4.3 (HU)	52.0 (LV)	21.3	21.9
	Homeownership rate	(DE)	96.3 (RO)	*	*
2009	Old age dependency ratio	16.0 (IE)	30.9 (IT)	24.8	24.1
	Expenditure on pensions	6.6 (CY)	15.5 (IT)	10.8	10.9
	At risk of poverty 65+	4.6 (HU)	47.6 (LV)	20.1	20.7
	Homeownership rate	(DE)	96.7 (RO)	*	*
2010	Old age dependency ratio	16.5 (IE)	31.4 (DE)	25.3	24.4
	Expenditure on pensions	7.5 (CY)	15.5 (IT)	10.9	11.0
	At risk of poverty 65+	4.1 (HU)	39.9 (CY)	17.0	16.7
	Homeownership rate	53.2(DE)	97.6 (RO)	76.1	76.5
2011	Old age dependency ratio	17.2 (IE)	31.4 (DE)	25.8	24.8
	Expenditure on pensions	7.5 (IE)	16.4 (GR)	11.2	10.9
	At risk of poverty 65+	4.7 (LU)	35.5 (CY)	15.4	16.0
	Homeownership rate	52.4(AT)	96.4 (RO)	75.5	76.1

Year	%	MIN	MAX	MEDIAN	AVERAGE
2012	Old age dependency ratio	17.8(SK)	32.0 (IT)	26.4	25.4
	Expenditure on pensions	7.6 (EE)	17.7 (GR)	11.4	11.1
	At risk of poverty 65+	5.5 (NL)	29.3 (CY)	15.5	15.4
	Homeownership rate	53.3(DE)	96.3 (RO)	75.2	76.2
2013	Old age dependency ratio	18.4(SK)	32.7 (IT)	26.9	26.0
	Expenditure on pensions	7.2 (LT)	16.7 (GR)	11.5	11.3
	At risk of poverty 65+	4.6 (HU)	27.9 (BG)	15.0	14.5
	Homeownership rate	52.6(DE)	95.6 (RO)	75.0	75.9
2014	Old age dependency ratio	19.0(SK)	33.1 (IT)	27.3	26.7
	Expenditure on pensions	7.0 (LT)	17.2 (GR)	11.3	11.2
	At risk of poverty 65+	4.5 (HU)	32.6 (EE)	15.0	15.0
	Homeownership rate	52.5(DE)	96.2 (R0)	74.5	75.5
2015	Old age dependency ratio	19.7 (IE)	33.7 (IT)	27.9	27.4
	Expenditure on pensions	5.5 (IE)	17.8 (GR)	11.2	11.1
	At risk of poverty 65+	4.6 (HU)	35.8 (EE)	15.0	16.1
	Homeownership rate	51.9(DE)	96.4 (RO)	75.0	75.3
2016	Old age dependency ratio	20.2 (IE)	34.3 (IT)	28.3	28.0
	Expenditure on pensions	5.7 (IE)	17.7(GR)	**	**
	At risk of poverty 65+	5.7 (SK)	40.2 (EE)	15.7	16.9
	Homeownership rate	51.7(DE)	96.0 (RO)	74.5	75.1
2017	Old age dependency ratio	20.5 (IE)	34.8 (IT)	28.7	28.6
	Expenditure on pensions	**	**	**	**
	At risk of poverty 65+	6.9 (SK)	41.2 (EE)	15.8	18.1
	Homeownership rate	51.4(DE)	96.8 (RO)	74.7	75.2

* Can’t be calculated, data for DE and HR are unavailable.
** Can’t be calculated, data for 2016 and 2017 are unavailable.
Table 1: Summary results of descriptive statistics analysis of chosen demographic and socio-economic indicators on the sample of 28 EU countries in the period 2007-2017.
Source: Author’s calculation

In EU countries included in the analysis during the analyzed period (2007-2017) it can be noted that homeownership rates in total and by tenure status mostly fall between 70% and 90%: in the developed countries they are closer to 70%, whereas in post-transition countries they are near or over 90%. In 2017, the highest rates were recorded in Romania at 96.8%, Croatia 90.5%, Slovakia 90.1%, Lithuania 89.7%, Hungary 85.3%, Poland 84.2%, Bulgaria 82.9%, Malta 81.9%, Estonia 81.8%, Latvia 81.5%, etc., mostly with minor oscillation over the total period observed (except in Baltic countries, where a decrease of up to 7% over 10 years period is recorded, and in Poland, where a significant increase of about 18% is noted). High homeownership rates in post-transition countries represent a direct consequence of privatization of housing stocks in those countries after 1990. Except for post-transition countries in general, higher homeownership rates (mostly near 75%) are all recorded in South European (Mediterranean) countries included in the analysis, with the exception of France, and in addition to Croatia included in the previous, post-transition category: Spain, Portugal, Italy, Slovenia, Greece, Cyprus. In the UK, Ireland, France, Benelux and Scandinavian countries this rate is mostly close to the range between 60% and 70%, often with minor oscillation over the total period observed (except in the cases of UK and Ireland where a significant decrease of nearly 10% is recorded). The lowest homeownership rate, almost for the duration of the total period observed, is recorded in Germany (51.4% in 2017), but with a pronounced trend of a slight decrease. Second remarkable low is recorded in Austria (55% in 2017), with the same trend observed over the total period. A similar situation is observed in countries with homeownership rates close to, or mostly above, 75% in total by tenure status, as well as if the homeownership among seniors 65 or over in total is observed.

The highest at risk of poverty rates among seniors 65 years or over are recorded in the majority of the countries with the highest homeownership rates at the same time, but there is no uniform trend for country poverty rates detected over the total period observed, but many oscillations are recorded in most of those countries. In 2017, the highest rates were recorded in Estonia 41.2%, Latvia 39.9%, Lithuania 33.4%, Bulgaria 32%, Croatia 28.6%, Malta 25%, Cyprus 21.6%, Romania 20%, etc. On the other hand, the lowest values were recorded in Slovakia 6.9%, France 7.8%, Denmark 8.8%, Hungary 9.1%, Netherlands 10%, etc.

Expenditure on pensions (as a % of GDP) indicator was recorded at an increasing trend in almost all of the EU countries, mostly up to 5% within 10 years period. The highest values in the last few years were recorded in South European countries: Greece, Italy, France, Portugal, etc., mostly between 15% and 18%. Close to, or higher than the average, are many countries with a higher share of senior population, considered both relatively and in absolute amount: Austria, Germany, Scandinavian countries, Belgium, Netherlands, Spain, etc.. The lowest values, mostly under 9%, were recorded in Ireland, Lithuania, Malta, Latvia, Estonia, Romania, Slovakia, Bulgaria, Czech Republic and Hungary.

The old age dependency ratio was recorded as an increasing trend over the total period and in all countries observed. Total increase recorded over 10 years period was significant – mostly between 5% and 10%. Significantly, the highest values of this ratio in 2017 were recorded in Italy 34.8%, Greece 33.6%, Finland 33.2%, Portugal 32.5%, Germany 32.4%, Bulgaria 31.8%, Sweden 31.6%, Latvia 30.8%, France 30.7%, Croatia 29.8%, etc. The lowest values were recorded in Luxembourg 20.5%, Ireland 20.7%, Slovakia 21.5%, Cyprus 22.8%, etc.

The main results of correlation analysis are shown in Table 2. Correlation coefficients (r) at the country level in the observed period 2010-2015 mostly confirm and connect remarks and conclusions based on the results of the previous analysis.

	OLDAGEDPR	EXPPENSION	POVERTYR	HOME OWNR
OLDAGEDPR	1.00			
EXPPENSION	BE 0.97, IT 0.93, FR 0.92, CY 0.91, SK 0.91, FI 0.90, ES 0.90, NL 0.87, DK 0.87, AT 0.79, GR 0.77, PT 0.71, HR 0.65, BG 0.40, PL 0.28,UK 0.10, SE 0.09, SI-0.22, CZ-0.34, EE-0.35, DE-0.46, LU-0.62, IE-0.72, RO-0.73, LV-0.82, HU-0.85, MT-0.91, LT-0.99.	1.00		
POVERTYR	EE 0.99, LT0.91, LV 0.89, DE 0.83, RO 0.74, IE 0.68, LU 0.61, CZ 0.37, MT 0.18, SE 0.01, HU-0.20, BG-0.39, HR-0.46, NL-0.50, PT-0.73, SK-0.74, UK-0.78, CY-0.83, SI-0.86, ES-0.88, GR- 0.89, PL-0.89, AT-0.90, FI-0.92, IT-0.94, FR-0.95, BE-0.96, DK-0.96.	SI 0.47, LU 0.14, RO-0.15, HU-0.20, SE-0.27, BG-0.31, EE-0.31, LV-0.48, MT-0.50, AT-0.52, NL-0.53, SK-0.53, PL-0.61, UK-0.65, GR-0.68, DE-0.72, FR-0.76, IE-0.78, DK-0.83, FI-0.83, LT-0.85, CZ-0.89, HR-0.92, BE-0.92, IT-0.95, BT-0.96, CY-0.96, ES-0.99.	1.00	
HOMEOWNR	PL 0.84, FR 0.82, HR 0.41, NL 0.38, MT 0.32, AT 0.26, LU 0.09, IT-0.04, PT-0.12, RO-0.16, BE-0.16, CY -0.38, CZ-0.46, SE-0.51, SK-0.53, SI-0.71, ES-0.72, IE-0.73, EE-0.76, GR-0.82, DK-0.89, LV-0.91, BG-0.92, LV-0.92, DE-0.93, HU-0.95, UK-0.97, FI-0.99.	CZ 0.98, LV 0.96, FR 0.93, LT 0.90, EE 0.84, RO 0.71 AT 0.68,HU 0.68, DE 0.49,LU 0.42, PL 0.34, IE0.23, IT0.18, NE 0.10, SE 0.09, HR-0.03, MT-0.10, CY-0.16, UK-0.19, BE-0.21, SI-0.24, SK-0.27, PT-0.48, BG-0.59, GR-0.72, DK-0.84, FI-0.85, ES – 0.86.	ES 0.85, FI 0.95, UK 0.81, DK 0.76, LU 0.75, GR 0.64, PT 0.61, SI 0.53, RO 0.51, BE 0.36, SK 0.35, HU 0.33, BG 0.15, MT 0.12, IT 0.06, CY-0.06, HR-0.10, AT-0.14, SE-0.19, IE-0.47, NL-0.48, FR-0.60, LV-0.64, EE-0.71, LT-0.82, DE-0.86, PL-0.89,CZ-0.89.	1.00

* At the significance level of 0.05

Table 2: Correlation analysis summary results on the sample of 28 EU countries in the period 2010-2015

Source: Author’s calculation

Based on this data, a strong positive correlation (r>+0.75) between the old age dependency ratio (*OLDAGEDPR*) and expenditure on pensions (*EXPPENSION*) can be found, especially in the majority of countries with higher values of expenditure on pensions (% in GDP) at the same time (South European, Scandinavian and Benelux countries), which also emphasize the potential of reverse mortgage, since these countries are potentially (mostly) bigger markets – if total population number, absolute number and share of seniors in total are also taken into account. However, although there is, at the same time, a more or less strong negative correlation (correlation coefficients between -0.25 and -1) present between the old age dependency ratio (*OLDAGEDPR*) and the homeownership rates (*HOMEOWNR*) in many of the aforementioned countries (Spain, Greece, Cyprus, Portugal, Denmark, Finland, Belgium). At the same time, it can be and concluded that negative correlation between at risk of poverty rates among the senior population (*POVERTYR*) and expenditure on pensions (*EXPPENSION*) can be noticed in all of the countries. Furthermore, it must be pointed that a strong negative correlation (r<-0.65) exists between *POVERTYR* and *EXPPENSION*, including the countries that are already significantly the biggest reverse mortgage markets with the highest shares in total in EU: UK, Ireland and

Spain. At the same time, a strong positive correlation between *POVERTYR* and *HOMEOWNR* (r >+0.80) exists both in the UK and Spain. This indicates that the government spending on pensions inadequately follows the real needs inasmuch as in the most cases it brought the situation that pensions are low and mostly insufficient even to cover everyday basic needs of retirees (higher at risk of poverty rates among seniors), especially in the public pension systems with a strong budgetary dependence in order to assure the old-age provision and other types of pensions.

To summarize, the analysis results obtained in this paper suggest that many European countries with the highest homeownership rates also have, at the same time, a high poverty risk among senior population, mostly in the range 20%-40%, with a positive correlation between *HOMEOWNR* and *POVERTYR*. On the other hand, many of the countries with lower homeownership rates (close to, or lower than 75%) mostly also have a lower risk of poverty rates (close to, or lower than the average), but also have a higher old age dependency ratio (close to, or higher than the average) and a higher share of seniors in general, in absolute amount and relatively: in many of them, high expenditure on pensions (close to, or higher than the average) is present. Correlation analysis confirms this since there is a noticeable negative correlation between *POVERTYR* and *OLDAGEDPR,* as well as *HOMEOWNR* and *OLDAGEDPR*. It can be concluded that levels and trends of old age dependency ratios (i.e. share of seniors) and expenditure on pensions additionally emphasize the market potential of reverse mortgage in the greatest part of EU, and not only in the post-transition, Southern and Southeastern European countries, where that potential is highest when the analysis results of other indicators (homeownership and poverty rates) or their trends are also taken into consideration; yet, according to the absolute amount and share of seniors in total population, those countries are mostly smaller markets. However, all findings point out the need for new solutions for creditors, borrowers and governments in solving the problems connected with senior population finance in general and mentioned in this paper. On the other side, in countries with higher homeownership rates and at risk of poverty rates (as the main preconditions for reverse mortgage implementation and usage success), it can be concluded at the same time that, in many cases, a potential existence of stronger negative influence of cultural obstacles and lower financial literacy level may be presumed. When compared to older persons in USA and other developed countries, older persons in Europe in general, but especially in Southern and Southeastern European countries, are much less likely to tap into housing equity in either way as a means of supporting their standard of living in retirement. This happens primarily due to the cultural factors mentioned earlier, often accompanied by lower financial literacy, as well as some legal obstacles connected to housing market present in some countries – e.g. unregulated land register and property that consequently complicates or disables housing wealth access coupled with underdeveloped financial systems and poor or unfavorable financial instruments supply as well as ineffective market in that part. This analysis, according to the total analysis results of socio-economic indicators, suggests a potential for reverse mortgage implementation and market development in many European countries, but especially in post-transition, as well as some other Southern, Southeastern European, and Scandinavian countries. In the period observed, home equity access products were introduced in different forms, but similar to the reverse mortgage concept, in many European countries: in some of them, a legal framework for such products already exists, or is in preparation, but is mostly without significant results of its usage or offer. Serious reverse mortgage market already exists – but only in the UK, Ireland and Spain. In that sense, the other EU countries can be observed as mostly unused, or unused enough, in terms of their potential for further reverse mortgage market development.

7. Conclusion

According to the longer life expectancy, lower fertility rates, and consequently unfavorable population age structure trends, as well as also correlated socio-economic indicators movements affected by demographic ageing which is analyzed in this paper, even in the near future more problems with the sustainability of current pension systems and pension adequacy for decent retirement in many countries can be expected. Current pension systems, in general, are already preoccupied, the share of pensions in total GDP is increasing, and more budgetary funds must be provided for this and other social rights connected to ageing. Consequently, there is a need for the pension systems to reform in the direction of budgetary disburden, encouraging an increase in personal savings for the purpose of retirement, or introducing a higher share of the obligatory personal pension contribution. At the same time, housing represents the largest part of elderly people's wealth in general. Correlation coefficients, levels and trends of poverty rates, along with homeownership rates in general, but especially among senior population, confirm the hypothesis of unused potential of home equity in solving financial and other problems which seniors are struggling within many countries, but especially in post-transition and other Southern and Southeastern European countries. On the other hand, the levels, trends and connection between old age dependency ratios and expenditure on pensions further emphasize the potential of reverse mortgage in the larger part of the EU. In that sense, the different home equity access schemes in many European countries can be a valuable source of fund raising and income increase in the retirement for seniors who are homeowners. A reverse mortgage is recognized as a good home equity access solution for seniors without moving, but in the future, according to the demographic and correlated socio-economic trends observed in this paper, it could have a more significant and expanded role worldwide. The analysis results in this research suggest that home equity release through the reverse mortgage can be observed as a complementary source of retirement income, or the fourth pillar, in the total pension system in many European countries, according to the outlined significant potential in retirement funding and solving problem of sustainability of the age pension system, but also in improving the intergenerational equity. In addition to this, a reverse mortgage should not be observed only as a last resort, but as a living condition improvement tool for senior homeowners, especially when further negative demographic trends with their significant negative implications on socio-economic factors observed above in many countries are expected.

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ACCOUNTING OF CRYPTOCURRENCIES UNDER IFRS

ABSTRACT

Today's accounting business implies a constant interaction with modern technologies. Through modern technology, a wide range of tools has been developed which accountants use to perform day-to-day activities. Cloud accounting, or at least cloud-based storage, becomes a common practice for accountants around the world. The digital era has given rise to new concepts, leading to challenges and opportunities in the area of accounting, auditing and insurance. Although cryptocurrencies and transactions with cryptocurrencies have ceased to be something new and have become a common occurrence in modern business, accounting regulations have not adapted to crypto currencies. International Financial Reporting Standards (IFRSs) are designed so that cryptocurrencies are difficult to fit into their financial statements structure. For example, the valuation cryptocurrencies at fair value through profit or loss can intuitively be made by a correct solution, but such valuation is not appropriate under IFRS.

Under IFRS, it is possible to disclose cryptocurrencies as intangible assets, or in special cases as inventories. This is why this paper examines values of intangible assets in both Croatian and Serbian companies, and discusses possible implications of IFRS cryptocurrencies valuation on financial reports disclosures.

Key words: *accounting, IFRS, cryptocurrencies*

1. Introduction

Today's accounting business implies a constant interaction with modern technologies. Through modern technology, a wide range of tools has been developed for use by accountants in carrying out daily activities. Cloud computing, or at least cloud-based storage, becomes a common practice for accountants around the world. The digital era has given rise to new concepts that need to be accounted for, leading to challenges and opportunities in the area of accounting, auditing and insurance. One of them is the emergence of cryptocurrencies and their expansion in global financial flows. The significance of cryptocurrencies is shown by the fact that the total market capitalization of Bitcoin, the most famous and busiest cryptocurrency, in December 2017 was over USD 323 billion (www.blockchain.com). Although cryptocurrencies and transactions in cryptocurrencies have ceased to be news and have become a common occurrence in modern business, accounting regulations have not adapted to cryptocurrencies. International Financial Reporting Standards (IFRS) are designed so that cryptocurrencies are difficult to fit into their financial statements structure. For example, the valuation of crypto currencies at fair value through profit or loss can intuitively be seen as a correct solution, but such valuation is not appropriate.

The paper is divided into six interrelated parts. The first part is the introduction to the theme; the second section of the paper describes cryptocurrencies and gives an overview of the most significant cryptocurrencies by overall market capitalization. The third part of the paper describes the accounting approaches to the valuation of the cryptocurrencies under the IFRS regulation, and the conclusion is that the cryptocurrencies can be valued as intangible assets in accordance to IAS 38 or as short-term assets in accordance to IAS 2 when they are held for sale. The fourth part of the paper presents theoretical and legislative approaches to intangible assets according to which intangible assets are considered as an uncertain balance sheet element and are excluded from the value of economic entities when determining the liquidation value. The fifth part of the paper describes study of the intangible assets, cash and cash equivalents of the largest entities in the Republic of Croatia (RC) and the largest entities in the Republic of Serbia (RS). Finally, at the sixth part of paper is given conclusion. Conclusion is that the valuation of the cryptocurrencies according to the IFRS regulation will not significantly affect the reported values in the balance sheets of the company in both countries within a short time.

2. About cryptocurrencies

Cryptocurrency is digital or virtual money, and transactions with cryptocurrencies are secured by cryptographic algorithms that control the creation of new cryptocurrency units and also verify cryptocurrencies transactions (www.grantthornton.global). Unlike traditional forms of money controlled by central banks, cryptocurrencies are under decentralized control. Decentralized control is carried out via Blockchain, which is in its essence a public database of cryptocurrencies transactions, within which users open their virtual wallets through which they sell or buy crypto currencies. The advantage of this kind of transaction control is that interested parties can trade without intermediaries, but there are many criticisms of such a system that primarily relate to security. However, as economic giants see opportunities in this area, such as IBM, which has implemented Blockchain in its business (www.ibm.com), it is certain that security will increase over time.

The first cryptocurrency with decentralized transaction control (2009) was Bitcoin, which currently has the most significant market capitalization among the cryptocurrencies at the moment. Since 2009, many crypts have been created, according to coinmarketcap.com today there are over 2,500 digital currencies. Below, Table 1 shows the ten most significant cryptocurrencies according to market capitalization.

***Table 1:** Ten most significant cryptocurrencies according to market capitalization*

#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)	Price Graph (7d)
1	Bitcoin	$72,910,139,053	$4,153.35	$8,778,599,062	17,554,537 BTC	4.03%	
2	Ethereum	$16,691,510,991	$159.00	$4,442,023,356	104,980,163 ETH	6.92%	
3	XRP	$13,723,409,714	$0.331759	$608,815,603	41,365,634,610 XRP *	3.06%	
4	EOS	$3,845,424,195	$4.24	$1,491,096,853	906,245,118 EOS *	9.62%	
5	Litecoin	$3,136,873,199	$51.76	$1,269,495,422	60,602,236 LTC	4.43%	
6	Bitcoin Cash	$2,669,827,432	$151.37	$367,478,721	17,638,150 BCH	4.92%	
7	Tether	$2,034,579,593	$1.01	$7,857,826,715	2,021,459,017 USDT *	-0.10%	
8	Stellar	$1,820,808,521	$0.094939	$111,830,994	19,178,623,630 XLM *	4.33%	
9	TRON	$1,691,717,361	$0.025370	$145,195,714	66,682,072,191 TRX	1.27%	
10	Binance Coin	$1,526,235,953	$10.81	$87,630,932	141,175,490 BNB *	0.43%	

Source: https://coinmarketcap.com/, accessed 15.01.2019

There is a lack of scientific literature in the field of accounting for cryptocurrencies. The Web of Science database by the keywords accounting and cryptocurrencies in the subareas of Business and Finance, Economics & Management has only 12 papers in the period 2015 - 2019. Scopus database has only eight papers in the subareas of Economics, Econometrics and Finance & Business, Management and Accounting.

From published papers, indexed in the relevant databases, only one paper is related to the theme of this paper. Smith (2018) made case study about implications of next step Blockchain applications for accounting and legal practitioners. Smith (2018) concludes that there is need for accurate answers and guidance in the field of accounting for cryptocurrencies but it might still be out of reach at this point, and that we need develop frameworks to accurately assess and engage with these technologies moving forward. Currently, we are living in the 5th wave of innovation, where digital solutions are becoming leading impetus of change (Jovanović et al., 2018) and accounting needs to trace those changes.

3. Cryptocurrencies under IFRS regulation

In this part of the paper, it is considered how subject could theoretically record transactions with cryptocurrencies and whether such transaction recording is possible under IFRS. According to more sources, the recognition of the cryptocurrencies and the recording of cryptocurrencies transactions are possible only through IAS 38, Intangible Assets or under certain circumstances through IAS 2 Inventories. However according to Venter (2016)., there is a different interpretation of IFRS that leads to the occurrence of cryptocurrencies outside IAS 38 and beyond IAS 2 in practice. Table 2 below provides an overview of the standard and the method of valuation of the cryptocurrencies and the answer to the question is such approach acceptable according to IFRS.

Table 2: *Categorisation of cryptocurrencies under IFRS*

Standard	Categorisation	Acceptable under IFRS
IAS 7 Statement of Cash Flows	Cash and cash equivalents	No
IAS 39 Financial Instruments: Recognition and Measurement	Financial asset at Fair Value Through Profit or Loss	No
IAS 40 Investment Property	Investment Property	No
IAS 16 Property, Plant and Equipment	Property, Plant and Equipment	No
IAS 38 Intangible Assets	Intangible Assets	Yes
IAS 2 Inventories	Inventories	under certain conditions

Source: https://www.grantthornton.global/globalassets/1.-member-firms/global/insights/article-pdfs/ifrs/ifrs-viewpoint-9---accounting-for-cryptocurrencies--the-basics.pdf, (accessed 10 January 2019)

3.1. Cash and cash equivalents

As the cryptocurrencies are form of digital money, the original idea would be that assets in the form of cryptocurrencies could be recorded as cash. But unlike cash, cryptocurrencies are not controlled by states or central banks. Moreover, their virtual traffic is not considered legal in many regulations. Such status in an accounting context leads to the fact that cryptocurrencies do not meet the definition of cash under IAS 7 (2016) according to which cash comprises cash on hand and demand deposits. IAS 32 Financial Instruments: Disclosure and Presentation (2016) defines cash as financial assets because cash is a means of exchange and as such is the measure by which all transactions are valued and recognized in the financial statements. Thus, according to IAS 32 (2016), cryptocurrencies are not cash equivalent because they may not be replaced for any good or service immediately and cannot be recognized in accordance with IAS 7. Furthermore, IAS 7 (2016) also defines cash equivalents as instruments that are considered equal to cash because they are very similar to cash in nature. IAS 7 (2016) defines cash equivalents as short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value. Nor does this definition apply to cryptocurrencies because cryptocurrencies are subject to significant price volatility. For example, Bitcoin's value in December 2017 was \$ 19,535.70 and in January 2019 it is \$ 4,135.35.

3.2. Financial asset at Fair Value Through Profit or Loss

Another seemingly acceptable approach to valuation of investments in cryptocurrencies is accounting at fair value through profit or loss in accordance with IFRS 9. However, cryptocurrencies in the initial definitions of the standard do not meet the terms of recognition of financial instruments. IFRS 9 (2016) prescribes that a financial instrument can be recognized when there is a contractual relationship that will result in a financial asset for one party and a financial liability for the other party to the contractual relationship. In addition, cryptocurrencies do not meet the requirements of IAS 32 (2016) which defines financial assets as any asset that is:
(a) cash;

(b) an equity instrument of another entity;
(c) a contractual right:

(i) to receive cash or another financial asset from another entity; or

(ii) to exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity; or

(d) a contract that will or may be settled in the entity's own equity instruments…

Therefore, the cryptocurrencies to IFRS regulation do not meet the definition of financial assets and as such they cannot be valued as financial assets at fair value through profit or loss.

3.3. Investment Property

There are opinions that cryptocurrencies could be valued at fair value through profit or loss under IAS 40 because they are a type of investment in assets. However, IAS 40 (2016) defines investment in properties as assets (for example, land or building) held to earn rentals or for capital appreciation or both. Although cryptocurrencies are in most cases held for profit by increasing their value, cryptocurrencies are not physical assets and therefore it is inappropriate to classify them as investments in property and to evaluate them through profit or loss in accordance with IAS 40. Also, the intangibility of cryptocurrencies prevents their valuation in accordance with the IAS 16 Property, Plant and Equipment. However, their intangible form suggests that they could meet the definition of intangible assets and be valued in accordance with IAS 38.

3.4. Intangible assets

IAS 38 (2016) defines intangible assets as an identifiable non-monetary asset without physical substance. The definition of intangible assets requires that intangible assets be identified in a way that is clearly different from goodwill. Furthermore, IAS 38 (2016) states that the future economic benefits can arise from intangible assets.
Asset meets the criterion of identification in the definition of intangible assets when it is:

(a) is separable, ie is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so; or

(b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

When it comes to cryptocurrencies, they meet the identification criterion in the definition of intangible assets because they are exchangeable and hence can be identified in total assets. Beyond that, future economic benefits may also come from their exchange. IAS 38 in addition defines intangible assets as non-monetary assets, and monetary assets are defined as money held and assets to be received in fixed or determinable amounts of money. Since the value of the cryptocurrencies is not fixed or determinable, because it is subject to high volatility of the value resulting from the supply and demand for cryptocurrencies, the cryptocurrencies does not meet the definition of the monetary item. In addition to the criteria for identifying and non-monetary criteria, cryptocurrencies meet the last criterion of definition, which is that as virtual money they have no physical substance. The conclusion that cryptocurrencies have all the features of intangible assets is posing a question, how cryptocurrencies should be accounted for in accordance with IAS 38? IAS 38 (2016) prescribes two methods of

intangible assets valuation. Intangible assets, in accordance with IAS 38 (2016), may be accounted for at cost or according to the revaluation model.
The cost model IAS 38, para 74:
After initial recognition, an intangible asset shall be carried at its cost less any accumulated amortisation and any accumulated impairment losses.
Thus, according to this approach, cryptocurrencies will be recognized in the amount of costs, and afterwards impairment test will be carried out (as in the case of goodwill). For cryptocurrencies is unacceptable to record depreciation because it does not meet the limited life criterion, so it is appropriate to conduct an impairment test in accordance with IAS 36, Impairment of Assets.
The revaluation model IAS 38, para 75 (2016):
After initial recognition, an intangible asset shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated amortisation and any subsequent accumulated impairment losses. For the purpose of revaluations under this Standard, fair value shall be measured by reference to an active market. Revaluations shall be made with such regularity that at the end of the reporting period the carrying amount of the asset does not differ materially from its fair value.
If there is an active market in which cryptocurrencies is traded (which does not have to be the case for all existing types of cryptocurrencies) it is possible to apply a revaluation model for the evaluation of the cryptocurrencies. IAS 38 (2016) proscribes that the increase in value in the case of the application of the revaluation model is recognized in other comprehensive income and equity under the revaluation reserve. However, if, after initial measurement, loss is recognized, the increase in value will be recognized through profit to the amount previously recognized as a loss. Impairment losses will be recognized through loss. However, impairment of assets for which previously has been recognized increase in value through other comprehensive income and revaluation reserves, will be recognized as decrease of revaluation reserves. Although the valuation of most intangible assets at fair value is unusual, cryptocurrencies are in most cases traded in the active market, and it is possible to reliably measure their fair value so revaluation model can be applied to the cryptocurrencies.

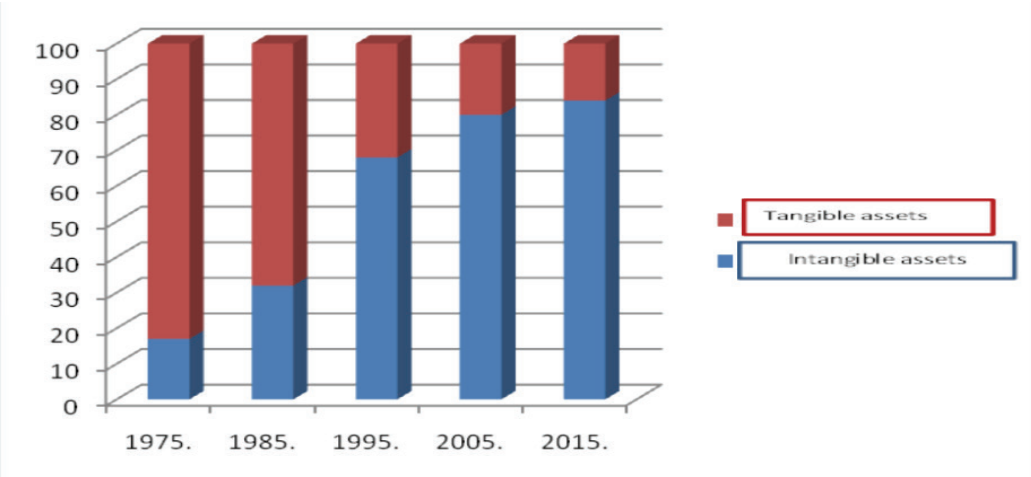
3.5. Inventories

Depending on the business model under which the enterprise operates, it is possible to evaluate the cryptocurrencies in accordance with the IAS 2, Inventories. Although cryptocurrencies meet the definition of intangible assets under IAS 38, the same standard prescribes that held for sale intangible assets will be accounted for in accordance with IAS 2.
IAS 2 (2016) prescribes that inventories should be measured at cost or net realisable value, whichever is lower. Also, IAS 2 (2016) prescribes that this Standard does not apply to commodity broker-traders which stock their stocks at fair value less costs up to the point of sale. If these inventories are measured at fair value less costs to the time of sale, changes in fair value less costs to the time of sale are recognized in profit or loss for the period in which the change occurred.
It is unclear how to interpret the exception relating to commodity broker-traders merchandise in the context of cryptocurrencies. On the one hand, it intuitively makes a good approach to treat cryptocurrencies as commodity broker-traders merchandise in situations where owners apply such business model, but on the other hand, cryptocurrencies have no physical form and it is unsuitable to account them as merchandise. Therefore, the application of IAS 2 to the valuation of the cryptocurrencies should be an exception in cases where it is clear that the business model of the holder that the cryptocurrencies are held for sale and will be sold as soon as possible.

4. Intangible assets – aggressive financial reports element

From the IAS 38 definition of intangible assets and from the definition of the terms in which the intangible asset is defined, it is apparent that the intangible assets are assets whose recognition is subjective. Therefore, depending on the accounting policy of recognition of intangible assets, it may in many cases be recognized as an expense of the period or displayed as an intangible asset. Also, the valuation of goodwill, which IFRS regulate as specific intangible assets created in business combinations, which is often a significant item in consolidated reports, leaves a range of different estimates.
Dmitrović (2015) shows the structure of the total market value according to the US stock market index, based on the market capitalization of five hundred large companies traded on the NYSE and NASDAQ Stock Exchange. The structure is shown below, in Figure 1, and is the relation between tangible and intangible assets in the period from 1975 to 2015.

Figure 1: *The relation between tangible and intangible assets in the period from 1975 to 2015*



Source: Dmitrović, M. V., (2015), „Intelektualni kapital kao strateška performansa organizacije", Univerzitet u Beogradu, Fakultet organizacionih nauka, doctoral thesis, p. 100

The previous figure shows that the share of tangible assets in total market value has lost importance for the last thirty years and has a decreasing trend, while the share of intangible assets has a growing trend. Over 80% of the total market value of large organizations in today's terms is intangible assets and its recognition and valuation provides significant deviations from the fair presentation of the financial statements. The first year shown in Figure 1 was 1975 when it was estimated that tangible assets accounted for 83% and intangible assets with 17%; In 1985 the material assets participate with 68%, intangible assets with 32%; In 1995 the ratio was material assets 32%, and the intangible assets 68%; In 2005, the relationship is 20% material assets and 80% intangible assets and ultimately the 2015 share of the intangible assets is 84% compared to 16% of the material assets.
The ratio between the intangible and tangible assets is significantly different in the sample of companies surveyed in Čičak (2018), and the largest number of enterprises from the examined Croatian sample ranges between 0% and 30% of intangible assets. This can be interpreted as a difference in the size of the American and Croatian companies. Namely, the largest Croatian company is not as close as the size of the largest five hundred American companies. So, the larger the company, the intangible assets are more significant item of financial statements.

Particularly, for many controlled companies, goodwill accounting provides possibilities of the bias in the neutral disclosure of financial statements.
Onesti and Romano (2012) explore the impact of goodwill accounting on the financial result and equity of Italian listed companies. The authors conclude that in the period from 2005 to 2010 the market value of companies listed on the FTSE MIB dropped by approximately 60%, while in the same period the goodwill impairment in the observed sample amounted to approximately 3.75%. Such research proves that goodwill accounting provides a management tool for mitigating the consequences of the crisis, but leaves the issue of estimating bias in financial reporting.
The high share of intangible assets in total long term assets is considered as an indicator of the aggressive balance sheet. Conservative approach to valuation of intangible assets implies, for example, non-capitalization of new product development expenses, but their recognition in operating expenses. This approach is also present when determining the asset's liquidation value. Namely, intangible assets are usually irredeemable in liquidation cases.
Watts (2003a & 2003b) points out the investor's influence on conservatism in reporting by insisting on the company's liquidation value. If the company's value in use is less than the liquidation net asset value, there is a possibility of profit through the sale of assets and liquidation. There are a number of cases where it is suspected that the takeover of the company is done only for that reason.
Darabi and Vojohi (2013) demonstrate that there is management tendency, which is most inclined to aggressive accounting to maximize their own fees, for aggressive recognition of intangible assets in new companies. The authors prove that the growth of the value of the intangible assets of new companies on the stock exchange correlates with the growth of management's success. These authors also find that companies that are longer on the stock market through a conservative approach to the valuation of intangible assets show a growth performance. The research results can be explained by the impact of recognized intangible assets on depreciation costs. In an effort to show better business results, the management of new companies will maximize capitalization, which will be reflected in future periods through amortization. Awareness of the impact of amortization expenses on the operating result and their source in previously capitalized costs leads to conservatism in the recognition of intangible assets in older companies.
In the RC, several regulators[1] prescribe the exclusion of intangible assets in the calculation of regulatory capital. EU legislative (Directive No 575/2013) article 76 prescribes “For the purposes of strengthening market discipline and enhancing financial stability it is necessary to introduce more detailed requirements for disclosure of the form and nature of regulatory capital and prudential adjustments made in order to ensure that investors and depositors are sufficiently well informed about the solvency of institutions.” Also, Directive No 575/2013 prescribes deduction of intangible assets when calculating regulatory capital. Those requests came out from the Basel III framework which inputs prudential requirements after financial crisis 2008.

[1] See more:
http://old.hnb.hr/propisi/odluke-nadzor-kontrola/2011/h-odluka-o-jamstvenom-kapitalu-ki.pdf;
https://www.hanfa.hr/uploads/2013/07/17/1374058627_792cbca5fb8d195b916b53d788663876.pdf;
https://narodne-novine.nn.hr/clanci/sluzbeni/2014_05_60_1121.html; https://www.hanfa.hr/media/1371/45-pravilnik-o-obliku-i-iznosu-kapitala-dru%C5%A1tva-za-upravljanje-ucits-fondovima.pdf;
https://narodne-novine.nn.hr/clanci/sluzbeni/2017_04_41_930.html;
https://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32013R1423

5. Presentation of the intangible assets, cash and cash equivalents in Republic of Croatia and Republic of Serbia

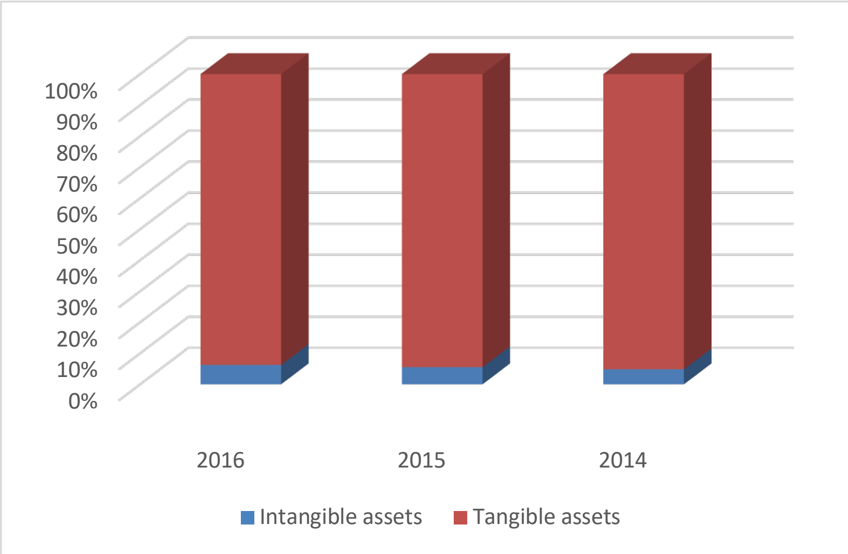
Data have been provided by the Amadeus database which contains comprehensive information on around 21 million companies across Europe. For the purpose of this paper, data on the state of the financial statement elements of the 100 largest companies in the RC and the 100 largest companies in RS are taken into account according to turnover and intangible assets criteria. These companies are selected because large companies are obliged to apply IFRS in the RC and the recognition of the cryptocurrencies will reflect the disclosures. RS sample is selected for comparison with the data for the RC.
Below is a tabular and graphical presentation of trends in intangible and tangible assets and cash and cash equivalents for the period 2014-2016, according to data from the largest companies in the RC and RS. Table 2 and Figure 2 show the relation between the intangible and tangible assets disclosed in the financial statements of the largest companies in the RC. It is evident that intangible assets are growing more intensively than in the case of tangible assets. Nevertheless, in the case of the RC outlier in the data on the growth of intangible assets for 2016 is the largest company in the sample that generated the growth of intangible assets of 210.002 th EUR, which is 48.37% of the growth of intangible assets top 100 companies of the RC for 2016.

Table 2: *Intangible and tangible assets (2014-2016) – top 100 companies by turnover and intangible assets in Croatia*

Republic of Croatia Top 100 companies	Intangible assets th EUR 2016	Intangible assets th EUR 2015	Intangible assets th EUR 2014	Tangible assets th EUR 2016	Tangible assets th EUR 2015	Tangible assets th EUR 2014
Total amount	2.942.080	2.507.938	2.025.920	44.190.610	42.815.819	39.825.852
Fixed base index (2014)	145,22	123,79	100	110,96	107,51	100
Chain base index	117,31	123,79	100	103,21	107,51	100

Source: author´s work

Figure 2: *Ratio of tangible and intangible assets (2014-2016) – top 100 companies by turnover and intangible assets in Croatia*



Source: author´s work

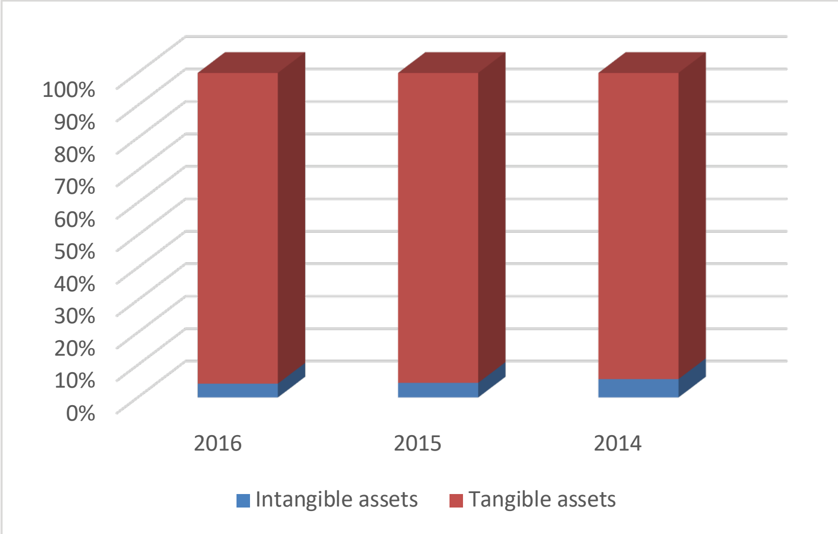
Table 3 and Figure 3 show the relation between the intangible and tangible assets disclosed in the financial statements of the largest companies in the RS. Unlike the RC where intangible assets grow more intense than tangible assets, in the case of the largest 100 in RS, it is evident that tangible assets are growing more intense than in the case of intangible assets.

Table 3: *Intangible and tangible assets (2014-2016) – top 100 companies by turnover and intangible assets in Serbia*

Republic of Serbia Top 100 companies	Intangible assets th EUR 2016	Intangible assets th EUR 2015	Intangible assets th EUR 2014	Tangible assets th EUR 2016	Tangible assets th EUR 2015	Tangible assets th EUR 2014
Total amount	1.312.304	1.331.181	1.172.674	29.461.062	28.206.723	19.555.667
Fixed base index (2014)	111,91	113,52	100	150,65	144,24	100
Chain base index (2014)	98,58	113,52	100	104,45	144,24	100

Source: author´s work

Figure 3: *Ratio of tangible and intangible assets (2014-2016) – top 100 companies by turnover and intangible assets in Serbia*



Source: author´s work

The previous tables and figures describe the data on tangible and intangible assets in the financial statements of the 100 largest companies in the RC and RS. Compared to the five hundred largest US companies shown in Figure 1, the relation between the intangible and tangible assets in the RC and RS is significantly different. Tangible assets are the dominant asset and vary at the level of 95% of the total of tangible and intangible assets among the hundred largest in both economies.

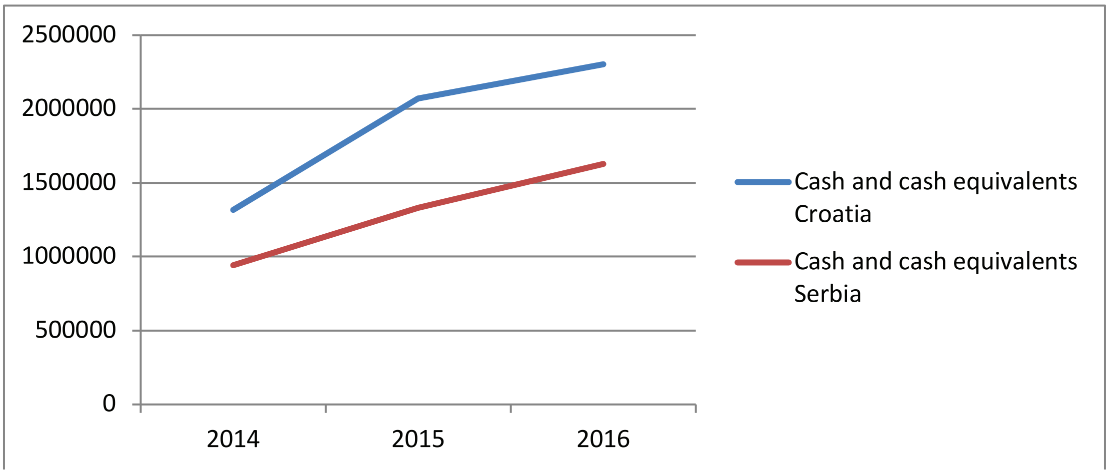
Below is a presentation of the cash and cash equivalents of the top 100 companies by turnover and intangible assets in RS and RC.

Table 3: *Cash and cash equivalents (2014-2016) – top 100 companies by turnover and intangible assets in Serbia and Croatia*

Croatia & Serbia Top 100 companies	Cash & cash equivalent th EUR 2016 Croatia	Cash & cash equivalent th EUR 2015 Croatia	Cash & cash equivalent th EUR 2014 Croatia	Cash & cash equivalent th EUR 2016 Serbia	Cash & cash equivalent th EUR 2015 Serbia	Cash & cash equivalent th EUR 2014 Serbia
Total amount	2.302.932	2.069.622	1.317.035	1.628.133	1.332.589	942.462,3
Fixed base index (2014)	174,86	157,14	100	172,75	141,39	100
Chain base index	111,27	157,14	100	122,18	141,39	100

Source: author´s work

Figure 4: *Cash and cash equivalents (2014-2016) – top 100 companies by turnover and intangible assets in Serbia and Croatia*



Source: author´s work

From the previously presented cash and cash equivalents, it is apparent that cash and cash equivalents grow at approximately the same pace in both economies. In the sample of the 100 largest in the RC 2014-2016 the growth is 74.86%, and in the same period in the sample of the 100 largest in RS, growth is 72.75%. The growth of liquidity in the top 100 companies in both economies is a reflection of monetary policy in both countries and is at a similar pace in the observed period. Taking into account the previously presented data of both economies and the underdevelopment of the market with respect to transactions in cryptocurrencies but also on poorly developed business combinations compared to the world level, it is possible to conclude that the accounting treatment of cryptocurrencies through intangible assets will not significantly affect the disclosures of the financial statements within both economies. The outliers are possible, such as the largest company in the RC sample, but the conservatism of economies that rely on business on long-term tangible assets implements the conclusion that the application of the prescribed IFRS regulation regarding the accounting for the cryptocurrencies will not significantly affect the balance sheets of the companies in both economies.

6. Conclusion

Although cryptocurrencies transactions have become a common occurrence in the global economy and economic giants such as IBM, implement technologies related to cryptocurrencies (Blockchain), the accounting for cryptocurrencies in practice has been unmatched globally, also there is a lack of scientific literature in the field of accounting for cryptocurrencies. According to the IFRS, cryptocurrencies can be accounted for as intangible assets in accordance with IAS 38 or as short-term assets in accordance with IAS 2 when they are held for sale. This approach is in line with the volatility of the cryptocurrencies and is appropriate to the theoretical and legislative approaches to intangible assets whereby intangible assets are considered as an aggressive balance sheet element and are excluded from the value of the entities when determining the liquidation value. Investigating the state of intangible assets, money and cash equivalents of the largest entities in the RC and the largest entities in RS shows that the economies of both countries are conservative and value added is largely realized through tangible assets. Unlike the US economy where the 500 largest entities in their balance sheets account for approximately 85% of the intangible and 15% of tangible assets, the largest in the RC and the largest in the RS, account for approximately 5% of intangible assets and 95% of tangible assets. Therefore, it is concluded that the valuation of the cryptocurrencies in accordance with the IFRS will not significantly affect the disclosed balance sheet values in both countries in short time.

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5 New Trends in Economic Development

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TRUST AND INNOVATION NEXUS AMONG THE EUROPEAN UNION MEMBER STATES

ABSTRACT

European Innovation Scoreboard uses data from the Eurostat's Community innovation survey to determine the state of the European Union's innovation and benchmark it with the rest of the world. European Union member states differ in their innovation performance across the variety of indicators. In the fast-paced global environment, innovation is important because it results in products and services of higher added value and leads to greater international competitiveness. Open innovation approach results in an increase in the speed of innovation and innovation performance. While the share of firms adopting open innovation is rising and inbound open innovation is a predominant mode of open innovation used, there is a stagnation in the intensity of collaboration for innovation purposes. This paper examines the role of trust in collaboration for innovation purposes between the European Union member states. Trust is important in collaboration because it decreases transaction costs, facilitates the flow of information, and cooperation accordingly, and enables a more efficient economic environment. Moreover, this study analyses the role of trust within different innovation ecosystems of the European Union member states. Its aim is to explain whether differences in trust can explain differences in collaboration for innovation purposes and innovation ecosystems between European Union member states.
This study uses country data for the 28 European Union member states in the period 2010-2017. World Bank's Worldwide Governance Indicators' item Rule of law is used as a proxy for trust, while the Eurostat's Community Innovation Survey's indicators on linkages, research systems, innovation-friendly environment, and finance and support are used as proxies for collaboration for innovation and innovation ecosystem. The analysis is meaningful from a policy perspective in the aspect of an increasing international competitiveness through a decrease in transaction costs in both public and private sectors.

Key words: *Collaboration for Innovation, Innovation Ecosystem, Trust, Community Innovation Survey, International Competitiveness.*

1. Introduction

Trust decreases transaction costs, facilitates the flow of information and cooperation, and enables a more efficient economic environment. Efficiency of economic environment is boosted by innovation. Nowadays open innovation is specified as an important firm innovation strategy (Greco et al., 2016). As the share of firms adopting open innovation is rising and inbound open innovation is a predominant mode of open innovation used, there is a stagnation in the intensity of collaboration for innovation purposes (Cricelli et al., 2016). This study's aim is to explain whether differences in trust can explain differences in collaboration for innovation purposes and innovation ecosystems between European Union member states. It uses country data for the 28 European Union member states in the period 2010-2017 to depict the role of trust in different institutional settings. Namely, different regions have differing innovation policies that enable different collaboration for innovation (Cooke et al., 1997).

This paper is structured as follows. Section 2 depicts the theoretical background of the paper on the connections between trust and innovation. Section 3 explains the state of innovation in the 28 European Union member states based on the selected indicators. Section 4 explains the methodology, data, and results of the analysis. Section 5 concludes the paper.

2. Trust and innovation nexus

Trust is a self-organising, adaptive phenomenon (Jarratt and Ceric, 2015), which facilitates the flow of information and the exchange of tacit knowledge (Hardwick et al., 2013) through minimization of the likelihood of an opportunistic behaviour (Nielsen & Nielsen, 2009). It emerges under uncertainty, similar to the one inherent in innovation processes.

Trust is rarely uniform, and requires relationships and collaborative capabilities (Noteboom, 2013). By developing collaborative capabilities, firms raise the level of mutual trust (Nielsen & Nielsen, 2009) required for and resulting in collaboration for innovation (De Jong & Woolthuis, 2008; Dovey, 2009). An example of Taiwanese information technology firms, which increased their global market share through innovation aided by government and trust, illustrates this point (Rasiah & Lin, 2005).

Although trust is important in collaborating for innovation, firms that invest in relationships that generate little value, may misallocate their resources and end up with adverse effects (Molina-Morales et al., 2011). Control enforced in contracts can be beneficial to aid managers to lower their necessity to trust (Noteboom, 2013), but problems originate in managers who do not attribute value, comprehend the nature or the dynamics of trust (Fawcett et al., 2012).

In the analysis of the effects of trust it is important to understand different institutional settings (Nilsson & Mattes, 2015). Institutional settings consist of differing laws and regulations (Niesten et al., 2017). Namely, differing situations bread differing trust (Noteboom, 2013). In order to overcome issues connected with differing trust, more innovation is necessary. A study of global, US and Chinese regions found that trust is important for innovation performance, whereby it is connected with the level of economic development (Audresch et al., 2018). A firm-level data on 29 countries has shown that the greater level of trust leads to higher output, e.g., in terms of co-patenting, especially in environments in which formal contracts are less enforceable (Brockman et al., 2018).

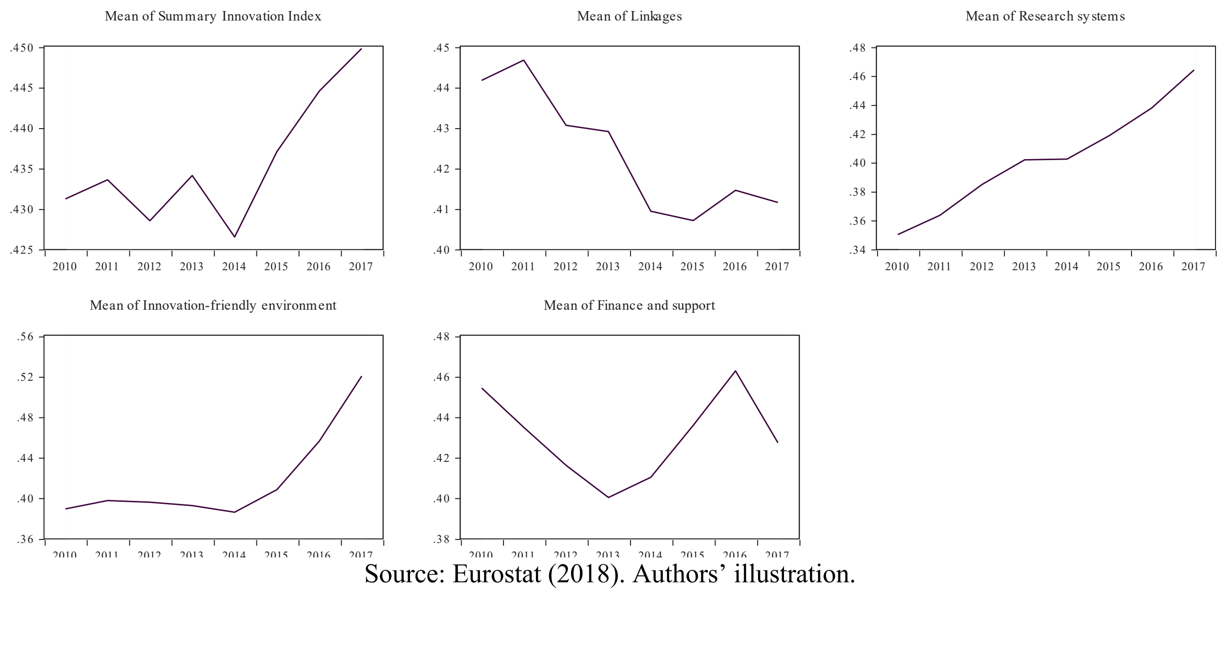
Some studies found only a partial effect of trust on innovation (e.g., Dakhil & De Clercq, 2004). Strict regulation decreases the innovation potential and changes the nature of innovation (Noteboom, 2013), while weak trust does not promote more than basic cooperation (Murphy, 2002). Hence, innovation should be flexible enough to allow the potential of collaboration to develop under optimal level of trust (Noteboom, 2013). Therefore, this study aims to explain differences in collaboration for innovation purposes and innovation ecosystems between European Union member states in the period 2010-2017 to depict the role of trust in different institutional settings.

3. The state of innovation in the European Union member states

European Innovation Scoreboard (2008) describes the state of the European Union's member states innovation and compares them with the selected global countries. Although the European Union member states are catching-up in innovation relative to the United States, they are still far behind South Korea which ranks first, followed by Canada, Australia, Japan and the United States. BRIC countries follow the European Union. On average, the European Union's innovation performance has increased by 5.8%, but there has not been a convergence between the European Union member states (European Innovation Scoreboard, 2018, p. 6).

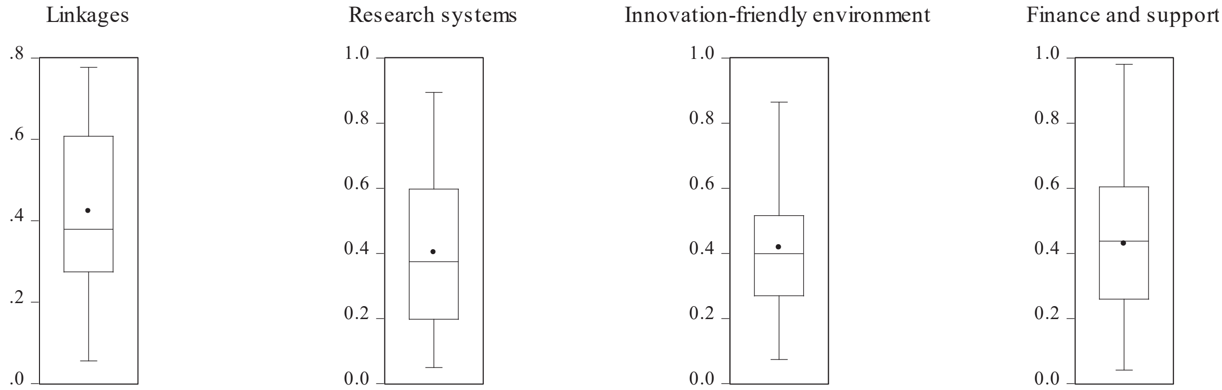
Innovation performance of the European Union member states is measured across 27 indicators, which are divided according to: framework conditions, investments, innovation activities and impacts. For the purpose of this study, four indicators have been analysed with respect of the effect of trust on collaboration for innovation. Firstly, *linkages* indicator comprises: (1) innovative SMEs collaborating with others, (2) public-private co-publications and (3) private co-funding of public R&D expenditures. *Research systems* include: (1) international scientific co-publications, (2) top 10% most cited publications, and (3) foreign doctorate students. *Innovation-friendly environment* includes: (1) broadband penetration, and (2) opportunity driven entrepreneurship. Lastly, *finance and support* consist of: (1) R&D expenditures in the public sector, and (2) venture capital expenditures.

Figure 1a: Means of innovation and collaboration indices of all European Union member states



Source: Eurostat (2018). Authors' illustration.

Figure 1b: *Box plots of innovation and collaboration indices of all European Union member states*



Source: Eurostat (2018). Authors' illustration.

Figure 1a shows the means of innovation performance indexes of all European Union member states for the period 2010-2017. On average there was a rise of innovation after 2014, a fall in linkages up to 2016 and a gradual rise thenafter. Research systems on average continuously improve, while innovation-friendly environment shows a sharp increase after 2014. Finance and support exhibit a fall up to 2013, when they start to rise up to 2016, and sharply decline in 2017.

Table 1: *Trust, linkages, research systems, innovation-friendly environment and finance and support means for 28 European Union member states for the period 2010-2017*

	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
Trust	1.42	-0.62	1.07	1.94	1.68	1.24	1.69	0.37	1.04	1.45	0.28	0.38	1.02	0.83	0.90	1.82	0.57	1.23	1.87	1.84	0.73	1.09	0.17	1.02	0.55	2.00	1.98	1.74
Linkages	0.73	0.15	0.36	0.67	0.61	0.45	0.38	0.40	0.33	0.47	0.35	0.26	0.38	0.20	0.41	0.37	0.36	0.12	0.71	0.62	0.20	0.27	0.22	0.59	0.30	0.66	0.64	0.65
Research systems	0.68	0.11	0.28	0.75	0.40	0.31	0.60	0.37	0.39	0.57	0.13	0.34	0.36	0.11	0.13	0.80	0.23	0.26	0.76	0.57	0.11	0.39	0.11	0.36	0.19	0.52	0.70	0.73
Innovation friendly environment	0.54	0.21	0.33	0.90	0.38	0.40	0.33	0.15	0.34	0.43	0.13	0.29	0.18	0.49	0.46	0.70	0.30	0.42	0.70	0.44	0.22	0.47	0.30	0.48	0.26	0.66	0.83	0.39
Finance and support	0.56	0.19	0.44	0.69	0.57	0.61	0.52	0.20	0.42	0.68	0.25	0.31	0.21	0.36	0.39	0.67	0.27	0.08	0.66	0.50	0.27	0.46	0.15	0.26	0.20	0.79	0.74	0.58

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

On the other hand, Figure 1b illustrates medians of the same indicators, depicting finance and support as the indicator with the most reoccurring value.

Table 1 shows the average value of of indicators of trust, linkages, research systems, innovation-friendly environment and finance and support for each of the 28 European Union member states for the period 2010-2017. Member states vary according to the level of trust. Moreover, for the majority of member states, linkages have the highest average value compared to research systems, innovation-friendly environment and finance and support.

4. Data and results – Trust and Innovation, EU 28 experience

This section explains the data and results of the panel analysis. In addition to the data described in Section 3, this section explains the data, correlations and panel analysis of the cross-country data for the period between 2010-2017.

Linkages indicator (1) innovative SMEs collaborating with others indicates the number of Small and mediumsized enterprises with innovation co-operation activities, i.e. those firms that had any co-operation agreements on innovation activities with other enterprises or institutions in the three years of the survey period, (2) public-private co-publications indicates the number of public-private coauthored research publications whose publications are assigned to the country in which the business companies or other private sector organisations are located based on the Web of Science database, and (3) private co-funding of public R&D expenditures shows all R&D expenditures in the government sector (GOVERD) and the higher education sector (HERD) financed by the business sector according to Eurostat and OECD.

Research systems include: (1) international scientific co-publications include the number of scientific publications with at least one co-author based abroad (where abroad is non-EU for the EU28) according to the Web of Science database, (2) top 10% most cited publications according to the Web of Science database, and (3) foreign doctorate students based on Eurostat database.

Innovation-friendly environment includes: (1) broadband penetration based on Eurostat's number of enterprises with a maximum contracted download speed of the fastest fixed internet connection of at least 100 Mb/s, and (2) opportunity driven entrepreneurship calculated as the ratio between the share of persons involved in improvement-driven entrepreneurship and the share of persons involved in necessity-driven entrepreneurship according to the three-year average of the Global Entrepreneurship Monitor (GEM).

Lastly, *finance and support* consist of: (1) R&D expenditures in the public sector include Eurostat's R&D expenditures in the government sector (GOVERD) and the higher education sector (HERD), and (2) venture capital expenditures based on Invest Europe Comment's three-year average of expansion and replacement capital.

World Bank's Worldwide Governance Indicator Rule of Law is a proxy for *trust*. Its values range between -2.5 (the worst) and 2.5 (the best). It depicts the "*perceptions of the extent to which persons have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence*" (Worldwide Governance Indicators, 2018).

Table 2: *Descriptive statistics*

	N	Mean	Min	Max	Standard deviation	Skewness	Kurtosis	Jarque-Bera	Sum	Sum of square deviations
Trust	224	1.137	-0.110	2.100	0.609	-0.226	1.980	11.625	254.590	82.694
Linkages	224	0.424	0.056	0.777	0.183	0.196	1.868	13.382	94.929	7.462
Research systems	224	0.403	0.050	0.895	0.230	0.305	1.896	14.848	90.214	11.810
Innovation friendly environment	224	0.418	0.074	1.000	0.203	0.782	3.152	23.071	93.640	9.228
Finance and support	224	0.430	0.041	0.981	0.2214	0.171	2.113	8.444	96.347	10.249

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

Table 2 shows that for the period of 8 years between 2010-2017 for 28 member states, there have been 224 data. There was no missing data in observations. It also depicts mean, standard deviation, skewness and kurtosis of all given variables for all given EU member states.

Table 3: *Correlations*

	Trust	Linkages	Research systems	Innovation-friendly environment	Finance and support
Trust	1				
Linkages	0.706	1			
Research systems	0.805	0.695	1		
Innovation-friendly environment	0.712	0.538	0.668	1	
Finance and support	0.775	0.667	0.706	0.659	1

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

Table 3 depicts the existing correlations between the level of trust on one side and the variety of dependent variables including linkages, research systems, innovation-friendly environment and finance and support for all EU member states for the period 2010-2017. Trust seems to be highly correlated with the remaining four variables: linkages, research systems, innovation-friendly environment and finance and support.

Table 4: *Unit root tests*

Method	Trust	Linkages	Research systems	Innovation-friendly environment	Finance and support
Levin, Lin & Chu t	0.164	0.002	1.000	1.000	0.088
ADF - Fisher Chi-square	0.474	0.020	1.000	1.000	0.041
PP - Fisher Chi-square	0.255	0.000	1.000	1.000	0.008
	Δ(Trust)	**Δ(Linkages)**	**Δ(Research systems)**	**Δ(Innovation-friendly environment)**	**Δ(Finance and support)**
Levin, Lin & Chu t	0.000	0.000	0.000	0.057	0.000
ADF - Fisher Chi-square	0.000	0.000	0.000	0.000	0.000
PP - Fisher Chi-square	0.000	0.000	0.000	0.000	0.000

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

Table 4 shows the results of the unit root test for the variables of interest. There is a clear indication of serial correlation and heteroskedasticity at level, and the absence of serial correlation and the existence of homoskedasticity in the first difference of the series (I(1)). In order to eliminate the negative effect of serial correlation and heteroskedacity at level on the results, the panel analysis included the lag of dependent variable at the right-hand side of the equation.

$$Y_{it} = \beta_0 + \beta_1 \times X_{it} + \beta_2 \times Y_{i(t-1)} + \mu_{it}$$

where y_{it} is: (a) linkages, (b) research systems, (c) innovation friendly environment, and (d) finance and support, of the European union member state i at time t; a x_{it} is trust in the European union member state i at time t; and μ_{it} is the error term.

Hausman tests have shown that the appropriate model is the cross-section fixed effect model. Moundigbaye et al. (2017) state that when the primary concern of the analysis is hypothesis testing, it is appropriate to use cross-section weights and coefficient covariance method (PCSE) estimator, especially meaningful when analysis concerns large N and small T, i.e., when T/N < 1.5. Our sample consists of 28 N and 8 T. Hence, cross-section weights and coefficient covariance method (PCSE) is used in our hypothesis testing.

Table 5: *Panel analysis*

	Linkages	Research systems	Innovation friendly environment	Finance and support
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	0.151*** (0.031)	0.068*** (0.018)	0.103** (0.032)	0.207*** (0.047)
$Trust_{it}$	0.001 (0.015)	-0.006 (0.011)	-0.084*** (0.014)	-0.041 (0.0.31)
$Y_{i(t-1)}$	0.632*** (0.061)	0.885*** (0.027)	1.028*** (0.058)	0.618*** (0.050)
Effects specification				
Cross-section fixed (dummy variables)				
Weighted statistics				
R^2	0.989	0.997	0.985	0.971
Adjusted R^2	0.987	0.996	0.982	0.966
S.E. of regression	0.029	0.029	0.050	0.057
F-Statistic	509.720	1892.741	376.321	190.201
Probability (F-statistic)	0.000	0.000	0.000	0.000
Durbin-Watson statistic	2.274	2.352	1.940	1.785
Unweighted statistics				
R^2	0.979	0.985	0.948	0.937
Sum of squared residuals	0.136	0.159	0.431	0.543
Durbin-Watson statistic	2.321	1.713	1.718	1.829

Note: S.E. = standard error. N = 196. T = 7. Linear estimation after one-step weighting matrix.
† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 5 shows the results of the fixed effect panel (PCSE) analysis of 28 European Union member states. Trust is not a significant predictor of neither linkages, research systems nor finance and support. Trust is a significant predictor only of innovation-friendly environment (β_1 = -0.084, R^2 = 0.985). Moreover, the predictor is a negative value, implying that the increased trust leads to a negative effect on innovation-friendly environment.
Tables 5a-5c depict differences in trust on one side and collaboration for innovation purposes and different aspects of innovation ecosystem, i.e., linkages, research systems, innovation-friendly environment, and finance and support, on the other side. The EU member states are grouped according the Worldwide Governance Indicators (2018) Enforcement of contracts' Rule of Law. The values of the indicator range from -2.5 to 2.5. Five groups of the EU member states are identified based on the average trust score (mean) of an individual member state for the period 2010-2017: (i) low trust, (ii) low intermediate trust, (iii) intermediate trust, (iv) high intermediate trust, and (v) high trust member states. Low trust member states are: Bulgaria, Greece, Croatia, Italy, Romania. Low intermediate trust member states encompass: Latvia, Lithuania, Hungary, Poland, Slovakia. Intermediate trust member states are: Belgium, Czech Republic, Spain, Estonia, France, Cyprus, Malta, Portugal, Slovenia. High intermediate trust member states include: Germany, Ireland, the UK. High trust member states are: Denmark, Luxemburg, the Netherlands, Austria, Finland, Sweden.

Table 5a: Panel analysis

	Low trust				Low intermediate trust			
	Linkages	Research systems	Innovation friendly environment	Finance and support	Linkages	Research systems	Innovation friendly environment	Finance and support
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	0.11*** (0.04)	0.03† (0.02)	0.05 (0.04)	0.14*** (0.03)	0.09** (0.04)	-0.03 (0.03)	0.02 (0.06)	0.01 (0.07)
$Trust_{it}$	-0.06† (0.03)	0.00 (0.02)	0.03 (0.06)	-0.11** (0.05)	0.07† (0.03)	0.03 (0.02)	-0.23*** (0.05)	0.17† (0.09)
$Y_{i(t-1)}$	0.63*** (0.13)	0.88*** (0.07)	0.76*** (0.22)	0.44*** (0.10)	0.53*** (0.16)	1.13*** (0.14)	1.51*** (0.11)	0.61*** (0.15)
Effects specification								
Cross-section fixed (dummy variables)								
Weighted statistics								
R^2	0.97	0.99	0.85	0.85	0.97	0.96	0.95	0.68
Adjusted R^2	0.97	0.99	0.82	0.82	0.96	0.95	0.94	0.61
S.E. of regression	0.02	0.01	0.04	0.04	0.03	0.02	0.04	0.07
F-Statistic	136.17	851.48	26.44	26.52	129.63	121.24	91.86	9.86
Probability (F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Durbin-Watson statistic	2.22	2.72	1.45	2.05	2.54	2.04	1.88	1.69
Unweighted statistics								
R^2	0.96	0.99	0.80	0.84	0.94	0.89	0.92	0.69
Sum of squared residuals	0.01	0.00	0.04	0.04	0.02	0.12	0.05	0.15
Durbin-Watson statistic	2.17	2.74	1.63	2.12	2.20	2.66	2.20	1.75

Note: S.E. = standard error. N = 196. T = 7. Linear estimation after one-step weighting matrix.
† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Lowest trust: Bulgaria, Greece, Croatia, Italy, Romania.
Low intermedium trust: Latvia, Lithuania, Hungary, Poland, Slovakia.

Table 5b: *Panel analysis*

	Intermediate trust				High intermediate trust			
	Linkages	Research systems	Innovation friendly environment	Finance and support	Linkages	Research systems	Innovation friendly environment	Finance and support
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	0.03 (0.05)	0.10† (0.05)	0.16*** (0.05)	0.26** (0.11)	0.40** (0.14)	0.50*** (0.13)	0.08 (0.17)	0.31 (0.19)
$Trust_{it}$	0.10*** (0.02)	-0.07 (0.04)	-0.09*** (0.02)	-0.06 (0.08)	-0.08** (0.03)	-0.09** (0.03)	-0.07 (0.07)	-0.04 (0.08)
$Y_{i(t-1)}$	0.64*** (0.10)	0.99*** (0.06)	0.90*** (0.10)	0.54*** (0.12)	0.51** (0.20)	0.40† (0.21)	1.18*** (0.16)	0.55** (0.20))
Effects specification								
Cross-section fixed (dummy variables)								
Weighted statistics								
R^2	0.98	0.99	0.97	0.94	0.99	0.99	0.93	0.47
Adjusted R^2	0.98	0.99	0.96	0.93	0.99	0.99	0.91	0.34
S.E. of regression	0.03	0.04	0.06	0.06	0.01	0.02	0.03	0.06
F-Statistic	285.29	486.83	147.47	83.09	426.45	380.13	51.14	3.58
Probability (F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Durbin-Watson statistic	2.36	2.03	1.69	1.51	2.01	2.19	2.43	1.42
Unweighted statistics								
R^2	0.98	0.93	0.80	0.93	0.99	0.98	0.79	0.60
Sum of squared residuals	0.04	0.10	0.19	0.17	0.00	0.01	0.02	0.06
Durbin-Watson statistic	2.42	1.42	1.45	1.59	1.90	2.60	2.05	1.61

Note: S.E. = standard error. N = 196. T = 7. Linear estimation after one-step weighting matrix.
† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
Intermediate trust: Belgium, Czech Republic, Spain, Estonia, France, Cyprus, Malta, Portugal, Slovenia.
High intermediate trust: Germany, Ireland, the UK.

Table 5c: Panel analysis

	High trust			
	Linkages	Research systems	Innovation friendly environment	Finance and support
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	0.78***	0.11	0.32†	0.65**
	(0.15)	(0.07)	(0.17)	(0.28)
$Trust_{it}$	-0.23***	0.03	-0.09	-0.22†
	(0.06)	(0.03)	(0.08)	(0.13)
$Y_{i(t-1)}$	0.43***	0.80***	0.83***	0.66***
	(0.12)	(0.04)	(0.15)	(0.08)
Effects specification				
Cross-section fixed (dummy variables)				
Weighted statistics				
R^2	0.89	0.99	0.98	0.93
Adjusted R^2	0.87	0.98	0.98	0.91
S.E. of regression	0.04	0.02	0.06	0.05
F-Statistic	38.93	322.39	282.33	60.08
Probability (F-statistic)	0.00	0.00	0.00	0.00
Durbin-Watson statistic	2.32	2.08	2.33	2.24
Unweighted statistics				
R^2	0.92	0.97	0.90	0.81
Sum of squared residuals	0.05	0.01	0.11	0.09
Durbin-Watson statistic	2.10	2.73	1.77	2.12

Note: S.E. = standard error. N = 196. T = 7. Linear estimation after one-step weighting matrix.
† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.
High trust: Denmark, Luxemburg, the Netherlands, Austria, Finland, Sweden.

Tables 5a-5c illustrate how differences in trust influence linkages, research systems, innovation-friendly environment and finance and support. Member states with the highest trust issues exhibit the highest influence of trust on finance and support part of the innovation ecosystem, whereby higher trust leads to lower finance and support (-0.11, $p < 0.05$). Lower intermediate trust member states exhibit the highest influence of trust on innovation-friendly environment (-0.23, $p < 0.01$). In addition to a negative effect of trust on innovation-friendly environment (-0.09, $p < 0.01$) in intermediate trust member states, trust positively influences linkages (0.10, $p < 0.01$). In high intermediate trust member states trust negatively influences linkages (-0.08, $p < 0.05$) and research systems (-0.09, $p < 0.05$), while in high trust member states trust negatively influences linkages (-0.23, $p < 0.01$).

Although there is almost negligible influence of trust on collaboration for innovation purposes, its influence is positive in the intermediate trust EU member states such as Belgium, Czech Republic, Spain, Estonia, France, Cyprus, Malta, Portugal, Slovenia. However, in higher trust member states such as Germany, Ireland, the UK, Denmark, Luxemburg, the Netherlands, Austria, Finland, and Sweden, the influence of trust on collaboration for innovation is increasingly negative.

The influence of trust on research systems is only significant and negative in high intermediate trust member states such as Germany, Ireland and the UK; while enforcement of contracts has a negative influence on innovation-friendly environment that includes the broadband penetration rate and opportunity driven entrepreneurship.

5. Conclusion

This study analysed the effect of trust proxied by a World Bank's Worldwide Governance Indicator Rule of Law on the collaboration for innovation proxied by Eurostat's Linkages indicator, and the additional indicators such as Research systems, Innovation-friendly environment and Finance and support. Panel analysis of 28 European Union member states for the period 2010-2017 has shown that on average trust is not a significant predictor of neither linkages, research systems nor finance and support. Trust is a significant predictor only of innovation-friendly environment. One of the components of innovation-friendly environment is necessity driven entrepreneurship, which decreases as the level of trust increases.

When the EU member states were grouped according to the average value of the indicator of the Rule of law enforcement of contracts for the period 2010-2017, five groups indicated differences in the role of trust on collaboration for innovation purposes and innovation ecosystem. There is an evident rise in the negative influence of trust on collaboration for innovation purposes with the increase in trust of the grouped countries. Namely, the SMEs collaborating with one another decrease, public-private co-publication and private co-funding of public R&D expenditures decrease. The effect of trust on research systems encompassing international scientific co-publications, top 10% most cited publications and foreign doctorate students, is also negative in high intermediate trust member states (the UK, Germany and Ireland). What is significant, the effect of trust in the lowest trust member states is negative on finance and support of the innovation ecosystem. Namely, on R&D expenditures in the public sector and venture capital expenditures.

The indicator of trust was the rule of law, which measured the amount to which the members of society believe in the quality of the contract enforcement. Contract enforcement as a proxy for trust attempts to explain how environmental uncertainty enhances the effects of trust (Wang et al., 2011). If firms with low access to local knowledge spillovers collaborate more, and those which have weak R&D require more regional knowledge infrastructure (Grillitsch and Nilsson, 2015), trust has to be on the optimal level for collaboration to induce innovation value (Noteboom, 2013). Lower than optimal levels of trust require greater regional infrastructure, while those that are higher than optimal breed inflexibility in cooperation for innovation. This is especially meaningful in the concept of the indicators presented in this paper as they show the level of cooperation between the public and private entities for all indicators apart from the innovation-friendly environment. Namely, this study has not shown any significant effects of trust on collaboration between public and private entities, and a deeper analysis is necessary to confirm those insights.

This analysis is meaningful from a policy perspective with respect to international competitiveness. Competitiveness is to be achieved through a decrease in transaction costs in both public and private sectors. Namely, the lack of innovation and economic convergence between the European Union member states is persistent (European Innovation Scoreboard, 2018). The European Union's and individual member states' policy makers need to be aware how the lack or the existence of strong contract enforcement rules attributes to a member state's innovation and economic performance. Specifically, member states with low trust scores exhibit a negative impact of trust on R&D and venture capital expenditure, that might lead to a possible misallocation of resources and the inability of these countries to achieve innovation and economic catch up with higher trust member states. As trust increases in the EU member states, it negatively impacts opportunity driven entrepreneurship. Neither too lose nor too strict contract enforcement and, consequently, property protection leaves individuals to seek secure opportunities. Research systems are negatively affected by the increase in trust in the EU member states with high intermediate trust. Finally, the EU member states with the highest trust seem to exhibit its adverse effect on collaboration for innovation, which might be due to nature of contract enforcement, i.e., its greater inflexibilities. Each member state needs to preserve the amount of trust that leads to the greatest increase in innovation performance. At the moment, this is high level of trust. However, member states with high level of trust exhibit its negative effect on linkages. On the other hand, member states that have achieved high level of trust are also the ones with the greatest innovation performance.

Future studies would need to analyse a firm level data for the 28 EU member states, devise the inter-organisational collaboration between the public and private entities and examine the effect of trust on the collaboration for innovation. it would be interesting to analyse the level of innovation after which the level of trust has a decreasing influence on collaboration and, whether trust and coloration as such correlate with innovation performance. Moreover, it would be beneficial to examine different institutional trust indicators such as Corruption Perception Index and Doing Business Indicators to see whether different predictors exhibit the same effect on the public-private collaboration for innovation. Likewise, more insights would be generated on this topic.

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THE IMPACT OF DIGITALIZATION ON GLOBAL VALUE CHAINS

ABSTRACT

The nature of trade is changing, and the focus is no longer on trade in final goods but on the exchange of components and added value. Technological advancements have reduced prices in transport and communication networks and brought revolutionary changes to the way trade is performed. Digitalization further changed manufacturing processes and has the potential to disrupt established value chains but also to create a number of opportunities, especially for developing countries. The main aim of the paper is to analyze the new trade paradigm in the form of global value chains (GVC) and to establish the role of digitalization and its effects on global value chains. This paper points out that digitalization is a global process and at the same time reveals it is occurring at a different pace across countries. It is transforming the production process, and while causing some jobs to disappear, it can be the source of new jobs, skills and technological spillovers, which are especially important for developing countries. However, in order to take advantage of opportunities from digital technologies, appropriate infrastructure has to be in place as well as supporting institutions and regulation.

Key words*: global value chains, digitalization, trade*

1. Introduction

Globalization, technological development, and demographic transformation have been the main drivers of change in the past decades. Globalization process has gained its greatest momentum in the early 1990s, and the regulation of trade was especially determined by the establishment of the World Trade Organization in 1995, which was supposed to provide the rule of law in international trade with the goal of global prosperity through globalization (Stiglitz, 2009). According to the World Bank data, between 1960 and 1990, trade to GDP ratio rose from 0.24 to 0.39, while in the period from 1990 to 2000 it increased to 0.51. Globalization has resulted in an increasing prevalence of value chains including different countries through the flows of goods, services, technology and capital across national borders, all aimed to reach new markets and reduce costs. Market globalization has been facilitated by the decline in trade barriers. In addition to the import and export of products and services, a significant component of globalization have been foreign direct investments into production or other business activities abroad.

Technological advances have reduced prices in transport and communication networks and brought revolutionary changes to the way trade is performed. Digitalization is driving the rapid pace of change in manufacturing processes that have the potential to disrupt established value chains, but which also create opportunities for innovative business models (Chartered Global Management Accountant, 2014). On the other hand, changes in volume and structure of trade would not be possible without a significant reduction in tariffs and other restrictions on free trade, which is the main aim of the World Trade Organization (WTO). Today, the focus is no longer on trade in final goods, but on the exchange of components produced at different locations. This new focus on segments of production completely changes the nature of international competition.

Demographic changes also affect the global market, production, and trade. We are in the midst of a major redistribution of global workforce with slow or no population growth in some countries contrasting with rapid expansion, especially in working-age population, in others. Over the course of the next few decades, per capita incomes in some markets, currently referred to as emerging, will approach the levels in today's developed economies. However, there is a growing gap between available skills and labor market needs. Access to essential resources is expected to become more difficult due to increasing demand from developed countries, the rise of the middle class in emerging markets and urban concentration which increase pressure on the world's ecosystem.

The main aim of this paper is to analyze global value chains as a new trade paradigm and to establish the role of digitalization and explore its effects on the global value chains (GVC). Accordingly, we study the effects of digitalization on the organization of international production and its ability to make further changes to the functioning of global value chains. The paper consists of five parts. The second part reviews the literature and major findings on the concept of global value chains are presented. The third part of the paper refers to the analysis of the digitalization process, while the fourth part integrates the effects of digitalization on global value chains. The fifth part is the conclusion.

2. Literature review: the concept of global value chains

The production model through global value chains has changed the paradigm of trade as well as development policies. Instead of building the entire domestic industry in order to engage in exports, economies can now specialize in only one segment (Baldwin and Lopez-Gonzales, 2014), such as manufacturing specific components and thus participate in global value chains. GVC development model represents a shift from the Washington Consensus model of development where the central debate was involved to the extent to which economic policies were "market-friendly" or overly interventionist. In this model prescriptions for development were given by the international financial institutions in order to reach "market-friendly" economies (Gereffi, 2014). It changes the view on the production process, fragmenting it to a wide range of activities from design up to product marketing (Gereffi et al., 2001). The new international economic order is still in flux, but several features are already having an impact on development agendas of countries around the world: the rise of the countries that combine relatively large domestic markets, skilled workforces, capable producers and a push towards indigenous innovation with also rising significance of the industrial policy in the economies of the South (Gereffi, 2014). The literature on global value chains stems from sociological considerations. Unlike Porter's theory of value chains, which is primarily focused on the issue of changing and shaping the business strategy by focusing on the configuration of business activities, global value chains literature focuses on creating and transferring value within the system as a result of production network optimization efforts and consequently, on the mechanism of the value-added distribution structure and its influence on the selection of the organizational form of the international production network.

Global value chain theory enables us to understand contemporary international economic trends and the current global industry so that we can make use of the opportunities, but also to deal with all the risks that change brings (Sturgeon, 2008).

Rapid advances in information and communications technologies have increased the tradability of many goods and services and have contributed to the emergence of GVCs. Another motivation for the spread of GVCs is access to knowledge. Companies investment abroad to gain access to strategic knowledge assets, whether these are skilled workers, universities, research centers or other sources of expertise (OECD, 2013).

Products at different levels of completion can be imported and re-exported several times, so the gross exports do not show the full picture and do not reveal the amount of value created within a country any more. Thus, the understanding of trade is changing by acknowledging the need to focus on the value added rather than on the gross amounts reported by trade statistics. Since the 1970s, ever-increasing integration and interdependence of the world markets have been achieved through trade in goods and services and the movement of capital (Gereffi et al., 2001). At the same time disintegration occurred as multinational companies begun to fragment their production chain and shift some parts to other companies or establish their subsidiaries abroad through outscoring and offshoring (Gereffi, 2014). Therefore, the significant trade growth causes the division of activities among countries, primarily in the way that activities that require low skilled labor force have been outsourced to low-income countries, while the activities that require highly qualified workforce have mostly remained in high-income countries (Feenstra and Hanson, 2001). The decision on the outsourcing of certain activities across borders is made primarily based on the simplicity and cost of relocating individual activities. Grossman and Rossi-Hansberg (2008) point out to this phenomenon as trade in tasks and acknowledge only a semantic difference between this term and the trade of inputs. Schott (2003) further points to the fact that within intra-industrial trade there is a significant difference between the data on capital endowment among countries indicating that there are different products within the same industry, but with the fact that the production mix is different, and products are on different technological levels of production in different countries.

It is possible to differentiate global value chains with vertical and horizontal integration of activities (Perry, 1989). Global value chains with vertical integration are based on a hierarchical structure that implies absolute and one-way control of the parent company over affiliates. The activities and operations of subsidiaries are strictly monitored, and their results are assessed in accordance with the management strategies of the parent company. Global value chains involving outsourcing options are characterized by a balanced relationship between customers and subcontractors (suppliers) and the power within the chain is equally distributed.

Two main interests of GVC studies can be pointed out: the exploration of the typology of local firms' relationships with lead firms (i.e. GVC governance) from a top-down perspective and strategies used by countries, regions, and other stakeholders to upgrade in GVCs from a bottom-up perspectives (Gereffi, 2016). Upgrading can be defined in terms of an increase in value-adding activities (Humphrey and Schmitz, 2002; Giuliani, Pietrobelli and Rabellotti, 2005). Sato and Fujita (2009) consider functional upgrading as widening of functional capabilities from production to management, for example, more active participation of local firms in pre-production activities, such as marketing research, technology choice and development, and production design, as well as in post-production activities, such as advertising and marketing. Measuring domestic value added of exports provides information on income earned form participation in GVCs. An increase in the domestic content of exports may signal the substitution of domestic for imported intermediate inputs (Kee and Tang, 2015). However, changes in the domestic value added of exports are not necessarily informative of upgrading in GVCs as changes in the domestic content may originate from alterations that have little to do with upgrading.

Furthermore, the GVC's analysis highlights the three major determinants of any modern industry: geographical fragmentation and the link between activities or product phases, how power is distributed among stakeholders in the value chain and the role that institutions have in structuring business connections and industrial sites (Sturgeon and Gereffi, 2009). The significant expansion of GVCs and the development of multinational corporations have been rooting on technological progress and the fall of political and economic barriers. These drivers are not expected to reverse in the near future (Amador and Cabral, 2014). Significant challenges arise from new governance models that simultaneously facilitate more geographically dispersed value chains and larger granular coordination and control of leading firms (Gereffi, 2014). Another challenge is measuring the effects of GVCs. The economic literature has been making progress in the measurement and mapping of GVCs. Because of vertical supply linkages, intermediates move across borders several times before being assembled into a final good, and as a result, traditional trade statistics routinely used in assessing a country's production linkages became poorly informative (Amador et al., 2015).

3. Digitalization as a global trend

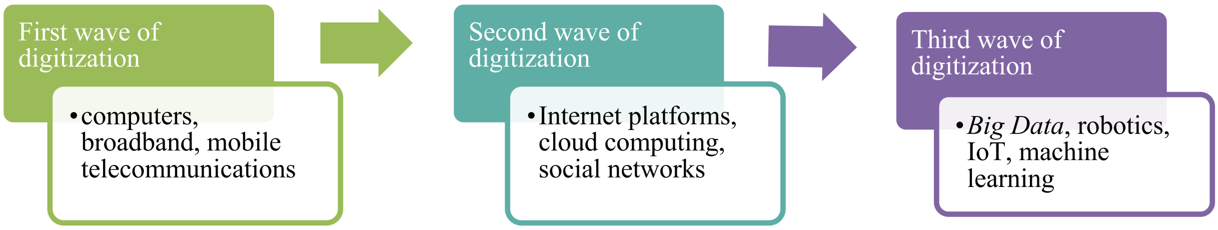
Digitalization refers to the changes induced by the development, expansion and increased use of digital technologies that create, process, share and convey information and knowledge. Digitalization does not rely solely on one innovation but on a range of technologies including telecommunication networks (fixed or mobile), computer technology (laptops, wireless devices, tablets), software engineering (operating systems, machine learning, artificial intelligence) and spillovers that result from the application of digital technologies (Katz, 2017).

The development of digital technologies has changed the way people, society and the economy perform and has contributed to the creation of a new form of digital economy. In such an economy, new business networking models are being developed, and data is the resource of the utmost importance for creating value. The development of the digital economy also contributes to global platforms that enable the application or development of technologies globally, including social networks, greater mobility, cloud computing, big data analysis and the like.

The digitalization process has several stages. It encompasses two simultaneous processes: (1) technological development through innovation, research, and development (R&D), (2) application of technology by enterprises, government and consumers. Technological development precedes the diffusion of technology, meaning that a significant time lag is possible from product creation to its final effect (Katz, 2017).

Technological innovations based on digitization have been developed in stages or waves. Three digitization waves can be differentiated (Figure 1).

Figure 1: *Digitalization process*



Source: adapted from Katz (2017), pg. 8.

The first wave of digitization is associated with the introduction and adoption of mature technologies such as information systems for data processing automation or telecommunication technologies. The second wave of digitization is associated with the widespread use of the Internet and related platforms (search engines and the online market) that allow a company to connect with users or other companies for both stock and distribution. In addition to the use of the Internet, the second wave of digitalization is also associated with cloud computing. The third wave of digitization, which began several years ago, is associated with the adoption of several technologies aimed at improving data processing and decision-making quality while simultaneously automating routine tasks. New technologies include: Big Data Analysis, Internet of things, robotics, three-dimensional (3D) printing, artificial intelligence, and machine learning. To adopt and apply these technologies it is necessary to apply the already adopted and mature technologies that were key in the first and second waves of digitization. When digital technologies improve or reform a system or a process, we are talking about digitalization.

Digitalization affects productivity, competitiveness, and growth. The Internet and the use of information and communication technologies (ICTs) have made the exchange simpler, cheaper and faster. Moreover, ICTs have facilitated the exchange of information and knowledge among countries, making access to these technologies an essentiall part of achieving progress. Digital technologies enable business automation, which increases efficiency and reduces transaction costs. Digitalization can be the source of new jobs and new skills. It enables better provision of public services, especially in healthcare and education, and improves ways of interaction between government and citizens. Digital technologies also offer new solutions to various social challenges, ranging from health, transportation systems, and security to the challenges of aging populations. Digital social innovations need to be developed to use new technologies to address social problems and to achieve social benefits.

If we look at the process of digitalization at enterprise level, it is also possible to outline three stages of development that enterprises must undergo in order to "digitize" (Serban, 2017). The first phase is marked by the transformation of products and services into a digital form with accompanying inventions resulting from digitization. The second phase is associated with the first one, because it uses digitized products and services, but new business models and processes are further developed at this stage. In the third stage, new digitized models and processes restructure the economy and technologies become integrated in the everyday lives of people.

Figure 2: *Digitalization at enterprise level*

Source: adapted from Serban (2017), pg. 184.

The speed of digital transformation varies among countries, but certainly represents opportunities and risks for economies at all stages of development. Besides many benefits that digital technologies offer there are also some risks involved, namely the disappearance of some workplaces due to digitalization, lack of digital skills, limited resources for digitization and insufficient infrastructural support. Therefore, the impact of digital technologies will depend on the readiness of individuals, businesses and the economy as a whole to absorb the benefits of such technologies. The global number of digital buyers and the share of global e-commerce sales is rising. In 2017, retail e-commerce sales worldwide amounted to 2.3 trillion US dollars and is expected to grow in the following years as ICT becomes more available in more countries (Table 1).

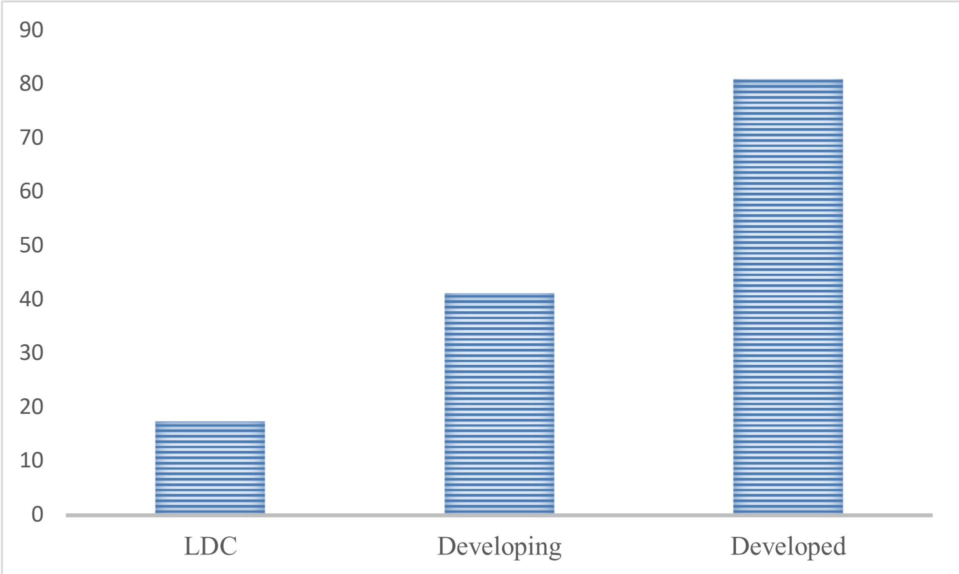
Table 1: *Digital trade data*

	2015	**2016**	**2017**	**2018***	**2019***
Global number of digital buyers (bn USD)	1.46	1.52	1.66	1.79	1.92
E-commerce share of total global retail sales (%)	7,4	8,6	10,2	11,9	13,7

Source: Statista (2019), *estimations

Internet access is a prerequisite for digitalization. However, it varies among different regions of the world. As expected, the proportion of individuals with Internet access is lowest in less-developed countries (LDCs), yet 35% of the individuals using the Internet in LDCs are young people aged 15-24, compared with 13% in developed countries and 23% globally.

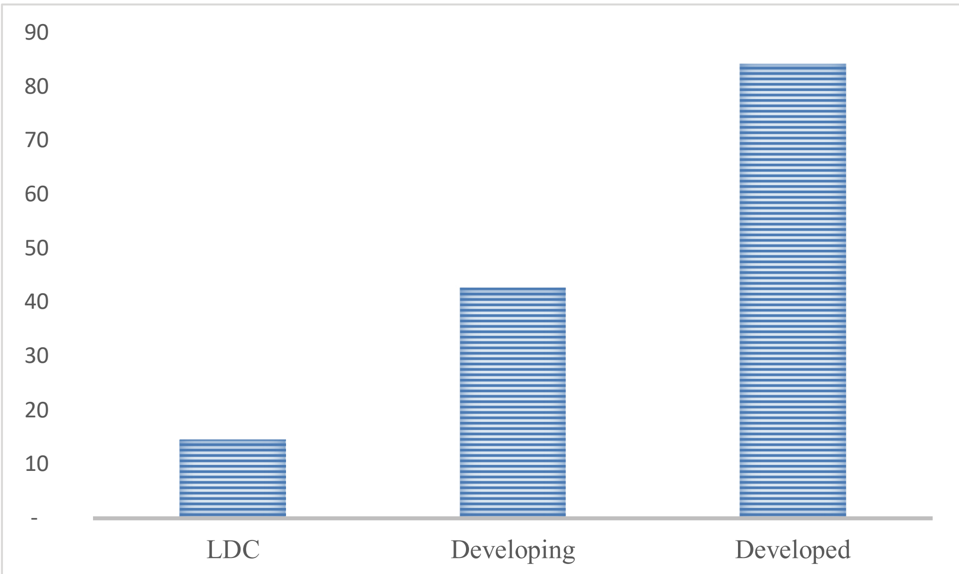
Figure 3: *Proportion of individuals using the Internet, 2017*



Source: ITU (2018).

In developed countries, the proportion of households with Internet access at home is twice as high as in developing countries. Only 15% of households in LDCs have Internet access at home as oppose to 83% in developed and 43% in developing countries (Figure 4).

Figure 4: *Proportion of households with Internet access, 2017*



Source: ITU (2018).

Data shown above indicate that there is a digital divide between developed and developing economies which is one of the reasons for different positioning of countries in GVCs.

4. The effects of digitalization on global value chains

The digital economy is developing very rapidly and has had significant effects on various aspects of social and economic activity. The development of digital technologies has enabled innovations, easier linking of existing businesses with the involvement of new stakeholders who have created new integrated structures. These new value chains have enabled the development of new smaller segments that serve as the foundation for the development of new consumer-focused digital enterprises.

Existing research has documented how ICTs can play an important role in increasing efficiency (Aker, 2010) due to reduced physical flow requirements. Information flows enabled by ICTs support firms to better monitor and manage their key resources and workers (Donner, 2004; Esselaar et al., 2007). By transferring information and knowledge, ICT and other technologies enable innovation activities.

Global value chains are becoming a more common form of trade, especially in less-developed countries. This increase in trade through global value chains prompted by the spread of Internet which has enabled better worldwide product awareness and availability and has also facilitated communication among different parts of the fragmented production chain (Gereffi, 2001). Large companies are increasingly focusing on their core competencies and moving non-core activities to other countries, typically less developed, resulting in globalized, geographically fragmented production chains. With increased application of information and communication technologies in developing countries digitization provides new ways of governing and participating in global value chains. This can help small and medium-sized enterprises to overcome the problem of insufficient information or knowledge related to the coordination of value chains, information or knowledge flows (Craviotti, 2012).

Engaging in global value chains in the early stages involves participating in labor-intensive activities with lower value added. Reaching higher levels of development rises the possibilities of specialization in higher value-added activities such as research and development, design and marketing activities. In order to reach more value-added activities trade and development policies should be focused on enabling such upgrading in global value chains.

The estimation of how digitalization affects the production process and how different parts of production become more connected is possible with the help of the so-called smile curve. The curve describes the production process as a series of related tasks, aggregated into segments before the production, during the production and post-production, with the emphasis on the value that is generated in each segment. The shape of the curve will depend on the industry and on the degree of development of countries involved, but it usually takes the “U shape” indicating that the highest value is created at the beginning and end of the global chain while performing pre- and post-production tasks. This kind of functional division of labour, shaped by international production networks, has become a significant characteristic of the global economy (Stollinger, 2019).

The smile curve is also useful for analyzing the international distribution of value added. Looking from the perspective of the “North” and “South” economies, the shape of the curve suggests that pre-production activities (research and development, design) and post-production activities (marketing and customer support) are mainly carried out in developed economies (headquarter economies) while the manufacturing process itself takes place in developing countries (factory economies) that generate lower value added (Milberg, Winkler, 2013). Due to differences in comparative advantage across countries in GVC, developed countries tend to engage in high-end and intangible production activities that create higher value-added. With that in line, it is clear that countries specialized as factory economies are disadvantaged vis-à-vis headquarter economies (Stollinger, 2019). The ability to upgrade in a value chain depends on a firm's absorptive capacity and ability to learn how to transform, but also on how the fragmented production networks are governed and coordinated by the lead firm (Gereffi et al., 2005; Gereffi, 1999).

From a development perspective, GVCs have at least three positive aspects. First, by linking into GVCs, firms, especially in developing economies, do not need to build the full production capacity for a product. Instead, they can use their comparative advantage to concentrate on a specific production process or task which enables them to integrate into the global economy more rapidly than was possible in the previous industrialization period (Kowalski et al., 2015). Second, becoming a part of GVCs can create more job opportunities (UNCTAD, 2013). Third, GVCs also provide the opportunity for technology transfers or spillovers from developed countries to developing countries through local learning (Pietrobelli and Rabellotti, 2010; Kawakami and Sturgeon, 2012).

Widespread acceptance of constituent technologies has the potential to change the location and organization of production in the world (Rüβmann et al., 2015) and the difference between products and services will become even less clear. Digitization will undoubtedly be the cause of automating some routine tasks and will replace the need for certain workplaces but at the same time new jobs will be created and new knowledge and skills will be needed. Warehousing and logistics systems will be affected by new possibilities of monitoring, governing and communication. Productivity growth and lower operating costs are expected as a result of digitalization. New business models will emerge. Bogers et al. (2015) foresee a shift from a centralized to a decentralized supply chain where consumer goods makers can implement a "hybrid" approach with focus on location and accessibility or develop a fully personalized model in which consumers efficiently assume the manufacturing activities and are more involved in global chains, as key information and product feedback providers, and even as local manufacturers. Business and customer relationships will also be redefined by the use of digital technologies.

According to some studies, there are three modes through which micro, small and medium-sized enterprises are currently using ICTs and other digital resources in support of exports via value chains: (1) thin integration, (2) online platforms and (3) full digitalization (UNCTAD, 2017). Thin integration means that digital technologies may in this case help facilitate tighter coordination of the value chains, but they rarely lead to any significant transformation of relations or an increased capture of value by the local firms involved. The second mode of digitalization observed in value chains involves the use of online platforms. It is used in different ways across sectors, with varying impacts. Notwithstanding the limitations in the provision of support to micro, small and medium-sized enterprises involvement in some value chains, global online platforms are becoming increasingly important. Activities affected by digitalization, in this case, go beyond online trading and chain coordination, to using ICTs for the integration of a wider range of activities into single systems, thus making value chains increasingly data-driven.

As a consequence of the development of new value and digital content chains, in which mobile devices and the Internet are central, the new trend of transformation associated with the design of smart industry solutions is emerging. Innovations in development of applications and services within new value chains have broader effects on consumption and digitization within the emerging economic sectors. Due to the new trends in production and business, it is necessary to adjust the regulatory framework that will set the basis for monitoring and managing flows in the digital economy.

5. Conclusion

In order to use digitalization in support of trade, investments in ICT need to be complemented by an adequate regulatory and institutional framework, and attention needs to be given to appropriate skills development. The ongoing digitalization will enable a larger scope of enterprises to use digital technologies and enhance their performance or modify their business models. Digitalization will also contribute to lowering differences between small and large enterprises in terms of market access and enhance the competition.

It can be concluded that the digital economy has developed very rapidly and has significant effects on various aspects of social and economic activity. Digital technologies offer many new possibilities for communication, organization, performance and logistics improvement which will change production modes and location, and in turn, the competition of countries in global value chains. Moreover, digital technologies have enabled easier cooperation among firms with the involvement of new stakeholders, while also contributing to the change of trade organization and structure. Changes in trade patterns are primarily due to the cross-border fragmentation of the production process, shifting the focus from trade in final goods to trade in intermediates produced at different locations. Thus, trade through global value chains has altered the distribution of production activities. New value chains have enabled the development of smaller segments of productions that gave rise to the development of new consumer-centered digital enterprises and are especially important for developing countries. Also, these new digitalized global value chains offer opportunities for technological spillovers to developing countries which can speed-up their industrialization process.

Limitation of this research lies in the fact that it does not quantify the effects of digitalization on GVCs, so it would be interesting for future research to explore the possibilities of quantifying the effects of digitalization on production location and capturing value-added within chains. Further advancement in monitoring the trade of value-added within GVCs across countries would enable future analysis of this nexus and quantifying its effects.

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Redesigning the Reward System on the Example of IT Sector Employees

ABSTRACT

The IT sector belongs to the most dynamic sectors in terms of supply and demand for employees in the labour market in the Republic of Croatia, but also at the level of the entire European Union. Forms of material and immaterial compensations are the basis for rewarding employees of all sectors within the business industry. The issue of rewarding employees in the IT sector is specific because employees' salaries represent the highest cost, which points to the fact that employees are the most important material inputs of a company. The IT sector's specifics come from the fact that IT sector employees have different preferences in the choice of material and immaterial compensation and also rely on the fact that IT companies need to create models of rewarding that would be recognizable to both employees and within the competitive environment of the entire IT sector with respect to recruitment of employees. The IT sector employees' preferences have a significant impact on employees' mutual competitiveness, where employee rewarding can become part of the organizational culture of the enterprise and thereby generate new business development values, primarily in terms of improving the human resource management system. IT companies are subject to frequent changes in organizational behaviour, which are conditioned by innovations and innovation processes. Further, the role of the implementation of certain innovative solutions has a strong impact on the design of material and immaterial compensation of employees in IT companies. The paper presents the results of the research on material and immaterial compensation of employees on the example of IT sector enterprises in the Republic of Croatia, aimed at redesigning the employee reward systems as well as the role and application of innovations and innovativeness on the design of the reward systems.

Key words*: compensation, Croatia, reward system, innovations, IT sector.*

1. Introduction

Demand for IT sector employees in the labour market in the Republic of Croatia is constantly increasing in the last 20 years. According to the Croatian classification and the sorting of the scope of business activities within the business activity framework, the IT sector includes activities such as computer programming, consulting and other forms of information service activities. These forms of business activities have significant potential, because they include innovative and creative resources and have a strong export potential, also having the primary impact on the ability to influence the development of both regional and Croatian economy. Furthermore, the IT sector's impact is immeasurable in its positive contribution to development and support to other industrial branches. In so far shaped strategies of development of the IT sector at the national level, influences and support of the state are not visible, nor are the reflections on the future of the IT sector in the Republic of Croatia. Globalization processes and dynamic dimensioning of the enterprises have started much earlier, and the most frequent changes come from IT companies. The dimensioning of IT companies (Srića, Spremić, 2000, 16) is a process based on the concept of the importance of application and development of innovative and intellectual services where an individual or employee is increasingly important and where companies have a virtual character in accordance with the globalization demands of presence on the global market. On the other hand, the European Union in the Europe 2020 Strategy within its initiatives' framework sees as one of the most important the initiative called "The Innovation Union", where it seeks to better link the funding of enterprises dealing with research and innovation activities. Precisely economic thinking about innovations and innovative processes present the future perspectives of enterprise development and growth, and thus the possibility to increase the number of jobs. At the same time, in the framework of strengthening the global position of the European Union in the segment of research, innovation and technology development, the focus is on encouraging excellence in science, leadership positioning of certain industries and timely response to social challenges. Prerequisites for the specified conditioning of the objectives are aimed at better restructuring of education, greater employability, as well as redesign of the reward system. All this represents future challenges for further organizational development of IT companies in the Republic of Croatia, and at the same time prerequisites for more competitive formulation of compensation and employee rewards. Within the IT sector in Croatia, significant positive developments in the employment sector have occurred, particularly in the segment of employee reward system that further have a significant impact on creating a positive economic and demographic environment in the Republic of Croatia. However, in recent years, some IT companies in the Republic of Croatia have faced a problem of lack of work force and a vague concept of education of young people and are forced to import labour force, which is an additional argument to explore the issues of employee reward system. Lack of labour force implies the consequent need to shape higher-quality employee reward systems. There is also a need for a more systematic analysis of the youth education process that would redefine the existing needs for employees in the IT sector.

2. Strategies of Compensation and Employee Rewards in the IT Sector

Concepts of salaries and employee rewards are important not only for employees and companies, but for the whole society as well. Salary as a basic labour fee (Buble, 1984, 1) must be based on certain principles that correspond to the society's level of development. Increase of salaries as well as better material and immaterial conditions of employee rewards have a broader reflection on the development of the socio-economic environment, as they stimulate improvement of living standards and affect the greater satisfaction of the population. Frameworks regulating the terms of employee rewards, from salaries to other material and immaterial compensations are defined by certain legal and regulatory requirements that define the basic minimum payment terms, as well as other minimum material and immaterial compensations, with the basic guidelines being based on the Labour Law. The basic rights of employees relate to the right to salaries and benefits, the right to regulate working hours, the right to a daily rest and vacation, and the right to paid and unpaid leave.

Employees are the most important resource of any enterprise, business activity and organizational culture of companies of all sectors and industries. The primary relationship of the company with the employee is most dependent on the company's organizational system as well as on provided adequate pay and reward policies, which primarily play a significant role in the performance of business results, as well as the business image of the company in the existing industry in accordance with the competitive environment. Salaries and rewards are

defined as compensation for the employee's work and represent an evaluation of the value of the employee's work in the enterprise. Evaluation of work value is based on performance indicators, which must be compatible with the assumed levels of efficiency, and there must be a clear correlation between the performance of the employees according to the workload criteria set by the company. The process of improving the rewarding of employees from the effort and efficiency point of view is primarily based on increasing salaries and other forms of benefits. Within the system of compensation distribution among employees in a company, in the activities of increasing salaries and benefits, it is necessary to congruently define the differences in salaries and benefits, guided by the principles of fairness within the company's internal environment, but also in terms of the competitive environment.
The company's rewarding system consists of material and immaterial compensation and of individual or collective forms of benefits, signalled by the frameworks and rules of the labour market in the chosen industry, in this case the IT sector. Such a rewarding system that contains the material and immaterial compensation frameworks is one of the company's most important strategies, which is called a compensation strategy. The compensation strategy (Buble, Bakotić, 2013, 27) seeks to determine the objectives of compensation packages and the type of compensation, as well as the rules pertaining to each type of compensation. An adequately designed compensation strategy can contribute to a better relationship synergy between employees, managers, and business owners, thus improving the competitive ability of a company within the industry or sector. Precisely the redesign of the reward system is one of the most important determinants in creating a compensation strategy. From the point of view of the fundamental organizational values of an enterprise as well as of the organizational culture of the enterprises in this sector in the Republic of Croatia, there are companies that are either emerging or experiencing the middle of the company's life cycle, so called youth. Furthermore, the IT sector is intensive and in line with the accelerated development of innovations and innovativeness as well as information technology; in this sector it is necessary to permanently analyse and conceive employee rewarding systems, through a competitive environment, but also in accordance with employees' needs. For this reason, designing a compensation strategy for employees in the IT sector is a challenge not only to business owners and managers, but also to scientists and other experts who analyse the issue of rewarding employees compared to the company's successes.

Enterprise policies established by Milkovich and Newman (Milkovich, Newman, 2006, 39) correlatively connect the functioning of the company from the point of view of the provisions and types of employee compensation, and consist of four forms of compensation policies: internal order, external competitiveness, employee contribution, and management of compensatory system. Internal order and external competitiveness are forms of compensation policies which, within their definitions, have many similarities and can be joined into a single common compensation policy, which could, in line with the definitions and composition of business activities of the enterprise, be integrated into the compensation policy under the common name salary management. It is the IT sector enterprises that represent interesting examples of salary and rewarding practices, and can therefore contribute to further analysis of the underlying issues of employee salaries from the point of view of the internal and external environment, where it is evident that salary management is a primary compensation strategy. Salary management is part of a compensation system management. Compensation system management combines salary management system with other forms of material and immaterial compensation. Further requirements on the forms of material and immaterial compensation, except for salaries, in the IT sector as a form of employee compensation represent a framework for compensation as well as the construction of a reward system in the Republic of Croatia.

This paper explores the claims and attitudes of IT sector employees that can contribute to better formulation of the concept of compensation systems management.

3. Analysis of the Employee Reward System in the IT Sector

This chapter analyses the research of the opinions and claims of employees working in the IT sector in the Republic of Croatia. The analysis was made on a sample of 143 respondents (Klanac, 2018), who work in the IT sector, but according to the classification of scope of activities, they include employees in the segment of computer programming, consulting, and other forms of information services. Dilemmas and questions are mostly focused on the employees' basic knowledge of the rights to reward and partly to the impact of innovations on employee rewarding. The employee reward system in the IT sector was shaped accidentally through positive trends in line with organizational growth and development of IT companies. Between 2013 and 2016 significant changes occurred in the IT sector in the Republic of Croatia, as shown in Table No.1.

Table 1: *Basic indicators of the IT sector in the Republic of Croatia*

Basic indicators	**2013**	**%**	**2014**	**%**	**2015**	**%**	**2016**
Export	1,644,863	**16%**	1,902,970	**33%**	2,524,252	**25%**	3,147,157
Number of employees	12,523	**12%**	13,965	**10%**	15,371	**10%**	16,910
Average net salary	6,677	**1%**	6,727	**4%**	6,996	**4%**	7,302

Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.84. 2018.

The basic indicators of the IT sector's state of affairs in the Republic of Croatia in the observed period indicate significant increases with regard to basic indicators such as export, number of employees and increase of average net salary. The structure of the IT sector's export primarily consists of services and production that show significant growth continuity, pointing to the perspectives and potentials of this sector. Accordingly, Table 1 shows that the number of employees in this sector increased by 37% in the observed period, and it is evident that this is a rapidly growing activity in terms of employment opportunities. Demand for IT sector employees represents the future framework for further consideration on the development of the segment of IT sector education in the Republic of Croatia, as well as the fact that it is necessary to define existing and future reward systems, in parallel with processes of education and defining the future IT strategic framework in the Republic of Croatia. The increase in employee salaries in the IT sector is not significant, but indicates developmental changes in the volume of salaries according to the trend of average net salary growth, as well as trends in the volume of salaries in the IT sector offered in the Republic of Croatia and in other countries in the surroundings.

The following tables and images present parts of the research pertaining to issues related to the rewarding system. Whether there are reward systems and whether employees and business owners have consistent knowledge about rewarding, is the subject of research. The example of companies in the IT sector in the Republic of Croatia shows that there are certain disparities in the claims of employees and owners. Table 2 shows the main factors influencing the development of a system of rewarding people and businesses from the point of view of owners, managers and employees.

***Table 2:** Reward system from the point of view of all company stakeholders*

Reward system	Owners	Top management	Middle management	Employees	F-value
Keeping the best employees	4	3.75	3.25	3.11	5.026
Differences in salaries – better / worse employees	4.04	3.75	3.63	3.19	5.626
Salary system - signalling	3.79	3.5	3.46	3.06	3.319

Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.206. 2018.

The facts from the reward system research that were expressed by all company stakeholders according to table no. 2 points out that the biggest differences in opinion exist regarding the keeping of the highest quality employees and the perceived employee perceptions of the difference in salaries between better and worse employees. Also, there are significant differences in the perception between company owners and company employees, which point to the fact that the salary system as well as the concept of so-called "succession plan" is not recognizable to employees. Table no. 2 shows there are too big differences in opinions and claims between business owners and employees, which points to the need to design a more transparent reward system, in which the key role of salaries and "succession plan" should be directed to employees' attention in order to develop further motivational preferences of employees. The lack of clarity in signalling the salary system indicates the need to define a salary rulebook.

Table no. 3 presents claims and opinions of employees on the role of innovation in the company and the impact of innovation on the motivation of employees, and hence the impact of innovation on employee rewards.

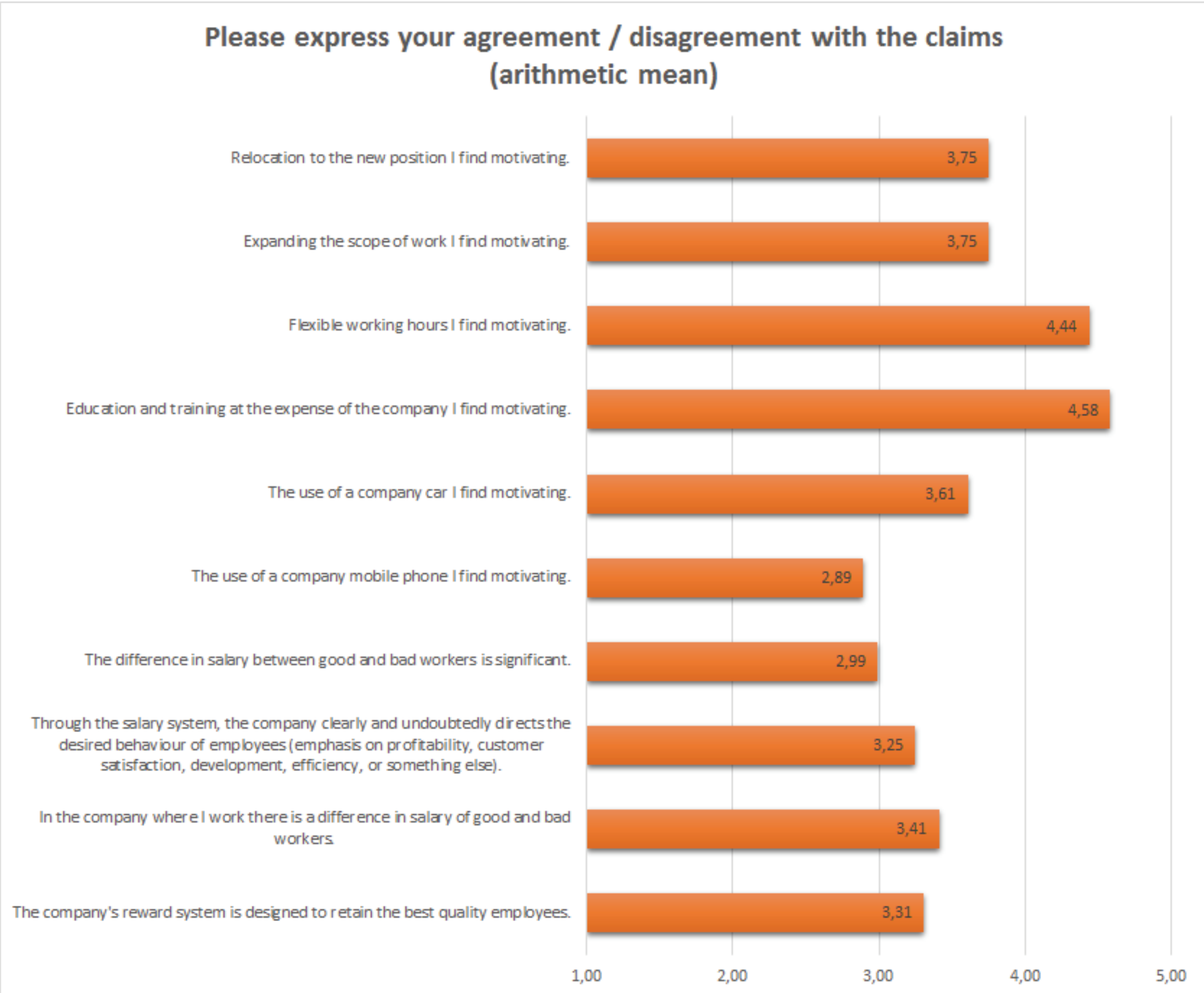
***Table 3:** Innovation in IT sector companies*

Innovation and rewards	Owners	Top management	Middle management	Employees	F-value
The company encourages innovation	4.25	4	3.54	3.5	4.923
The company financially stimulates innovation and innovativeness by the employees	4	3.67	3	3.05	5.323
The company is innovatively active and propulsive	4.08	3.83	3.29	3.17	5.392
The company encourages employees' innovations	4.08	3.92	3.38	3.1	6.256

Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.217. 2018.

In table no. 3 among the claims and opinions, the biggest difference is between the company's owners and the employees of the company. Among the issues raised, the biggest difference lies in the claim that the company encourages employees' innovations, where employees gave a rating of 3.1 and thus pointed to the fact that they are not geared towards innovations and innovation-rewarding opportunities; they also have no clear idea about the role and importance of innovation in development of the company, and the possibilities of their own development within the company. On the other hand, business owners have readily accepted the fact that innovations have a tremendous impact on development of the companies, but also on employee development. Further disagreements in the opinions and claims between the business owners and the employees of the company reflect in the claim that the company is innovatively active and propulsive. Regarding the role of rewarding and innovation in the company's reward system, there is a significant difference in the opinions and claims between company owners and company employees, with the need to further investigate the causes of lower employee ratings and better ratings of the company's owners. The results of these claims and opinions point to the need for stronger involvement of employees in the processes of developing innovation in all vertical structures of enterprise construction, and also through the redefinition of the reward system through the development of innovation within the company. The analysis of the reward system is divided into three segments of rewarding when it comes to the structure of research as well as the definition of research issues for IT sector employees rewarding in the Republic of Croatia, namely: a comparison of the employee reward systems, organizational build-up of human resources, and the role of bonuses in employee rewarding. Figure no. 1 presents claims and opinions of employees in the IT sector on rewarding and external competitiveness of companies in the IT sector from the point of view of individual categories of material and immaterial compensation.

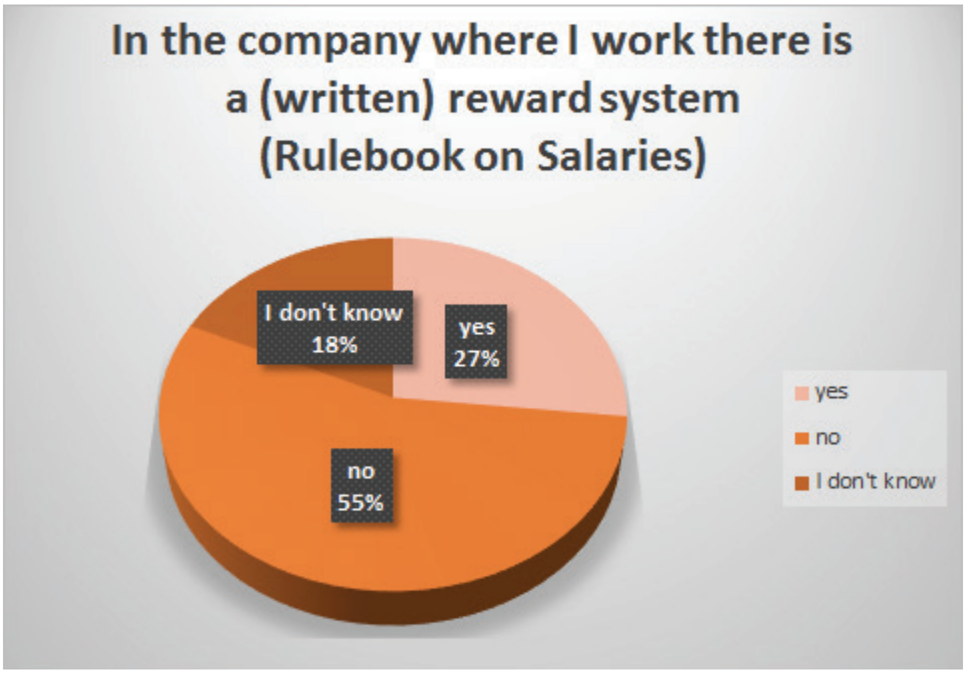
Figure 1: *Comparison of reward systems in the IT sector – claims of employees*



Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations,* p.205. 2018.

According to the survey data, the highest marks received the following two statements: education and training at the expense of the companies and flexible working hours. These claims are considered by IT sector employees as motivating and they also consider that the above-mentioned reward categories are of great importance in the decision of the company in which they want to work. These claims fall into the scope of immaterial compensation both from the point of view of job and from the point of view of the working environment. Claims such as: mobile phone use and difference in salary between good and bad workers are claims that IT employees do not consider important for rewarding and have received the lowest ratings. All researched employee claims, from those that are very important to those that are not important at all to them, are a significant source of information as well as knowledge for the management of companies, but also the owners of companies needed for the processes of creating reward systems. Often, business owners and company managers do not have a clear picture of employee attitudes and claims and consequently create an imperfect employee reward system based on inaccurate and distorted knowledge of employees' needs in companies. Incorrect and distorted knowledge of employees 'needs most often stems from poor communication between employees, managers and owners, and there is often the case of a poor organizational structure of a company where there is no clear correlation between description and type of employee activities to employees' needs in line with rewarding opportunities. The basic document defining salaries and other forms of rewards according to employee job descriptions is called The Rulebook on Salaries and / or Rewards. Each company has to have The Rulebook on Salaries and / or Rewards where the existence of a rulebook represents an important formative component of the image of the company, mostly from the point of view of internal and external competitiveness in the IT sector as well as in other sectors and industries studying employee reward issues.
Figure no. 2 presents claims of the IT sector employees about their knowledge of the existence of The Rulebook on Salaries and / or Rewards in the company.

Figure 2: *Existence of the Rulebook on Salaries in the company – claims of employees*



Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.208. 2018.

Employees from the IT sector companies do not have a clear understanding of the existence of a Rulebook on Salaries and / or Rewards, as 55% of employees working in such companies responded negatively, and 18% of employees said they did not know whether there was a Rulebook on Salaries and / or Rewards in their company. Only 27% of the employees answered positively, and it would be necessary to further investigate whether the employees were self-familiar about the same or received information from companies, e.g. from the human resources department. These data show that the reward system is not sufficiently developed within the analysed IT sector enterprises. Over the last few years there has been a significant lack of labour force and precisely for that reason it is necessary to define more specifically the transparency of information on the Rulebook on Salaries and / or Rewards, which could primarily contribute to the development of external competitiveness of the IT sector companies.
Figure no. 3 shows employee opinions on the frequency of employee communication with management and company owners.

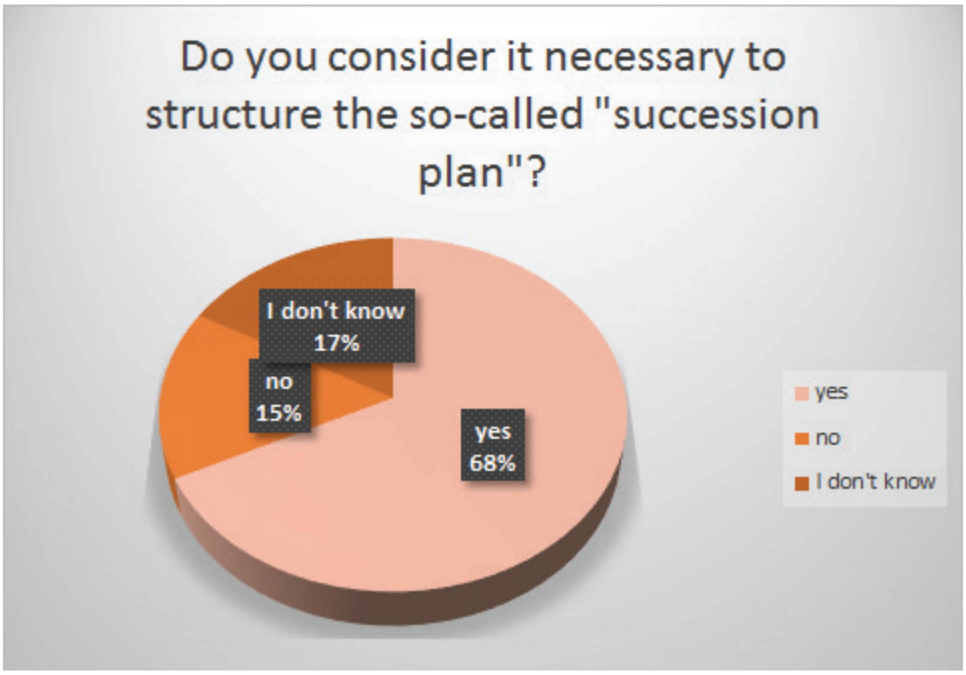
Figure 1: *Implementation of planning and evaluation interviews with employees in the company*

Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.209. 2018.

Figure no. 3 shows that employees have certain visible forms of communication with the management and the owners of the company, as 55% of the employees have positively answered on this issue. Since employees are largely unfamiliar with rulebooks on salaries and / or rewards, it can be concluded that the planning and evaluation interviews are one of the important steps in the future implementation of the reward system. Employee awareness of planning and evaluation interviews does not coincide with employees' ignorance of the existence of rulebooks on salaries and / or rewards, which points to the need for management and business owners to better organize the human resource management segment. The fact that 13% of the employees did not know whether they had an annual planning and evaluation interview with 32% of employees who did not even have any interview shows that the organizational culture in the IT sector companies is at very low levels in terms of human resource management.

Figure no. 4 shows the employees' considerations and claims about the need to structure "succession plans", where the starting points of the analysis are aimed at systematising job descriptions and the IT sector employees' awareness about rewarding and categorizing jobs within the companies.

Figure 4: *Structuring the "succession plan"*



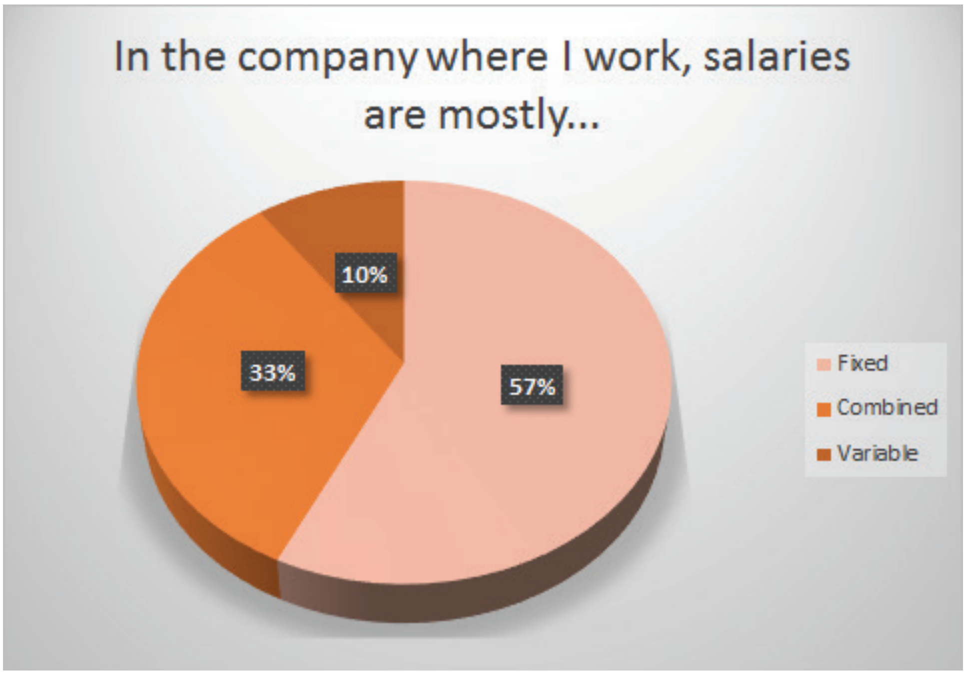
Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.210. 2018.

"Succession plan" is the planning of employees' jobs through systematization of jobs, as well as further processes of designing employee job descriptions. Given the growing dynamics of IT sector companies growth, "succession plans" are subject to continuous adjustments. In this case, designing a "succession plan" as a subsystem of the reward system has a significant impact on positioning an enterprise within a competitive environment. Timely shaped key positions within a company with regard to employee positioning can affect the reduction of expenditures for employees. The planning itself is focused on employee advancement and reducing time and money invested in a new employee. In the survey, 68% of employees concluded that there is a need for application of a "succession plan".

These attitudes and claims arise from the fact that employees within the types of compensation prefer immaterial compensations such as: expanding the scope of activities, as well as moving to a new job. Within the reward system and the definition of "succession plan", it is necessary to consider the rotations of employees as well as the modernization of the types and descriptions of jobs within the IT sector companies. Types and descriptions of jobs in the IT sector are interchangeable and largely depend on the invasive dynamics of technology development and a well thought out "succession plan" that should incorporate the experience of existing employees.

Figure no. 5 shows salaries of employees in the IT sector from the point of view of basic material compensation in terms of salaries and forms of reward.

Figure 5: *Salaries in IT sector companies – basic material compensation*



Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.211. 2018.

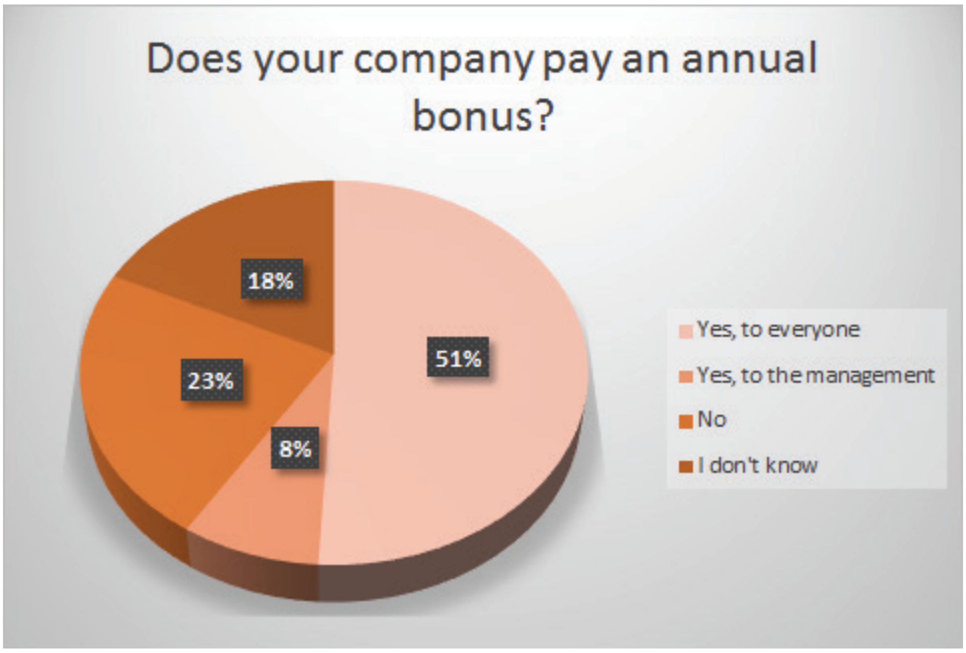
The salary (Milkovich, Newman, 2006, p.31) includes all forms of financial income, which include both tangible services and benefits that the employee obtains for his work in the company. According to the data in Figure no. 5 it is clear that salaries of employees in the IT sector are mostly fixed, and they account for 57%. About 10% of employees have variable salaries, while 33% of employees have combined salary forms. The fact that approximately 57% of employees in the IT sector receive fixed salaries point to the monolithic nature of existing reward systems. Attempts to reward and motivate employees for a particular effort or desired behaviour are ineffective if only fixed salary is applied. The combined salary variant, which in this case amounts to about 33%, is a better solution for the ultimate effect of better performance of employees, but also for further steps in defining a more modern reward system.

3.1. The Role of Bonuses in Employee Rewards

As one of the more stimulating reward measures, but also the kind of motivation of employees in terms of financial and material compensation, along with salaries, there is a category of bonuses. Bonuses are a form of financial and material compensation that is one of the most stimulating forms of reward. Bonuses according to the basic definition have two meanings. According to one meaning it is a stimulation and encouragement. According to the second meaning, it is a reward or a salary as a result of greater efforts. The role of bonuses in rewarding employees, in most sectors, is most often associated with the employee's performance or the employee's end-result, with the bonus being one of the most important categories of motivating and rewarding employees from the point of view of material compensation. On the other hand, the bonus can be linked to the company's business results and thus be part of shaping employee rewards.

Figure no. 6 presents data on employees' knowledge and claims regarding the payment of bonuses to all employees or only to management. These data in short-term point to information on the persistence of bonuses in companies coming from the IT sector.

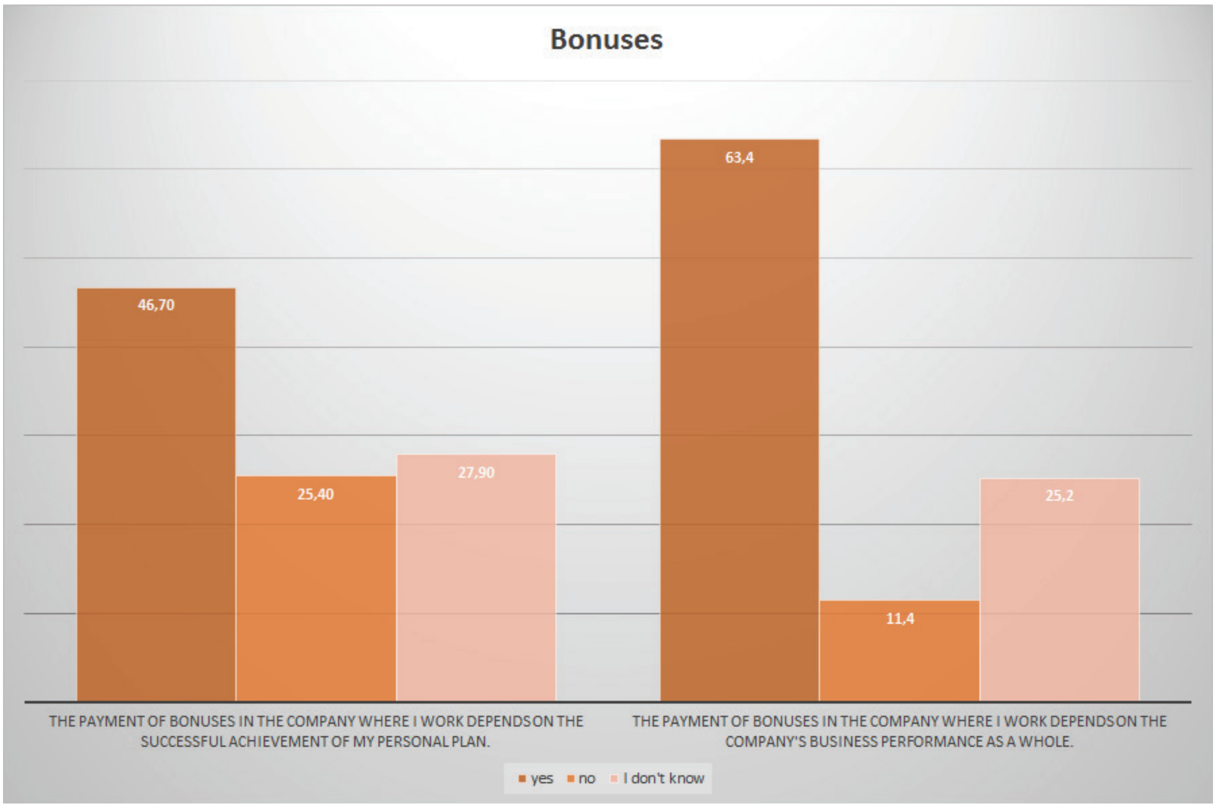
Figure 6: *Payment of bonuses in IT companies*



Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.212. 2018.

The bonus as a form of material financial compensation has a historical persistence within the concept of employee rewarding and therefore has a significant position within the reward system. Bonuses are the core of the reward system that has an important impact on achieving the company's business results, and thus the company's strategic advantage within the compensation strategy regarding the competition and the competitive environment. According to Figure no. 6, about 51% of employees are familiar with the bonus and receive a bonus, which points to the importance of this form of material compensation in terms of employee motivation management. The rest of the employees do not know or do not receive bonuses, and they account for about 41% of the respondents. This data points to the fact that a large number of companies in the IT sector do not use the bonus as a form of material compensation and that many companies do not have or are unable to allocate certain financial resources or they use other forms of material or immaterial compensation regarding the motivation of employees from the point of view of the reward system. Bonuses as a type of material compensation should be incorporated into the reward system and also shape the importance and recognizability of this form of material compensation for employee rewarding. The implementation of bonuses under the mandatory category of compensation or rewarding can lead to the company's competitive advantage over other companies in the industry or sector.
Figure no. 7 presents claims and opinions of employees in the IT sector on bonuses according to certain more important criteria that rely on certain category-focused theses such as business outcome and company success. In this case, they relate to the realization of the personal plan of employees, but also to the achievement of the business results of the company as a whole. The above-mentioned discrepancies between the criteria for the formulation of bonuses in companies are the reasons for further exploration of the criteria for payment of bonuses, depending on the trends and development of the IT sector.

Figure 7: *Bonuses in IT companies per certain criteria*



Source: Taken from the doctoral dissertation by Natko Klanac named *Strategic positioning of companies through compensation system and boosting innovations*, p.213-214. 2018.

The claims and questions are focused on the employees' opinions and knowledge about the payment of bonuses from the point of view of the company's overall achieved results, and the role and importance of the employees' work contribution in accordance with the work performance and the set work standards within the company. Regarding the thesis on bonuses and its relation to the achievement of the business results of the company, about 63% of the employees pointed to the fact that they considered the company and its business results. About 36% of employees have stated in their responses that they have no clear information and knowledge about relation of bonuses to company's business results, suggesting that there is a certain vertical lack of communication activity in the IT sector within the relationship between employees and management or company owners. Regarding the thesis on bonuses and their relation to the achievement of employee's personal plan there is a different distribution of employee claims and thoughts. About 47% of employees are familiar with the bonus payment system within employee rewarding in the company. On the other hand, 53% of employees do not know or are not even aware of the company's bonuses, which points to the fact that reward systems or compensation systems management processes are insufficiently developed in IT companies. Disproportions in employees' claims and thoughts in this research indicate that employees more consider the company's business performance, rather than their own performance in the company.

4. Conclusion

Employee rewarding is one of the most important areas of business activity, as it is impossible to imagine a company without the existence of employees as well as their contribution to the business results of the company. The basic employee rewards model is based on the salary the employee receives on a continuous basis, according to the prescribed standards and set variables. In this way, salaries are the company's expense, while employees are the basic resource of the enterprise. Combining these components in the form of generating the optimal organizational culture of the company leads to the need to shape the reward system. Designing a reward system is a complex process because there is no universal reward system model.
The IT sector in Croatia has registered a continuous increase in the number of new companies, as well as the competitive development of existing companies. The lack of labour force in this sector points to the need for redefining the education segment. It also points to the need to design a reward system that would further strengthen the company's capacities in the growth and development processes and thereby create competitive advantage. The research carried out explored basic knowledge about comparing the employee reward systems, organizational construction of human resources, and the role of bonuses in employee rewarding. The existing reward system requires changes in the direction of redesigning the IT sector employees reward system. Conclusions of employee opinions and claims are focused on shaping recommendations and activities through: improving the capacity of the human resources segment, introducing rulebooks on work and rewards, vertical structuring of the so-called "succession plans", the more specific categorization and application of bonus payments, and the establishment of a stronger link between innovation and employees in the category of rewards.

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COMPARISON OF ENERGY COSTS DUE TO ENERGY RENEWAL OF PUBLIC SECTOR BUILDINGS IN REPUBLIC OF CROATIA

ABSTRACT

Numerous public buildings in Croatia do not satisfy existing energy standards that results with an inefficient use of energy and unnecessarily high energy costs. According to the Directive of the European Union (Directive 2012/27/EU), the Republic of Croatia is obligated to reduce consumption of primary energy by 20% and to renew 3% of the floor area of heated and/or cooled buildings owned or used by central government by 2020, which can be achieved by energy renewal of existing public sector buildings as the leading consumers. The benefits of energy recovery investments can be grouped as following; economic benefits in terms of cost savings for used energy, increasing building value; ecological in the sense of more rational use of energy, reduction of CO_2 *emissions and other harmful gases, and other benefits of energy renewal as improvement of working conditions and health of employees etc. The aim of this paper is to explore the economic benefits of investments in energy reconstruction i.e. to determine whether the costs of used energy in buildings that have undergone an energy renewal process are different from before. The data of public buildings are collected from the Information System for Energy Management. This research includes public buildings reconstructed in the period from 2006 to 2016. For each building, the three-year average cost of energy consumed per square meter before the renewal was compared to the three-year average cost of energy consumed per square meter after the renewal process. The data are described by descriptive statistical analysis and compared by statistical test of expectations equality. This research can be beneficial to policymakers and institutions that are responsible for promoting energy efficiency.*

Key words: *public buildings, energy efficiency, energy costs, data analytics*

1. Introduction

Energy and increased energy consumption are the greatest challenges of the 21st century. How to secure energy independence and efficiently managing energy are just some of the issues faced by countries that are striving for sustainable development. According to the Directive of the European Union (Directive 2012/27/EU), the EU's general objective is to reduce primary energy consumption by 20% by 2020 and, furthermore, improve its efficiency after 2020. The buildings sector is the largest individual energy consumer that generates about 40% of total energy consumption (Tommerup et al., 2007). Therefore, an essential component in achieving EU goals is to reduce energy consumption in buildings. With this aim, a number of measures to encourage energy renewal and the use of renewable energy sources in buildings especially public buildings are given by EU.

In focus of this paper were public buildings in Croatia. About 70% of buildings in the Republic of Croatia were built before 1980 and do not satisfy existing energy standards (Krstić & Teni, 2017). According to Croatian legislation, public buildings are considered as buildings for education, health, culture, sport, state administration and local and regional administration. Based on mentioned EU Directive, the Republic of Croatia is obligated to renew 3% of the floor area of heated and/or cooled buildings owned or used by central government by 2020, which can be achieved by energy renewal of existing public sector buildings.

The aim of this paper is to explore the economic dimension of energy renewal in term of energy costs in public buildings. One of the important questions is whether energy renovation has cost savings in public buildings in Croatia. Groups of public buildings that had recorded reconstruction in the period from 2006 to 2016 and which had the energy certificate data were analyzed. In order to analyze the costs, buildings that contained data of the total annual cost of all energy sources (electricity, gas, water, etc.) three years ago and three years after the renewal were observed and compared. The existing public sector building can be classified into several categories in relation to their purpose, therefore administrative, cultural, educational, general business, business, lighting, residential, social, hospitality, military and health buildings. The absolute and relative frequency of a particular category in our sample was presented and the structure of the total costs was described. Since that in our sample were categories with small number of buildings and also categories with a lot of buildings, the structure of total costs was presented as a share of average cost of one building in each category in total costs.

This research can be beneficial to policymakers in creating new or reshaping existing energy measures and promoting energy efficiency in Croatia.

2. Previous research and methodology

In the last few decades, the concept of energy efficiency is an interesting area of research. Given the breadth of this concept, it is explored from an economic, social, technical and ecological point of view. Petterson (1997) defined energy efficiency as "using less energy to produce the same amount of services or useful output". At the European Union level energy efficiency is defined as "the ratio of output of performance, service, goods or energy, to input of energy" and energy savings as "the reduction of energy use, without reference to output produced" (Erbach, 2015). Al-Mofleh et al. (2009) recognized energy efficiency as path to alleviate the link between economic growth and increased energy consumption.

As mentioned before, buildings are the largest individual energy consumer. The level of energy efficiency and energy consumption depends on different factors such as: the construction, characteristics and design of the building, heating, ventilation, cooling systems, building maintenance and the user's building ie the way and intensity used by the building associates (Al-Mofleh et al., 2009; Brown, 2009; Kim, 2011; Zhao & Magoulès, 2012). Through energy renovation of existing buildings, efficient use of energy and lower energy consumption can be achieved (Papadopoulos et al., 2002). In EU Special Report called *Cost-effectiveness of Cohesion Policy Investments in Energy Efficiency* some of standard energy efficiency investments measure are given. Such energy investments measures usually includes the additional insulation of buildings, energy-efficient windows, thermoregulation, the upgrading of district heating systems, electrical and steam systems and etc. (European Court of Auditors, 2012).

Numerous studies emphasize positive impact of energy investments such as the reduced energy consumption, lower cost for used energy, raised market value of building, reduction of CO_2 emissions and other harmful gases, improved of work conditions and health of employees etc. (Kneifel, 2010; Ardente, 2011; Mikulić et al., 2016). Darby (2006) stated that 50–70% or more savings in energy through renovation of commercial buildings could be achieved. They brought positive examples of savings, which were achieved through relatively simple measures such as lighting upgrades, conversion of the ventilation system, upgrading existing heating and cooling systems. However, sometimes benefits from energy investment were not on expected level and that situation is known as rebound effect. Cellura et al. (2013) analysed energy and environmental benefits due to an Italian sustainable policy. For assessing the effectiveness of sustainable policies input–output analysis were used. Authors concluded that the rebound effect can reduce energy and environmental benefits arising from sustainable policies.

Economic measure for evaluation of energy investments are investments payback time, net present value, internal rate of return, life cycle cost analysis, and marginal costs of energy (Jakob, 2006; Martinaitis, 2007; Jackson, 2010; Kneifel, 2010; Sajter, 2017). Martinaitis et al. (2007) stressed the need to differentiate investments and evaluation methods i.e. energy investments and other renovations in buildings. Therefore, they suggested two-factor method, which by using a building rehabilitation coefficient can divide and evaluate energy investments from other renovation investments. Popular area in energy efficiency researching is modelling and prediction energy consumption of buildings. Foucquier et al. (2013) distinguished three approaches to energy consumption modelling and research. First approach was based on physical models, which included building thermal behaviour modelling. Second, machine learning which included prediction models for energy consumption, heating/cooling demand based on machine learning techniques, and third approach combined both physical and statistical techniques.

Regarding to impact of energy renovation on energy consumption and directly on energy cost trough this research results of energy renovation of buildings in Croatia will be explore. In order to determine is energy cost on lower level then pre renovation in public buildings, the comparison of costs before and after renewal process was made. Statistical test of expectations equality in R studio tool was used for analysis. Since that effect of renewal on costs was analyzed, the test for two dependent samples was necessary, therefore the paired two sided t-test was used (Sheskin, 1997). The used level of significance was 0.05.

3. Data and Results

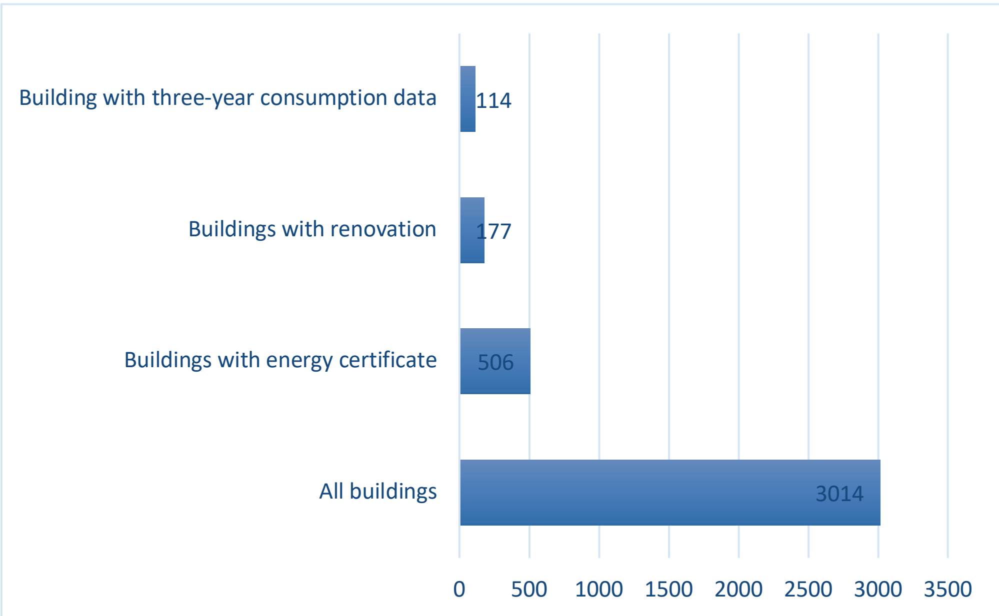
In this research, data obtained from Information System for Energy Management were used. The Information System for Energy Management is application established by Agency for Legal Trade and Real Estate Brokerage in order to monitoring energy and water consumption in public sector buildings (Environmental Protection and Energy Efficiency Fund, 2018). Alongside energy consumption of public buildings Information System for Energy Management provided information about geospatial, construction, heating, cooling, meteorological, occupational and energetic characteristics of these buildings.

The dataset used in this paper consisted of a 3014 public buildings. For this research, it was needed to identify public buildings that satisfied following conditions:

a) building has undergone energy certification process
b) building had reconstruction in the period from 2006 to 2016
c) total annual cost of all energy sources (electricity, gas, water, etc.) three years ago and three years after the reconstruction is recorded

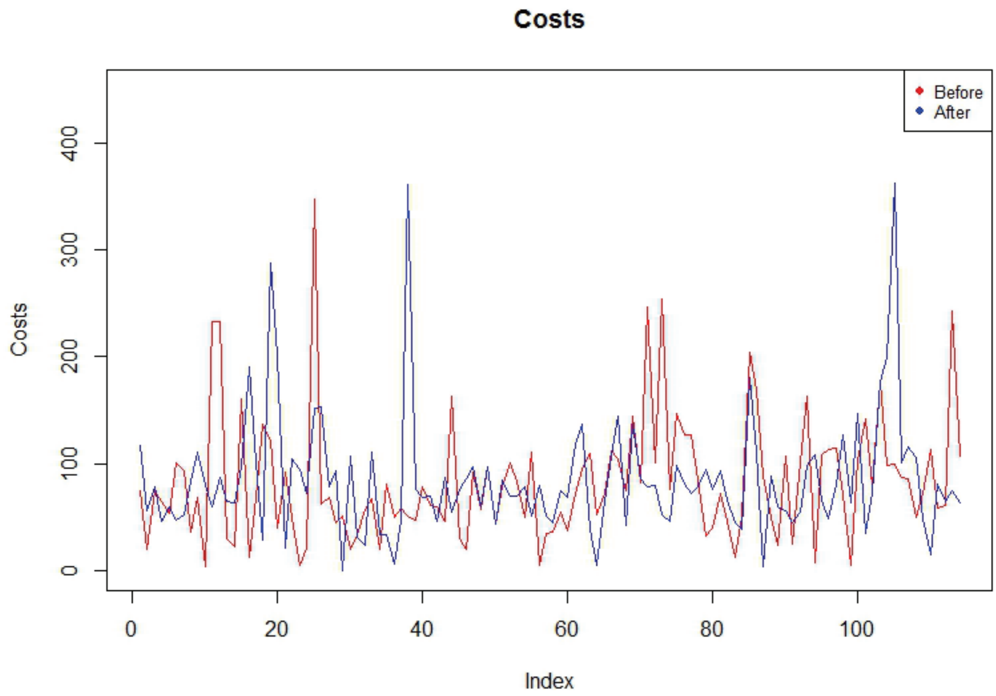
Among 3014 buildings, 506 buildings had data about energy certification process and 177 buildings had reconstruction in the period from 2006 to 2016. Finally, 114 of them had available data of costs three years before and after renovation. Structure of the dataset is presented on the following figure.

Figure 1: *Structure of the dataset*



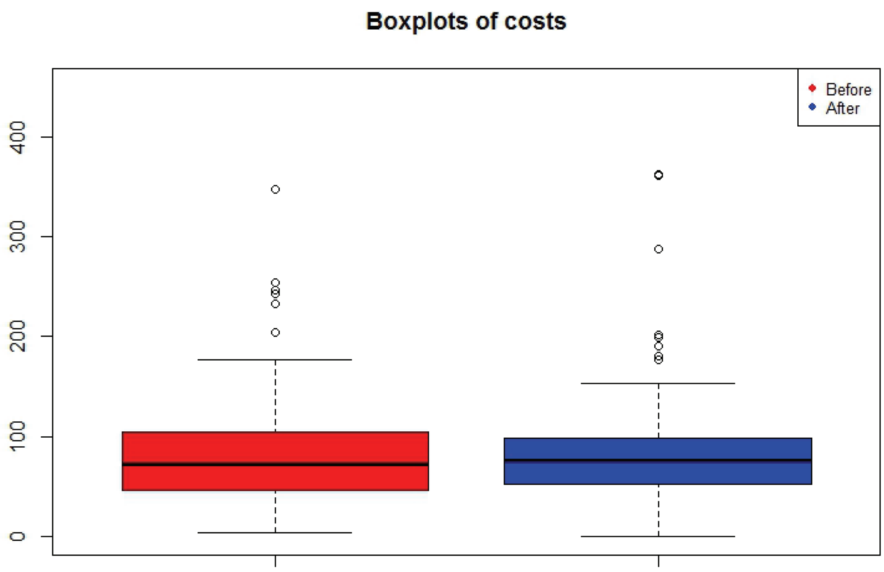
Finally, for each building, an average three-year cost per square meter was calculated for the period before and after renovation. In the following pictures costs are graphically presented.

Figure 1: *Average three year cost per sqaure meter before and after renewal process*



Source: Authors

Figure 2: *Boxplots of average three year cost per square meter before and after renewal process*



Source: Authors

The numerical characteristics of the cost per square meter are given in Table 1.

Table 1: *Numeric characteristics of average three year cost per square meter before and after renewal process*

	Min.	1st quartile	Median	Mean	3rd quartile	Max.	St. dev.
Before renewal	3.31	46.17	72.40	83.32	105.09	347.98	59.12
After renewal	0.32	52.01	75.94	85.26	99.07	362.22	57.53

As it could be seen in Table 1, some numeric characteristics decreased, but also some of them increased after renewal process. In order to conclude whether there is a statistically significant difference in expectations, paired samples two sided t-test was used. The null hypothesis about equality of expectations was not rejected with p-value 0.7891.

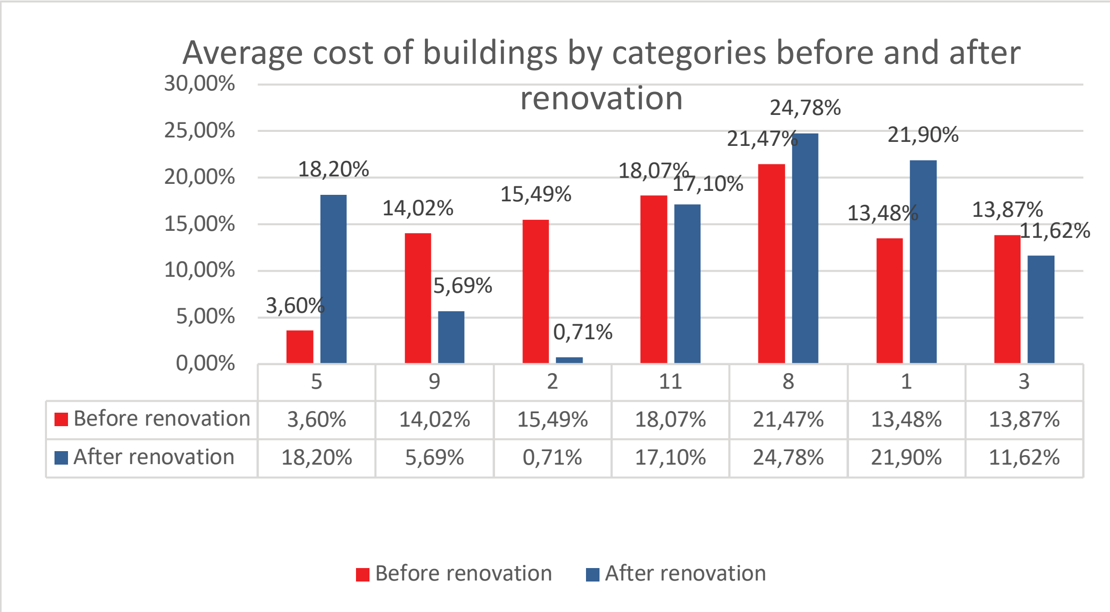
As mentioned before, the existing public sector buildings can be classified into several categories in relation to their purpose, therefore administrative, cultural, educational, general business, business, lighting, residential, social, hospitality, military and health buildings. Frequencies for each category of buildings in analyzed sample of 114 buildings are given in the following table.

Table 2: *Frequencies for each category of public sector buildings*

Category	**Number of buildings**
1 – administrative	20 (17.54 %)
2 – cultural	1 (0.87 %)
3 – educational	76 (66.67 %)
4 – general business	0 (0 %)
5 – business	1 (0.88 %)
6 – lighting	0 (0 %)
7 – residential	0 (0 %)
8 – social	7 (6.14 %)
9 – hospitality	1 (0.88 %)
10 – military	0 (0 %)
11 – health	8 (7.02 %)

As could be seen, the educational buildings are convincingly most numerous, while administrative, social and health buildings follow. In order to detect category of building that generates the most the energy consumption and energy cost, the average cost by categories before and after renovation was calculated and presented in following graph.

Figure 3: Average cost of building by categories before and after renovation



Source: Authors

The main consumers are social buildings (homes for the children and elderly, centers for social welfare, homes for pupils and students etc.), then administrative (various offices), educational (kindergartens, schools, faculties) and health buildings (hospitals and ambulances). Average cost after renovation increased for business, social and administrative buildings and decreased for hospitality, cultural, health and educational buildings.

4. Discussion and Conclusion

This paper compared average three-year cost of used energy per square meter for 114 public sector buildings that had energy certificate data and renovation in the period from 2006 to 2016. Two sided t-test for paired samples was used in order to conclude whether there is a statistically significant difference in expectations. On the level of significance 0.05, the null hypothesis about equality of expectations was not rejected. Such result was unexpected since the general opinion is that renewal process should reduce costs. Reasons that may explain that result is the fact that some of the buildings have not captured the overall consumption since the beginning of this practice; they have captured consumptions of some of the energy sources. As they started later with tracking overall consumption, the total cost increased. In addition, data could be incorrectly entered in system since the most of them were entered manually and not regularly. More precise and improved would be if the data were automatically entered. At the moment, there are buildings that have automatic reading of consumption and costs, but that number is insignificant. An important factor is also a way of using the energy since the users of public sector buildings are large number of people who are not completely environmental aware yet. Hence, one of the steps towards decreasing energy consumption and costs is education about the proper use of energy sources.

In addition, the structure of consumers has been analyzed to determine the buildings that spend the most on average, and the main consumers are social buildings then administrative, educational and health buildings. Average cost after renovation increased for business, social and administrative buildings and decreased for hospitality, cultural, health and educational buildings.

According to aforementioned information, the main limitation of this paper is unreliability in the accuracy of the data and their insufficient precision. For that reason, there is a need for regular and accurate monitoring of consumption data to help determine more reliably the changes in consumption and costs for energy renewal. For further research, it would be necessary to ensure the accuracy of data. In addition, buildings that increased consumption should be identified and their energy usage should be analyzed. After all, it would be helpful to pay attention to the human influence on energy consumption in buildings. Apart from the energy renewal of the building, it is necessary to educate their users and raise awareness of the energy efficiency since the human factor strongly affects the energy consumption.

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THE EFFECTIVENESS OF ARTIFICIAL NEURAL NETWORKS IN PREDICTION OF FINANCIAL VULNERABILITY IN SLOVAK NON-PROFIT SECTOR

ABSTRACT

The aim of the article is to determine the effectiveness of the artificial neural network in predicting the financial vulnerability of non-profit organizations in the Slovak Republic. In general, the prediction of financial healthy is typical for the commercial sector as compared to non-profit organizations. However, at present non-profit organizations play a significant role in the national economy because they replace public services. Non-profit organizations mostly provide free services to low-income population groups in education, social and health care. In prediction area, most of authors apply relevant advanced statistical methods, which consist of discriminatory analysis, regression analysis, survival analysis and neural networks. This article contains an artificial neural network as a prerequisite for measuring effectiveness using the receiver operating characteristic curve (ROC). The neural network is created based on quantitative variables from the financial statements of Slovak non-profit organizations. Financial data is collected from 271 non-profit organizations based on Finstat (financial database) and Register of Financial Statement by Ministry of Finance of the Slovak Republic. These data were used to calculate variables such as contribution from tax paid on total revenues, debt ratio, donation ratio, equity ratio, net working capital on total assets, operating ratio, return on assets, sale ratio a wage ratio (all quantitative variables) type of non-profit organization divided by non-commercial or commercial non-profit organizations (qualitative variable). These variables are relevant based on the theoretical and empirical knowledge from renowned authors on the American and European continents. The ROC results show that the neural network achieves a high percentage of the correct classification of the non-profit organization. In other words, the neural network is a relevant statistical method in predicting the financial vulnerability of Slovak non-profit organizations. Moreover, we explain importance of analysed variables using sensitive analysis.

Key words: *Financial Vulnerability, Non-Profit Organization, Non-Profit Sector*

1. Introduction

Recently, the non-profit sector has played an important role in building civil society. Many authors deal with the status of non-profit organizations in the national economy and performance benchmarking of non-profit organizations with public and commercial organizations. However, relatively new research focuses on predicting the financial vulnerability of non-profit organizations using advanced statistical methods such as logit and probit models (Kliestik, Kocisova & Misankova, 2015). These statistical methods are applied on bankruptcy prediction of Slovak companies (Kovacova & Kliestik, 2017). Moreover, some authors apply multiple discriminant analysis in Visegrad Group (Kliestik, Vrbka & Rowland, 2018). However, in general, neural networks are the most effective tool in the classification of non-profit organizations. This research is relatively demanding because financial data on non-profit organizations are rarely available depending on European countries. If bankruptcy model is created, then it is needed to look at effectiveness ratio which is calculated by ROC. However, many authors focus on performance measurement using hybrid MADM methods (Franek & Kashi, 2017). Moreover, nowadays private sector use project portfolio management (Kral & Janoskova, 2015). Bankruptcy prevention is extremely important due to legal and social changes (Kliestik et al., 2018). On financial health is influenced by globalization aspects (Ignatyev & NurtdinovIlgiz, 2018). The boom of information and communication technologies offer innovative solutions (Meila, 2018). Unfortunately, some companies attempt accounting fraud (Sadaf et al., 2018). Nowadays, true information plays an important role between private and non-profit organizations, as fake news is increasingly appearing in the media (Massey et al., 2018).

2. Literature review

Financial vulnerability of non-profit organizations is interesting for leaders of non-profit organizations, current and potential contributors, and communities where non-profit organizations provide services. In a broader sense, financial sustainability is the ability to maintain the organization's operations in the long run. In addition, the concept of sustainability varies depending on the type of organization, non-profit and profitable organization, but also from the type of business structure, the revenue structure and the goals of the organization. For many non-profit organizations, the primary task is to ensure a balance between financial sustainability, the organization's mission and maintaining a consistent and high-quality program (Sontag-Padilla, Staplefoote & Morganti, 2012). In prediction area there are used various terms mostly such as financial sustainability and financial vulnerability. Financial sustainability as a mix of revenue and cost strategy management that enables organizations to meet and maintain a mission in the long run (Williams, 2014). On the other hand, financial vulnerability is defined as a susceptibility of the organization because of financial problems (Tevel, Katz & Brock, 2015). Table 1 shows definitions of financial vulnerability.

__Table 1:__ Definitions of financial vulnerability

Authors	Financial vulnerability
Tuckam & Chang (1991)	Financial vulnerability is explained by quintile of four variables, such as equity, administrative costs, revenue concentrations and operating margin. If non-profit organization has some variable at the lowest quintile, then non-profit organization has financial problem.
Greenlee & Trussel (2000)	Financial vulnerability is explained by decline in the proportion of expenditure to revenue by more than 20 % over three years.
Trussel (2002)	Financial vulnerability is explained by decline in net assets by more 20 % over three years.
Trussel et al. (2002)	Financial vulnerability is explained by decline in net assets over three years.
Trussel & Greenlee (2004)	Financial vulnerability is explained by decline in net assets by more 20 % or 50 % over three years in dependent on prediction models.

Source: authors

Main reasons of the financial vulnerability are weak management, inadequate accounting information system, external constraints, personnel issues, financing problems, and size of organization. In terms of size, the most vulnerable organizations are medium-sized non-profit organizations (Zhai, Watson, Gilchrist & Newb, 2017). Financial vulnerability is typical for non-profit organizations, especially during the economic crisis. This argument can be considered logical in view of the unfavourable situation in the commercial sector (Dayson, 2013). Financial vulnerability is judged using predictive models. Berta & Burger (2015) report that Tuckman & Chang (1991) are considered "pioneers" in this research field, as they provide the basis for further studies. Financial condition of non-profit organizations depends on many factors, such as the generosity of supporters, the diversity of income, the quality of management, the ability to withstand fluctuations in returns and the size of capital. The choice of indicators is influenced by these factors. The four indicators include the equity ratio, the revenue concentration, the administrative costs and the operating margin (Tuckman & Chang, 1991). These indicators are combined to create a model for assessing financial vulnerability. This model is an important tool that enables a non-profit organization to measure the current state of financial health in relation to the four indicators mentioned. Tuckman & Chang (1991) model was extended by the study by Greenlee & Trussel (2000). This model is based on the same financial indicators, but these authors have applied logistic regression. Later, Trussel et al. (2002) expanded the study by Greenlee & Trussel (2000) and Tuckman & Chang (1991) to predict the vulnerability of non-profit organizations and Trussel & Greenlee (2004). Table 2 shows significant variables in predictive models from renowned authors.

Table 2: *Variable summary*

Authors	Variable	Formula
Tuckam & Chang (1991)	equity	equity/ revenues
	revenue concentration	∑ (revenue item/total revenues)^2
	administrative costs	administrative costs/ revenues
	operating margin	(revenues - expenditures)/ revenues
Greenlee & Trussel (2000)	equity	equity/ revenues
	revenue concentration	∑ (revenue item/total revenues)^2
	administrative costs	administrative costs/ revenues
	operating margin	(revenues - expenditures)/ revenues
Trussel (2002)	operating margin	(revenues - expenditures)/ revenues
	revenue concentration	∑ (revenue item/total revenues)^2
	size	assets
	debt ratio	debt/ assets
Trussel et al. (2002)	debt ratio	debt/ assets
	revenue concentration	∑ (revenue item/total revenues)^2
	operating margin	(revenues - expenditure)/ revenues
	administrative costs	administrative costs/ revenues
	size	assets
Trussel & Greenlee (2004)	operating margin	(revenues - expenditure)/ revenues
	revenue concentration	∑ (revenue item/total revenues)^2
	size	assets
	debt ratio	debt/ assets

Source: authors

Table 3 shows the formulas to calculate the probability of financial vulnerability of non-profit organizations.

Table 3: *Financial Vulnerability Models*

Authors	Formula
Discrete model	
Tuckam & Chang (1991)	Formulation is given by quintile of four variables, such as equity, administrative costs, revenue concentrations and operating margin.
Logit model	
Greenlee & Trussel (2000)	Z = - 3,0610 + 0,1153 E + 1,2528 C - 2,2639 A - 3,4289 M
Trussel (2002)	Z = 0,2475 - 1,3527 M + 0,8402 C - 0,1396 S + 1,1088 D
Trussel et al. (2002)	Z = 0,7754 + 0,9272 D + 0,1496 C - 2,8419 M + 0,1256 A- 0,1665 S
Trussel & Greenlee (2004)	Z = 1,4398 - 5,2450 M + 0,07654 C - 0,1594 S + 0,9754 D

Note: A (administrative costs), C (revenue concentration), D (debt), E (equity), M (operating margin) and S (size in assests)

Source: authors

As can be seen, the financial vulnerability is estimated mainly by logistic regression. However, the prediction tools include the neural network. Neural networks are the preferred tool for predicting for strength, flexibility and simplicity. Neural networks are used in various forms such as multilayer perception (MLP) and radial basis function (RBF). Multilayer perception creates a predictive model for one or more dependent variables based on selected independent variables (IBM SPSS, 2015).

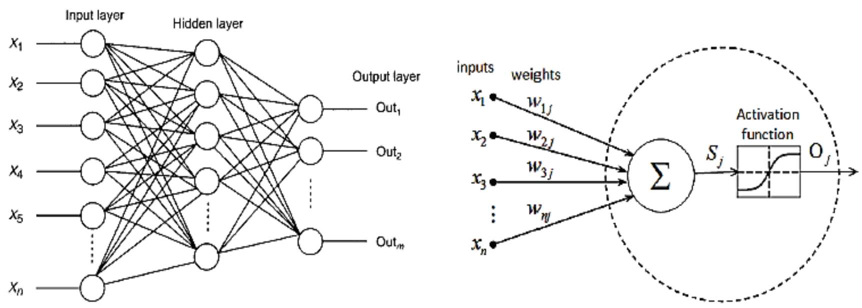
Narasinga Rao et al. (2010) claim that, unlike traditional statistical methods, neural networks provide a dynamic output because they are provided with additional data and do not require the implementation and analysis of sophisticated statistical methods (Kitikidou & Iliadis, 2012). Neural networks are inspired by the structure of biological neural networks. It points out that they consist of highly interconnected nodes and their overall ability to help estimate output (Ayer et al., 2010).

3. Methodology

A typical ANN model consists of a three-layer network of interconnected nodes, the input layer, the hidden layer and the output layer. First, the training sample consists of the data that is used to create a neural network. In other words, it is used to estimate network parameters. Second, the test sample represents an independent set of data that is used to track the errors during training to eliminate overtraining. It is obvious that the test and holdout sample consists of fewer subjects than a training sample. Thirdly, a holdout sample is another independent dataset that is used to independently judge the final network. In other words, the holdout sample provides a true estimate of the predicted model capability. If an independent variable is categorical as in our case, then the neural network is used to classify into the appropriate group based on input variables. The nodes between the input and input layers may form one or more hidden layers. Each neuron in one layer has a connection with each other neuron in the next layer, but the neurons belonging to the same layer have no connection with each other (see Figure 1). The input layer receives information from the outside world, the hidden layers perform the information processing, and the output layer produces groups or assumed continuous values. Input layer values entering the hidden node are multiplied by weights, a set of predetermined numbers and products are then added to create a single number. This number passes as an argument of a nonlinear mathematical function, an activation function that returns a number between the range from 0 to 1 (Zacharis, 2016). The hidden layer nodes contain values from two hidden layers. The net counts are of no physical significance. Hidden nodes allow the neural network to model complex relationships between input variables and output. Generally, the neural network is a set of nonlinear tools that consist of input and output layers. In addition, the network contains one or two hidden layers (Ayer et al., 2010).

The nodes in the different layers are connected by weights. This link contains knowledge that represents relations between variables and corresponds to coefficients in logistic regression. ANN teaches the relationship between input variables and effects on the result by (increasing) or weakening (decreasing) the values of these weights based on known cases. Moreover, ANN is not analogous to the estimation of parameters in the logistic regression model. The reason is that ANN is not an automated logistic regression model because two models use a different training algorithm to estimate parameters. In other words, there are several algorithms for ANN training, the most popular way is backpropagation. This procedure is based on the idea of balancing that minimizes the difference between actual and estimated outputs by spreading backward irregularities, otherwise from the output node to the input nodes (Ayer et al., 2010).

Figure 1: *Neural network architecture and neural network activation node*



Source: Zacharis (2016)

Figure 1 shows that the net sum of the weighted inputs that enter the node j-th and the output activation function converts the neural weighted input to its output activation commonly called the sigmoid function. They are calculated as

$$S_j = \sum_{i=1}^{n} x_i w_{ij} \tag{1}$$

$$O_j = \frac{1}{1+e^{S_j}} \tag{2}$$

In the hidden layer, the hyperbolic tangent is used as the activation function. The activation of the j-th output neuron is

$$O_j = \tanh\left(S_j\right) = \frac{e^{S_j} - e^{-S_j}}{e^{S_j} + e^{-S_j}} \tag{3}$$

In the output layer, we use the softmax function as an activation function. Activation of the j-th output neuron

$$O_j = \sigma\left(S_j\right) = \frac{e^{S_j}}{\sum_{k=1}^{m} e^{S_k}} \tag{4}$$

In the softmax activation function is applied to the output layer, then IBM SPSS uses the cross-entropy error function instead of the squared error function that is used for other activation functions. Cross entropy error function is calculated as

$$E = - \sum_{j=1}^{m} t_j \ln O_J \tag{5}$$

The efficiency of the neural network can be measured using the operating curve receiver (ROC). This curve quantifies the accuracy of the distribution of non-profit organizations between organizations with financial vulnerability and organizations with financial non-vulnerability (Gupta, 2017).

4. Data

The aim of the article is to quantify the effectiveness of ANN in predicting the financial status of non-profit organizations. ANN is made up of data collected about non-profit organizations from Finstat (2018) and the Financial Statements Register from the Ministry of Finance of the Slovak Republic (2018).

Sample. Table 4 shows that the total number of non-profit organizations is 271, but 37 organizations are excluded due to the absence of data in some non-profit organizations. It is logical that the total number of cases analysed is 234, which are divided into training, and testing and holding the sample. In our case, the training sample contains 189 subjects (80.8%), the testing sample includes 19 subjects (8.1%) and the holding sample consists of 26 organizations (11.1%). These organizations are randomly divided into individual parts based on a relative ratio of 80:10:10. In other words, about 80% of non-profit organizations are training and about 20% of organizations are focused on validating the proposed model.

Table 4: *Case Processing Summary*

		N	Percent
Sample	Training	189	80,8 %
	Testing	19	8,1 %
	Holdout	26	11,1 %
Valid		234	100,0%
Excluded		37	
Total		271	

Source: authors

In addition, number of non-profit organizations without financial vulnerability is 18 (7.69%) and non-profits with financial vulnerability is 216 (92.31%). Financial vulnerability is explained as non-profit organization in liquidation.

ANN is created using CPTREV, DEBRAT, DOTREV, EQUREV, NWCASS, OPEMAR, ROAEBIT, TYPKOD, SALREV, WAGECOS. These variables are used based mainly on theoretical and empirical knowledge from renowned US and European authors and specific conditions in the Slovak Republic. **Table 5** shows formulas of independent variables which are used in neural network.

***Table 5:** Independents variables*

No.	Variable name	Acronym	Formula/ factor
1.	Contribution from tax paid on revenues	CPTREV	contribution from tax paid/ total revenues
2.	Debt ratio	DEBRAT	debt/ total assets
3.	Donation ratio	DOTREV	grants/ total revenues
4.	Equity ratio	EQUREV	equity/ total revenues
5.	Net working capital on total assets	NWCASS	(current assets - short-term liabilities)/ assets
6.	Operating ratio	OPEMAR	(revenue - costs/)/ total revenues
7.	Return on assets	ROAEBIT	EBIT/ total assets
8.	Sale ratio	SALREV	sale revenues/ total revenues
9.	Type of non-profit organization	TYPKOD	commercial/ non-commercial non-profit organization
10.	Wage ratio	WAGECOS	wage costs/ total costs

Source: authors

Consequently, we quantify the effectiveness of the proposed model using ROC.

5. Results and Discussion

Table 6 shows information on neural network, in this case of the neural network model is created using the multilayer perception algorithm (MLP). From the point of view of the composition of the neural network there is 10-7-2 structure. In other words, 10 independent variables, 7 hidden layer neurons and 2 dependent (output) variables. Specifically, the input layer consists of one factor and nine variables, namely TYPKOD, OPEMAR, DEBRAT, EQUREV, NWCASS, CPTREV, SALREV, ROAEBIT, DOTREV and WAGECOS. In the framework of IBM SPSS Statistics 25, we have chosen an option that automatically chooses the best architecture and creates a neural network with one hidden variable. In our case, we specify the minimum number (default 1) and the maximum number (default 50) in the hidden layer. Additionally, the automatic architecture selection procedure detects the best number of units, namely 7 units (nodes) in the hidden layer. Auto-select architecture uses the default setting of the hiding layer activation function (hyperbolic tangent) and the output layer (softmax function). In addition, the standardized method is selected to change dependent variables to improve network training.

Table 6: Network Information

1	Factors	1	TYPKOD		
	Covariates	1	OPEMAR	6	SALREV
		2	DEBRAT	7	ROAEBIT
		3	EQUREV	8	DOTREV
		4	NWCASS	9	WAGECOS
		5	CPTREV		
	Number of Units[a]		11		
	Rescaling Method for Covariates		Standardized		
Hidden Layer(s)	Number of Hidden Layers		1		
	Number of Units in Hidden Layer 1		7		
	Activation Function		Hyperbolic tangent		
Output Layer	Dependent Variables	1	Finančný status		
	Number of Units		2		
	Activation Function		Softmax		
	Error Function		Cross-entropy		

Source: authors

Table 7 shows information on the results of the model broken down into training, testing and holdout sub-samples. The results also show cross entropy error, which we try to minimize during training. The low cross entropy error value (16,850) indicates the power of the model to predict the final output based on the training sample, with this indicator reaching only 5.580 in the testing sample. Obviously, these results are presented for the training and testing sample. In addition, the results estimate that the incorrect estimate is only 10.5% for the training sample. We can say that the results of the model are also positive because the testing sample is 10.5% and the holdout sample is 3.8%. In our case, we are talking about the average percentile of incorrect predictions because the dependent variable takes the form of a categorical variable. In other words, the proposed neural network achieves a percentage of correct estimates of more than 85 % for all groups, demonstrating a high degree of relevancy.

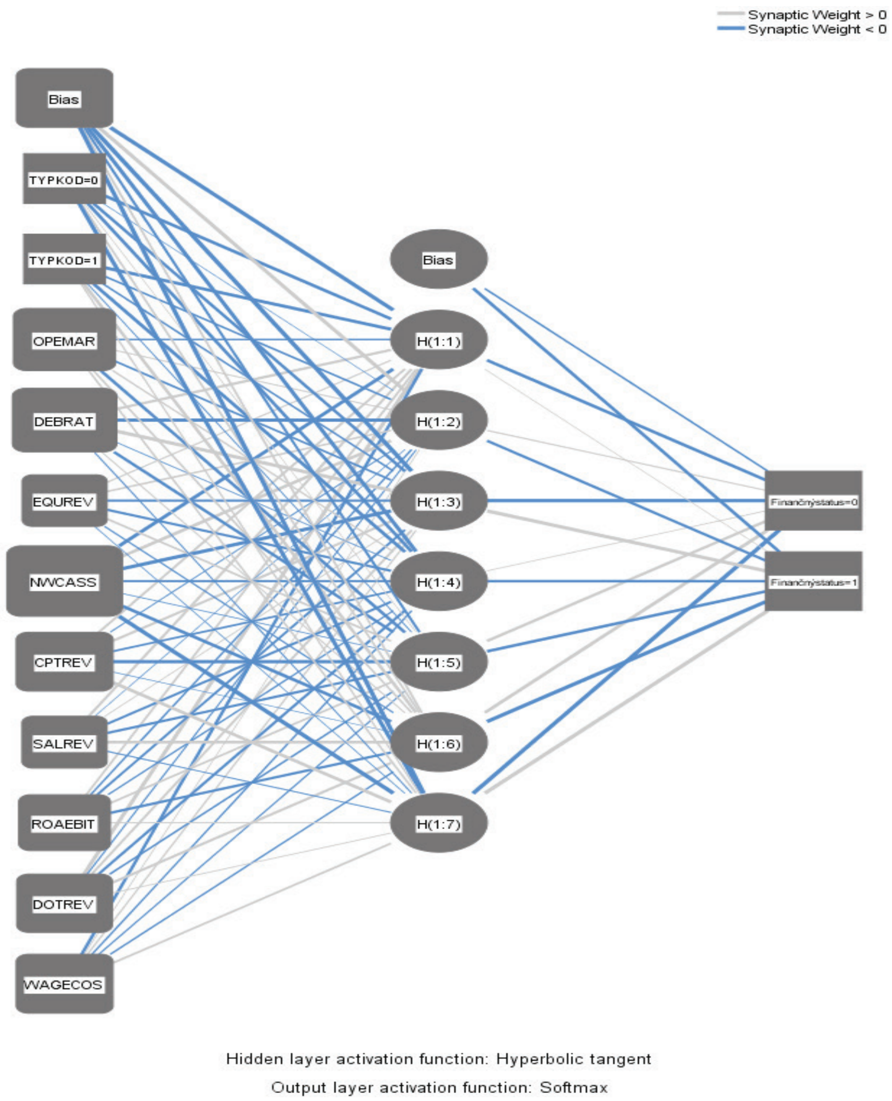
Table 7: Model Summary

Training	Cross Entropy Error	16.850
	Percent Incorrect Predictions	5.3 %
	Stopping Rule Used	1 consecutive step(s) with no decrease in error[a]
	Training Time	0:00:00,17
Testing	Cross Entropy Error	5.580
	Percent Incorrect Predictions	10.5%
Holdout	Percent Incorrect Predictions	3.8%
Note: Dependent Variable: Financial Status.		
a. Error computations are based on the testing sample.		

Source: authors

Figure 2 demonstrates network diagram that was created using IBM SPSS Statistics 25. As can be seen, the neural network has 10-7-2 structure with two output nodes representing non-profit organization with financial non-vulnerability or vulnerability.

Figure 2: Network Diagram



Source: authors

Table 8 shows synaptic weights, which were calculated only from training sample data. Synaptic scales display coefficient estimates that show relationships between units in a layer and units in the next layer. Synaptic scales are based on sample training, even if the active data set is divided into training, testing and holdout. Synaptic scales are not generally used to interpret network results.

Table 8: *Parameter estimates*

Predictor		Predicted								
		Hidden Layer 1							Output Layer	
		H(1:1)	H(1:2)	H(1:3)	H(1:4)	H(1:5)	H(1:6)	H(1:7)	Financial non-vulnerability (0)	Financial vulnerability (1)
Input Layer	**(Bias)**	-1,066	,877	-1,401	-,807	-,321	,275	-,952		
	[TYPKOD=0]	-,644	-,018	-,527	-,585	,059	,257	-,840		
	[TYPKOD=1]	-,694	-,235	-,223	-,644	-,102	,571	,200		
	OPEMAR	-,213	,157	-,280	,210	-,567	,272	,229		
	DEBRAT	,522	-,880	1,053	-,078	-,532	,157	-,115		
	EQUREV	,175	,274	-,354	-,413	,290	-,161	-,056		
	NWCASS	-,747	,658	-,996	-,350	-,069	-,655	-1,519		
	CPTREV	,341	-,113	,422	-,281	-,900	-,007	,691		
	SALREV	,360	-,020	,108	-,354	-,419	,610	-,129		
	ROAEBIT	,281	-,204	-,306	-,185	,314	-,440	,140		
	DOTREV	,793	-,149	,318	-,378	-,221	,452	,104		
	WAGECOS	-,455	,085	,193	-,198	-,160	-,201	,297		
Hidden Layer 1	**(Bias)**								-,228	-,593
	H(1:1)								-,641	,022
	H(1:2)								,162	-,462
	H(1:3)								-,941	1,020
	H(1:4)								,096	-,487
	H(1:5)								,565	-,611
	H(1:6)								,665	-1,075
	H(1:7)								-1,340	1,338

Source: authors

Table 9 shows that the neural network model can classify 169 non-profit organizations without financial vulnerability from 176 organizations, representing 96%. On the other hand, the neural network can correctly classify 10 organizations with financial vulnerability from 13 organizations correctly, representing 76.9%. In other words, the neural network can correctly predict 179 foundations from 189 non-profit organizations, indicating the overall accuracy of the model at 94.7 %. These results are generated on the training sample. Based on the test results, we find that 3 of 4 non-profit organizations were correctly classified, i. e. the accuracy of the estimate is 75 %, with the holdout sample showing that the neural network is classified by 96.2% of the organizations, i. e. 25 organizations from 26 non-profit organizations were correctly classified in terms of financial status.

Table 9: *Classification*

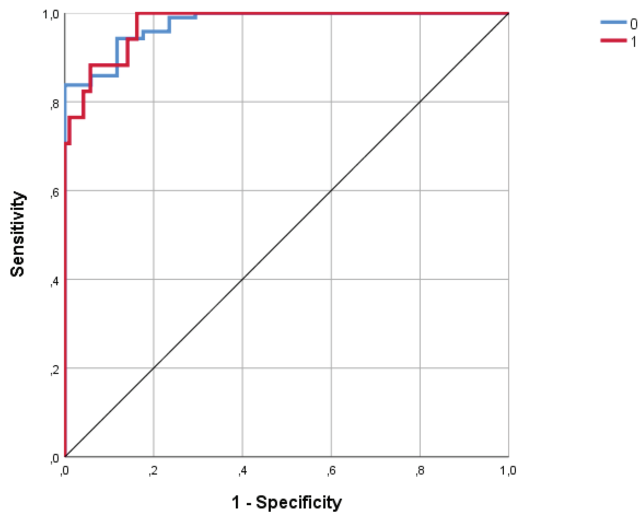
Sample	Observed	Predicted		
		Financial non-vulnerability	**Financial vulnerability**	**Percent Correct**
Training	Financial non-vulnerability	169	7	96,0%
	Financial vulnerability	3	10	76,9%
	Overall Percent	91,0%	9,0%	94,7%
Testing	Financial non-vulnerability	14	1	93,3%
	Financial vulnerability	1	3	75,0%
	Overall Percent	78,9%	21,1%	89,5%
Holdout	Financial non-vulnerability	24	1	96,0%
	Financial vulnerability	0	1	100,0%
	Overall Percent	92,3%	7,7%	96,2%

Dependent Variable: Financial status.

Source: authors

Figure 3 shows the ROC, which displays the classification performance for all possible limitations in relation to variables in terms of sensitivity and specificity. The ROC results are based on a total sample divided into training, testing and holdout of the sample, not only on one of all parts. It is to be added that the 45-degree line from the lower left corner to the upper right corner represents the scenario of the random "tipping" of the class. It is logical that the curves are more distant from the 45-degree line, then the classification is more accurate. In our case, the ROC curves are displayed for each category of financial status. In general, if the dependent variable has two categories, then each curve considers the category to be positive compared to the second variable. If the dependent variable contains more than two categories, then each curve considers the category to be a positive status compared to the sum of all other variables. Table 10 shows the relevant quantitative results of the area under the ROC curve, which yields very positive results, namely 0.976. This result can be interpreted as, if a non-profit organization from any category of financial status is accidentally selected, then 9 out of 10 foundations are properly classified to financially non-vulnerable or vulnerable organizations.

Figure 3: *ROC Curve*



Source: authors

Table 10: *Area Under the Curve*

		Area
Financial Status	Financial non-vulnerability (0)	,976
	Financial vulnerability (1)	,976

Source: authors

Table 11 shows the effect of each independent variable in the ANN model in terms of relative and normalized significance using sensitivity analysis. The analysis is based on the total sample. The significance of the independent variables expresses how to changes the estimated variables using independent variables. Moreover, Table 11 shows the meaning of independent variables. In other words, the neural network is sensitive to changing each input variable. Obviously, NWCASS has a relatively dominant position in terms of importance compared to other variables, because there are significant differences between these analysed independent variables. DEBRAT, OPEMAR, CPTREV and WAGECOS have a relative importance of more than 50%. In other words, these variables most affect the financial status. The results show that the management of current assets is extremely important for day-to-day operation of a non-profit organization because foundations need enough liquidity to cover short-term liabilities. These claims are evidenced by the fact that NWCASS has the largest impact on the financial status of non-profit organizations. From the point of view of the importance of the relevant yield items, CPTREV is of the highest importance compared to DOTREV and SALREV. These results aren't surprising because the revenue structure of non-profit organizations is made up of subsidies and contributions from taxes paid by FO and PO, while sales from commercial activity are not significant in terms of the share of commercial revenues in total revenues. However, these results show that the foundations should focus on entrepreneurial activity rather than on marketing activities in the form of addressing potential contributors to seek contributions from the assignment. Other variables such as ROAEBIT and EQUREV are significantly spaced from two dominant variables, such as NWCASS. The least significant variable is the categorical variable TYPKOD, which divides the foundation depending on the type of founder. In this case, we find that the financial status does not have a significant impact on whether the foundation is considered corporate or non-corporate. However, it is not possible to determine the direction of the relationship between these variables and the probable probability of failure. This is one of the most significant limitations of the neural network.

Table 11: *Independent Variable Importance*

	Importance	Normalized Importance
TYPKOD	,025	11,8%
OPEMAR	,136	64,7%
DEBRAT	,149	70,8%
EQUREV	,042	20,2%
NWCASS	,210	100,0%
CPTREV	,107	51,2%
SALREV	,043	20,5%
ROAEBIT	,079	37,8%
DOTREV	,101	48,1%
WAGECOS	,107	51,1%

Source: authors

6. Conclusion

The aim of the research was to determine the effectiveness of ANN in predicting the financial status of non-profit organizations based on the data collection from the financial statements. We find that ANN achieves positive results in the classification of non-profit organizations for non-vulnerable and vulnerable non-profit organizations. The ROC results show that MLP can estimate almost 97 % of non-profit organizations correctly. In addition, we perform sensitivity analysis to find that the most important variable is net working capital on total assets (NWCASS), but also debt ratio (DEBRAT) and return on assets (ROAEBIT). This profitability indicator confirms that not only commercial entities but also non-profits focus on the overall profit organization profit. Although profit cannot be used for purposes other than company development. It follows that non-profit organizations balance between profit and public interest, so it can be considered as a foundation for hybrid organizations.

Limitations. The main constraints are limited data on non-profit organizations compared to the commercial sector, because many organizations may not publish financial statements according to Slovak law. This fact impacts on unbalanced training dataset, because number of non-profit organizations with financial vulnerability is less than 8% in the sample.

Future research. The future research can be focused on application of other statistical methods, such as discriminant analysis, binary logistic regression and advanced neural networks, but mainly on comparison of static and dynamic prediction methods, such as logit model and survival analysis.

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6 Tourism and Economic Development

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ESPORTS: THE INVESTMENT OPPORTUNITY OF THE DECADE FOR REGIONAL TOURISM DEVELOPMENT

ABSTRACT

Esports refers to professional, competitive to a live audience. It is the fastest-growing sport in the world. Similar to traditional sports, skilled players join teams, organizations and leagues. Its widespread appeal makes events and tournaments a potentially major draw for tourism. They are increasingly popular spectator events, which drives major investment and interest. The size of the audience is staggering: The global eSports audience has reached 380 million in 2017, made up of 191 million eSports enthusiasts and a further 194 million occasional viewers. The experience is similar to watching a professional sporting event, except that instead of watching a physical event, spectators watch video gamers compete against each other in a virtual environment. In 2017 eSports revenue hit \$696 million and is expected to increase by a staggering 38% in 2018. Estimates value global eSports market revenue to reach \$1.5 billion by 2020. As of today 10% of all sports viewing is eSports. Esports has already drawn the attention of traditional sports team owners and franchises. Major traditional sports leagues have already identified eSports as the best way to connect with the next generation of fans. Furthermore eSports is already "in talks" to be included as demonstration sport in Paris 2024 Olympics. It is evident that the development of eSports significantly can have a significant contribution for the tourist offer development. Eastern Croatia is a region with a significant potential for development of an even more competitive and recognizable tourist offer, and eSports plays an important factor in it. The main purpose of this paper is to present the role and the advantages of eSports as a developer of tourism of Eastern Croatia in the future. This paper is focused on determining the current state of eSports in the world, analyzing the best practices, and determine what is the true potential of Eastern Croatia in this segment. The research is based on the data obtained from secondary sources, respectively desk research method, method of comparison, as well as methods of analysis and synthesis.

Key words*: Tourist destination, eSports, innovation, emerging trend, positioning*

1. Introduction

Continuous and frequent changes are characterizing today´s contemporary tourist marketing the sense that tourists are becoming more and more open towards experiencing new, diverse and innovative forms of tourist offer. Changes within global tourism trends impose new ways of how tourism should understood, as well as the appearance of "new" more experienced tourists who are increasingly more and more open towards exploring new forms of tourist offer (Alkier et al., 2018; Alkier Radnić, 2009; Vitasović,2014), one of them being significantly connected with the Information Technology, and that is eSports. Competitive computer gaming (eSports) has emerged as an important aspect of virtual-world consumption (Seo, 2013, 1542). Over the years it developed into a global industry in which experienced game players play competitively on daily basis. Over the years it was considered by some of the people as a phenomenon that occurs in the basement of young unemployed people; however this is not the case. This industry is real, growing and developing strongly, and it is investable. One of the proofs that indicates the growth of this industry is the fact that over 380 million people watch eSports worldwide both online and in person. More people watched the 2016 world finals of popular eSports game League of Legends (43 million viewers) than the NBA Finals Game 7 that year (31 million viewers). With its fragmented landscape and digital platform, the eSports sector holds promise for a multitude of monetization opportunities (TOPTAL, n.d.). Taking into consideration the presence of a large number of followers online stimulated local governments towards investing further efforts in developing online gaming and eSports in order to stimulate organizers and developers that enable occurrence of these experiences possible, while at the same time helping local businesses to connect with the audience of these events in order to not only host them, but also to become the part of a gaming culture (B2G Back2Gaming, n.d.). It is clearly visible that these advantages can reflect significantly on development of more competitive tourist product and development of a tourist destination-event host, and need to be exploited in that direction. Tourist offer of the Republic of Croatia invests significant efforts towards development of its tourism, in particular due to the fact that tourism represents the biggest part of its economy. However, tourism is not evenly developed in all parts of Croatia, and in Eastern Croatia in particular. Further efforts of its tourist offer need to be based on traditional tourist resources which make this part of Croatia unique and recognizable and unique as a tourist destination (natural resources, cultural-historical resources, etc.), but also on introduction of new offer elements like Esport. The main purpose of this paper is to present how development of ESports can contribute in further development of tourism of Eastern Croatia.

2. Characteristics of Tourism of Eastern Croatia

The Republic of Croatia is a small European country, situated at the crossroads of Central Europe, the Balkans and the Mediterranean. It covers 56.594 square kilometers or 21.851 square miles. Croatia coastline stretches for 5.835 kilometers (3.598 miles), and consists of 1.777 kilometers (1.104 miles) of mainland and 4.058 kilometers (2.493 miles) of islands. The country's population is 4.29 million. Croatia has diverse, mostly continental and Mediterranean climate, and its Adriatic Sea coast boasts more than a thousand islands (Barišić and Marić, 2012, 423). Richness of natural, cultural-historical and many other resources enabled Croatia to become a highly tourism oriented country and develop a unique tradition, which in the end resulted in tourism becoming the most significant part of its economy. Within the Croatian tourist offer traditional bathing tourism still represents the most developed type of offer, however, tourist offer development is being registered in the mainland (Alkier Radnić, 2005), and slowly in the part of Eastern Croatia. Eastern Croatia is made of five counties: county of Virovitica-Podravina, county of Požega-Slavonia, county of Brod-Posavina, county of Osijek-Baranja and county of Vukovar-Srijem. In order to get a clearer insight about them and their tourist offer, following the authors will present in short lines its basic characteristics.

County of Virovitica-Podravina is situated in the continental part of Croatia, and connects Slavonia with Middle Croatia. It belongs among smaller counties on the level of the Republic of Croatia with the surface of 2.021 km², and it is divided in three cities (Virovitica, Orahovica and Slatina) and thirteen municipalities (Crnac, Čačinci, Čađavica, Gradina, Lukač, Mikleuš, Nova Bukovica, Pitomača, Sopje, Suhopolje, Špišić, Bukovica, Voćin and Zdenci). It is rich with cultivating plains, meadows, orchards and forests, which take 32% of its entire surface. It is also rich with water resources (river Drava length 72.5 kilometers, and other smaller rivers and watercourses, etc.). Its climate is a fresh one of Continental type with approximate winter temperatures of -0.3 C^{o}. Generally, it can be stated that the winters are mild, and summers are warm. These characteristics represent a good basis for development of agriculture and tourism. This county bases its tourist offer on many tourist resources of which it is important to emphasize the natural ones (i.e. Papuk Park of Nature, Park-Forest Jankovac, Rupnica Monument of nature, etc.), the cultural ones (city museum of Virovitica, local museum of Slatina, local museum of Orahovica, etc.), religious resources (Gothic Church of Saint Peters in Čađavica, Church of Saint Teresa of Avilska, Church of Saint Lovro, etc), wineries, sports-recreational contents and others. The key tourist products of this county are the ones based on nature (mountain climbing, hunting, fishing, birdwatching, cycling, water sports and rafting, skiing, team sports, etc.) (County of Virovitica-Podravina, 2019).

County of Požega-Slavonia lies in the North-East part of Croatia and borders with the counties of Sisak-Moslavina in the west, Bjelovar-Bilogora in the North-West, Virovitica-Podravina on North, Osijek-Baranja in the East, and Brod-Posavina in the South. It consists of five cities (Požega, Pakrac, Pleternica, Lipik and Kutjevo) and five municipalities (Brestovac, Čaglin, Jakšić, Kaptol and Velika), with total surface amounting 1.815 km². This area is mostly rural, respectively, the majority of the soil is used cultivation (49.3%) and 45.3% are forests. The climate is a moderate Continental one with relatively mild winters and warm summers. In the Hillside parts the temperatures amount from -2 C^{o} until -4 C^{o} in January, and can rise up to 18 C^{o} in July and August. In the lower parts, the temperature is from -1 C^{o} up to -2 C^{o} in January and can rise up to 20 C^{o} in July and August. This county is rich with natural resources, and three landscapes exchange: 1.) mountains which are mostly covered with forests which makes them appropriate for recreation and tourism in nature; 2.) hillside areas rich with villages, orchards, pastures and vineyards; and finally 3.) lowlands where urban settlements are situated, as well as agricultural areas and water flows. From the natural resources, it is necessary to emphasize Park of nature Papuk, Sovsko Lake, hills, rivers, artificial fishponds, spas, etc. This county has a good basis for development of the following forms of tourist offer: sports-recreational offer (hiking, cycling routes, sports centers, etc.), wine tourism offer, wellness tourism, cultural tourism, religious tourism, event tourism, etc. (County of Požega-Slavonia, 2019).

County of Brod-Posavina borders with counties of Vukovar-Srijem in the East, Osijek-Baranja in the North-East, Požega-Slavonia in the South and Sisak-Moslavina in the West. It´s surface amounts 2.034 km² and covers 3.6% of total Croatian territory. This county consists of two cities (Slavonski Brod and Nova Gradiška) and twenty-six municipalities (Bebrina, Brodski Stupnik, Bukovlje, Cernik, Davor, Donji Andrijevci, Dragalić, Garčin, Gornja Vrba, Gornji Bogićevci, Gunadinci, Klakar, Nova Kapela, Okučani, Oprisavci, Oriovac, Podcrkavlje, Rešeteri, Sibinj, Sikirevci, Slavonski Šamac, Stara Gradiška, Staro Petrovo Selo, Velika Kopanica, Vrblje and Vrpolje). The county is mostly lowland. Its hillside part is covered with forests and vineyards, and the coastal area near the River of Sava is intertwined with the network of artificial channels and swamps. The valleys are rich with cultivation soil and Oak forests. This county is rich in natural resources (mountains, lowlands, valleys, rivers, forests, waterfalls, flora and fauna, etc). In terms of tourist offer, tourists can visit the vineyards, as well as participate in sports-recreational activities (forest recreational space, swimming pools and sports centers). Also, tourists can visit convents and churches (Religious tourism), observe rural architecture, visit fortresses, castles, memorial houses, family farms, memorial houses, visit and participate in various forms of events (cultural, folklore, food and wine, sports, and others) (County of Brod-Posavina, 2019).

County of Osijek-Baranja is situated in the North-Eastern part of Croatia, with its surface amounting 4.155 km², making it fourth county according to size on the national level. It consists of forty-two units of local self-government, of which seven are cities (Beli Manastir, Belišće, Donji Miholjac, Đakovo, Našice, Osijek and Valpovo) and thirty-five municipalities (Antunovac, Bilje, Bizovac, Čeminac, Čepin, Darda, Donja Motičina, Draž, Drenje, Đurđenovac, Erdut, Ernestinovo, Feričanci, Gorjani, Jagodnjak, Kneževi Vinogradi, Koška, Levnjska Varoš, Magadenovac, Marijanci, Petlovac, Petrijevci, Podgorač, Podravska Moslavina, Popovac, Punitovci, Satnica Đakovačka, Semeljci, Strizivojna, Šodolovci, Trnava, Viljevo, Viškovci, Vladislavci, and Vuka) with two hundred and sixty-four settlements. The climate is moderately continental with long and mild springs and autumns, warm summers and cold winters. Middle monthly temperature amounts from -1 to 21ºC, coldest period being in January when the lowest temperatures can reach up to -25ºC, and warmest period is in July and August when maximum temperatures can reach over 40ºC. The county is rich with many natural resources (the protected ones are special reserve, park of nature, regional park, natural monument, significant landscape, monument of park architecture), rich Flora and Fauna (some of them being protected as endangered species). The county boosts with a richness of tourist resources of which it is necessary to emphasize the cultural resources like sacral buildings and shrines, castles, etc., organization of various forms of events, etc. (County of Osijek-Baranja, 2019).

County of Vukovar-Srijem lies on the very end of North-East of Croatia, with a surface of 2.448 km². This county consists of thirty-one unit of local self-government, of which five are cities (Vinkovci, Županja, Ilok and Otok), and twenty-six municipalities with eighty-four settlements. The climate is moderately Continental, with hot and sunny summers, and cold and snowy winter. Middle yearly temperature is approximately about 11ºC, with the warmest maximum being 29.9ºC and middle minimum 12.2ºC. Tourism development of this county is based on richness of preserved natural resources (forests, protected areas on county level, Flora and Fauna, water resources, etc.), autochthonous gastronomic and wine offer, numerous cultural-historical resources, ethnographic particularities and organization of events, religious tourism, hunting tourism, fishing tourism, cycling tourism, river cruising, bird watching, etc. (County of Vukovar-Srijem, 2019; County of Vukovar-Srijem, n.d.). Previously presented data indicates that Eastern Croatia possesses many resources based on which it is possible to form a competitive tourist offer based on tradition and destination´s particularities. This has been recognized considering that more and more tourists tend to decide to visit Eastern Croatia, which is visible from the statistical indicators presented in the following table.

Table 1: *Tourist arrivals in (Eastern) Croatia in the period 2014-2018*

	2014	2015	2016	2017	2018	2018/2014
Croatia	**13.128.416**	**14.343.323**	**15.594.157**	**17.430.580**	**18.666.580**	**+42.18%**
Counties total	**164.812**	**176.737**	**209.890**	**237.263**	**248.336**	**+50.68%**
Virovitica-Podravina	12.892	11.308	12.789	14.184	18.023	+39.80%
Požega-Slavonia	9.890	10.284	11.654	13.284	16.252	+64.33%
Brod-Posavina	24.295	23.991	26.569	28.614	34.500	+42.00%
Osijek-Baranja	74.026	79.588	89.060	92.239	99.025	+33.77%
Vukovar-Srijem	43.709	51.566	69.818	88.942	80.536	+84.25%

Source: Croatian Bureau for Statistics, www.dzs.hr

Table 2: *Tourist overnights in (Eastern) Croatia in the period 2014-2018*

	2014	2015	2016	2017	2018	2018/2014
Croatia	**66.483.948**	**71.605.315**	**78.049.852**	**86.200.261**	**89.651.789**	**+34.85%**
Counties total	**330.652**	**348.899**	**377.934**	**431.002**	**465.154**	**+40.68%**
Virovitica-Podravina	31.626	28.909	30.840	33.453	46.299	+46.39%
Požega-Slavonia	24.733	24.356	25.917	30.611	36.134	+46.09%
Brod-Posavina	40.668	42.889	46.031	50.791	55.775	+37.15%
Osijek-Baranja	150.466	158.226	172.945	177.677	194.904	+29.53%
Vukovar-Srijem	83.159	94.519	102.201	138.470	132.042	+58.78%

Source: Croatian Bureau for Statistics, www.dzs.hr

Previous tables present the achieved tourist arrivals and overnights in Croatia and in the counties of Eastern Croatia. When observing tourist arrivals on the county level, in the period 2014-2018 the highest growth has been registered in the county of Vukovar-Srijem (84.25%), after which follow the counties of Požega-Slavonia (64.33%), Brod-Posavina (42.00%), Virovitica-Podravina (39.80%) and Osijek-Baranja (33.77%). The data for tourist overnights in the same period are also registering an increase, of which the county of Vukovar-Srijem is the leader, after which follow two counties with the similar result, respectively Virovitica-Podravina (46.39%) and Požega-Slavonia (46.09%), and finally Brod-Posavina (37.15%) and Osijek-Baranja (29.53%).

Previously presented characteristics of Eastern Croatia and the tourist turnover figures indicate clearly that Eastern Croatia has a good possibility of developing a high quality, more recognizable and more competitive tourist offer than it is right now, based on its natural and cultural-historical particularities. However, it is also advisable to search future success in introducing new elements of tourist offer. It is a well known fact that this part of Croatia was significantly affected by the Homeland war in the past, and the consequences are still present today and influence the tourist offer development in the sense that it still hasn´t reached its full potential. As lacks, it is necessary to point out the presence of the remains of landmines from the war in some parts (which significantly effects on the perception of destination as being safe), poorly developed traffic infrastructure, etc.). Despite these lacks, the statistical indicators present a moderate growth of tourist turnover; however, there is still place for significant improvements and development. The counties of Eastern Croatia are aware of the present lacks within the tourist offer, and are making efforts towards improvements, which has been proven by developing their Developmental Strategies of tourism in order to meet the demands of the contemporary tourists (Alkier Radnić, 2009). However, in order to be able to stand "shoulder to shoulder" with other competitive world destination, it is advisable to introduce new and innovative elements of tourist offer. One of them is most definitely ESports. Following, the authors will present the characteristics of eSports and its possible contribution to the development of tourism of Eastern Croatia.

3. Presentation of characteristics of Esport

Esports ("electronic sports") is a rapidly-growing industry through which individuals compete against each other in various video games (Tong, 2017). Esports and live streaming represent two of the most prominent rising trends in the gaming industry in recent years, constituting a new form of media with viewership numbers of certain events rivalling that of traditional sports broadcasts. Twitch.tv, the premiere live streaming platform for video games, is a massively influential eSports vehicle, with competition broadcasts attracting millions of viewers. As such, game developers and publishers have turned to eSports events as a marketing tool to generate brand loyalty, user acquisition and retention, and market advantages over their competitors (Curley and Nausha, 2016, 352 according to Hiltscher, 2013). Cultural development of eSports is significantly connected with the emergence and development of semi-professional and professional tournaments, where participants, respectively, consumers are able to celebrate organized and competitive practices through authentication of their consumption in the real world, while traversing the boundaries between the online and offline experience of competitive computer games (Seo and Jung, 2014 according to Seo, 2013). Relatively fast development of this industry resulted in eSports becoming a topic of many diverse researches, starting with the evaluation of its scientific importance (i.e. Wagner, 2006), observing the paradigm shifts that occurred within the gaming industry with emphasis on competition and competitiveness on the market (Zackariasson and Wilson, 2010), what are the human aspects of eSports (Railsback and Caporusso, 2019), discussions if eSports could be considered as a real sport (Thiel and John, 2019), influence of eSports on changes in consumer behavior (Seo, 2015), determining the motives of players to play video games (Yee, 2006; Bányai and Griffiths, 2018), how to be an entrepreneurial innovator and contribute towards achieving successful and competitive business (Stein and Scholz, 2016; Radman Peša et. al, 2017), in tourism (Yenişehirlioğlu et. al, 2018; Anton, 2018; Brown et. al, 2010), and many others. Seo and Jung (2014) focused in their paper on further development of a concept of eSports consumption in marketing through development of new experiences gained by competitive gaming, as a combination of multiple interrelated experiential performances that pass over both virtual and real world. An attention was given towards exploring the roles of various stakeholders within the value network of eSports actors. They managed to determine that joint cooperation and undertaken efforts of the gaming companies, players-consumers, online communities, governing bodies and other stakeholders have an important role in enriching and preserving the experiential value of eSports consumption. The authors also emphasize the necessity for the enterprises to move their main focus from the computer games as such towards formation of a more joint design as well as managing eSports experiences within the network value of multiple marketing participants. Lokhman et al. (2018) focused their paper on determining the level of development of commercial activities in eSports and the perspectives for its further growth and development in Ukraine. In order to be able to determine the crucial commercial activities in eSports, they compared the main resources of revenue in the analyzed area compared with sports. Their results indicated the strong potential of increasing the revenue from ticket sales to competitions, achieving the broadcasting rights, promotion of the sales, etc. It was also determined that the largest part of the revenue sources in eSports is achieved in the stage of cyber-tournaments, which can be considered as such due to the presence of a large consumer audience in this stage. Further success needs to be based on further development of eSports activities, primarily development and preservation of the gaming audience and communication with them through social networks, fan clubs, amateur clubs, etc. All this can significantly contribute towards more successful managing of eSports development which will result in various socioeconomic benefits for the destination.

4. Esport and online gaming-potential for improvement of tourism

Over the years eSports industry reached such a high level of development that it became the most technologically driven sport in the world. There is a strong possibility that it will surpass the traditional sports in the next ten years (TOPTAL, n.d.). Within this chapter the authors will present the state of eSports on world level with the appropriate statistical indicators and examples of good practice. The following table presents the list of 25 most watched games on Twitch and Youtube Gaming in 2018 by eSports practitioners.

Table 3: *Top 25 games by live eSports hours watched on Twitch and Youtube gaming in 2018*

Rank	Game	Hours watched	Rank	Game	Hours watched
1	League of Legends	347.4	14	Call of Duty: WWII	11.7
2	Counter-Strike Global Offensive	274.9	15	World of Warcraft	10.9
3	Dota 2	250.4	16	FIFA 18	8.5
4	Overwatch	101.3	17	Super Smash Bros.Melee	8.4
5	Hearthstone	54.1	18	Arena of Valor	5.9
6	Starcraft II	26.2	19	Tekken 7	5.7
7	Playerunknown´s Battlegrounds	24.1	20	Clash Royale	5.1
8	Fortnite	23.0	21	Dragon Ball Fighterz	4.7
9	Rocket League	22.5	22	Smite	4.7
10	Heroes of the Storm	20.3	23	FIFA 19	4.5
11	Tom Clancy´s Rainbow Six: Siege	15.7	24	Call of Duty: Black Ops 4	3.4

Rank	Game	Hours watched	Rank	Game	Hours watched
12	Magic: The Gathering	15.1	25	Super Smash Bros.For WII U	3.3
13	Street Fighter V	13.8		**TOTAL TOP 25**	**1.265.8**

Source: Newzoo, 2019

Previous table presents the most watched games on Twitch and YouTube Gaming worldwide by live eSports hours. Esports content includes live professional gaming matches and pre- and post-game analysis. Totally 1.265.8 hours was registered for top 25 games, within which the highest number of hours was registered for League of Legends (347.4), after which follow Counter-Strike Global Offensive (274.9h), Dota 2 (250.4h), Overwatch (101.3h), Hearthstone (54.1h), Starcraft II (26.2h), Playerunknown´s Battlegrounds (24.1h), Fortnite (23.0h), etc.

Table 4: *eSports audience growth (in millions)**

	2017	2018	2019**	2022***	2018/2017	2019/2018	2022/2018
Total audience	335	395	454	645	17.91%	+14.93%	63.29%
Occasional viewers	192	222	253	347	15.62%	13.96%	56.31%
eSports enthusiasts	143	173	201	297	20.98%	16.18%	71.68%

* The state as of February 2019
** figures for 2019 represent the expectancy of growth
*** Prognostics of growth
Source: Newzoo, 2019

The indicators in the previous table indicate that in 2018 total audience for eSports registered 395 million participants, which respectively a moderate growth of 17.91% in relation to the previous year, with highest participation of eSports enthusiasts (143 million) who registered growth of 20.98%, while occasional viewers (192 million) registered 15.62%. It is expected that in 2019 total audience who participate in eSports will grow to 454 million, of which 253 million will be occasional viewers and 297 million eSports enthusiasts. It is expected that the audience will continue to grow in 2022, and that the total audience will reach 645 million, of which 347 million will be occasional viewers and 297 eSports enthusiasts.

Table 5: *eSports revenue stream (in millions of American Dollars)**

	2017	2018	2019**	2022***	2018/2017	2019**/2018	2022/2018
Brand Investment Revenues	468	682	897	1.790	45.73%	31.52%	162.46%
Total	655	865	1.096	1.553	32.06%	26.70%	79.54%

* Figures represent the state of February 2019
** figures for 2019 represent the expectancy of growth
*** expected growth in percentage
Source: Newzoo, 2019

According to the previous table, in 2018 the total revenue achieved from eSports registered 865 million of dollars, which is an increase of 32.06% in relation to the previous year. Brand Investment Revenues (from Media Rights, Advertising and Sponsorship) participated the most in total revenue achieved; in 2018 the revenue amounted 682 million which is an increase of 45.73% in relation to 2017 when it amounted 468 million of dollars. It is expected that the revenue will continue to register growth, respectively that in in 2019 total revenue will amount 1.096 million of dollars of which 897 million (+31.52%) will be from Brand Investment Revenues (Media Rights, Advertising, Sponsorship). The growth is also expected in 2022 to high 1.790 million of dollars (162.46%)

Presented indicators clearly state that this industry is registering a significant growth. This has been recognized by many world destinations who decide to introduce it. Following the authors will present the examples of good practice.

Seoul, South Korea (ESCHAMP, n.d.; ISPO Sports Business Netzwerk, n.d.) is a destination in which their citizens are exceptionally proud of the level of development of their eSports scene, and are continuing to develop it even further. In 2014 the Sangam Stadium hosted the League of Legends World Championships. Seriousness and persistent training of South Korean players is so high that there is practically no game where one of their top teams is not present. Another reason why eSports is so developed is due to the presence of media and promotion of Seoul as a tourist destination. eSports is being broadcasted on TV in South Korea for the last 18 years, mostly due to the strong media presence. When compared, i.e. with Germany where eSports is still in its beginning, Seoul possesses stations specialized in reporting and organizing various eSports events, one of the best known of them being OnGameNet or OGN, which not only broadcasts tournaments, but hosts them as well, and has been practicing this since 2000. Additionally what needs to be mentioned is that eSports is a member of the South Korean Olympic Committee, and strongly funded by very powerful donors who provide significant financial funds. Also, the professional gamer organization also being supported by the state, which has been proven by the fact that Korean Ministry of Culture, Sport and Tourism approved the formation of a Korean eSports Association under the name "21C Programer Association". These significant donations made it possible for the world´s first eSports stadium to be built in 2005 in Yongsan. There are more arenas such as the Nexon-Arena or the OGN E-sports.

Katowice, Poland (PCWorld from IDG, 2017) is also one of the world cities which is developing eSports strongly by organizing game events. In 2017 Intel Extreme Masters (IEM) League of Legends championship, which was held in the Spodek Arena was visited by over than 113 thousand people, which is incredibly high if taken into consideration that in 2015 entire population registered just a bit below 300.000 people. Today IEM in Katowice represents one of the largest e-sports-themed expo in the world. It is also very important to mention that in 2014 the Katowice city council voted a bill in order to support the IEM until 2019 which had a significant influence on further development of eSports on the city level. The first event was organized in 2013, and managed to attract 50.000 attendants. In the following years the number of attendants continued to grow; in 2015 in registered 104.000 attendants, and in the following year 113.000, due to the increase of capacity within the convention center which is situated near the arena.

Kota Kinabalu, the capital city of Malaysia's Sabah state (Daily Express, 2019; lowyat.net, 2019) is also one of the destinations which recognized the growth of eSports and its important contribution to the tourism industry, and plans to invest significant efforts in the future towards introducing and developing it on state level. Tourism is one of the most important industries in Sabah which brings the most significant part of the state revenue, due to which it is necessary to ensure that it continues to register positive movements in tourist turnover, which could be achieved through inclusion of eSports. Currently in Sabah there is only one eSports professional team called Triple Comma Gaming (TCG), which is functioning a little less than a year, and already started registering success. In the future the government plans to invest further efforts towards developing eSports on state level, which is already been confirmed by the fact that Malaysian eSports team is in the process of selecting the players for SEA Games 2019.

All the previously presented facts state quite clearly that eSports is registering strong growth and has been recognized as a potential for achieving socioeconomic benefits for a destination and its visitors. All the destinations aiming towards further improvement of their tourist offer should consider introducing and developing it as a part of their tourist product, since this industry is capable of not only bringing higher revenue for the destination, but it also significantly contributes towards destination´s promotion. Republic of Croatia is a tourist destination which a long-term tradition, however tourism is not evenly developed in the whole country. Here it is necessary to point the part of Eastern Croatia which still hasn´t reached its full potential. All this could be improved with the introduction of eSports.

5. Esports as a potential for improvement of Tourism of Eastern Croatia

As previously stated in the paper, Eastern Croatia was severely affected by the Homeland war in the past, which had a significant influence on its (tourism) development. However, over the years tourism started registering positive changes. This part of Croatia currently bases its tourist offer on natural and cultural-historical resources. It is the author´s opinion that introduction and development of eSport and organization of gaming tournaments and similar events would contribute to the regional development in the sense of attracting people from all over the world, who would not only be interested in participating, but also experiencing the destination´s autochthonous tourist offer (tasting domestic gastronomic and enological products, learning about destination´s tradition and culture, getting acquainted with the domestic population, etc.). This would also have a significant influence on development of entrepreneurial activities, which would be of significant use for the region.
Besides classical games which are played today, it is also possible to form special games based on the characteristics and particularities of Eastern Croatia, i.e. games based on travels in urban and rural environments, games based on experiences in which cultural-historical heritage is included, and storytelling about Eastern Croatia (Digital Tourism Think Tank, n.d.).

It is necessary to constantly bear in mind that all the cities who decided to accept and develop this industry promoted themselves in the most positive example of what eSports can bring to a destination if only it is supported. ESports tournaments were recognized as of strategic importance for the destintion-host of the event, and contribute towards bringing publicity to the destination and promotion. Furthermore, acceptance of eSports has a significant influence on bringing of decisions in the field of Business Tourism and contemporary technologies, and eSports as such can contribute towards changing the city´s image and become the turning point of its tourism development. Esports tournaments are not just events aimed towards filling the city with tourists for a certain period of time, but they also inspire and stimulate long-term changes in managing of a city and stimulate the development of new initiatives.

Organization of such competitions would most certainly improve the promotion of the city and the region on a national and international level, and stimulate the development of Business tourism as one of the pillars of development of this part of Croatia. In order to achieve that, it is necessary to enable the following:

1. The necessity of connecting the attractive and market recognizable elements of tourist offer with the significant attraction basis which still hasn´t been exploited sufficiently;
2. Track contemporary trends in the eSports industry and ensure proper infrastructure necessary for successful organization of these events;
3. Undertake adequate communication in order to establish cooperation which would enable organization of events of highest quality;
4. Undertake more concrete marketing activities with a goal of achieving market internationalization of tourism and attraction of gamers and eSports tourists;
5. Enable further tourist development and formation of a brand of Eastern Croatia through:
   - Creation of positive synergy between the local context and global rules of the game of the tourism industry (standards, marketing, etc.);
   - Focusing towards the stakeholders on the internal market in order to establish joint cooperation on strategy implementations;
   - Synergic functioning of agriculture and tourism based on the leading European continental regions;
   - Preservation of autochthonous values in space, gastronomy and the way of life;
   - Tourist differentiation of urban centers of Eastern Croatia;
   - Activation of river banks with the purpose of recreation;
   - Changes of the paradigm of tourist marketing (the focus must be given to online and multimedia),
   - Achieving internal and external cooperation (attracting funds from the EU funds).

Adaptation of previously proposed guidelines will significantly contribute towards development of Tourism of Eastern Croatia, which will have a significant positive effect on tourism of the entire country, as well as its higher level of recognizability and competitiveness.

6. Conclusion

Within this paper the authors have presented the main characteristics and the importance of eSports in function of tourist offer development of Eastern Croatia. The findings within this paper clearly state the growing importance and the acceptance of eSports by many world renowned destinations which are in the process of starting, or have already started developing and introducing eSports as an important part of their tourist product. Eastern Croatia is a destination with significant potential for developing eSports tourist offer. Introduction of this form of offer would certainly bring many socioeconomic benefits for the destinations, so it is advisable to undertake appropriate actions while observing and implementing trends of the competitive destinations of best practice. The authors need to point out certain limitations of this paper. So far very little has been published when discussing eSports in tourism. The majority of publications is mostly professional, which implies that further efforts need to be focused towards undertaking scientific research in this field.

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ANALYSIS OF THE POSSIBILITIES OF GOLF TOURISM DEVELOPMENT IN CONTINENTAL CROATIA

ABSTRACT

According to the number of registered players, golf has become one of the most popular sports in the world - over 60 million players playing golf on more than 30 000 golf courses. Starting from the fact that golf travels motivated by tourism take up a large part of the emissive tourist markets around the world and the growing number of tourists interested in this type of tourist arrangement, the paper analyses the needs and possibilities of sustainable development of golf tourism in the destinations of continental Croatia. Golf as a type of tourism is very little explored in domestic literature, and the possibilities of golf integration have not been explored in the tourist offer of continental Croatia. For this reason, it is necessary to analyse the development of golf tourism and to explore the possibility of implementing golf offers in the tourist product of destination in continental Croatia. When it comes to continental Croatia as a tourist destination it is necessary to point out the proximity of the broadcasting market, natural beauty and the favourable climate conditions that allow playing golf most of the year.

The aim of this paper is to analyse the current development of golf tourism and to establish guidelines for the sustainable development of golf tourism in the destinations of continental Croatia.

There are certain scientific methods of research which have been used in this paper:

- *Desk research method for collecting and analysing secondary data sources in accordance with the purpose of the research*
- *Methods of descriptive statistics for data processing and analysis.*

The results of this research will address the needs and opportunities of sustainable development of golf tourism in Croatia and give some guidance and vision for its sustainable development.

Key words: *golf, sustainable development, golf tourism, Continental Croatia*

1. Introduction

Touristic travels motivated by playing golf are a part of emissive touristic market throughout the world. An increasing number of tourists are interested in this kind of touristic engagement.

Golf development and golf tourism started a whole entertainment industry which is related to this game and nature. Simultaneously, numerous economic, technological, ecological, legal, safety and other related issues occurred. These have to be investigated in order to determine future development of this specific form of tourism. Golf as a form of tourism has not been researched enough in national literature and touristic practice.

Therefore, the purpose of this paper is to analyse golf tourism development and to research the possibility of golf implementation and offer within the destination touristic product, especially in the continental Croatia.

The Republic of Croatia has the surface of 56.538 km^2. The population is around 4.3 million or 76 inhabitants per km^2. The population mostly lives in cities. There are less people in the rural area although Croatia is mostly rural and rural areas make up for around 92% of the land. Natural characteristics of a certain area (relief, climate, waters, soil, plant and animal life) are the most important factors in touristic and overall economic development.

Pursuant to the natural and anthropogenic characteristics, the area of the Republic of Croatia can be regionally divided into three touristic macro-regional units (Bilen, M.; Bučar, K.; 2004, pg. 114-115):

- Adriatic touristic macro-region (Mediterranean or coastal) includes 17.850 km^2 or 31.6% of the total surface, with around 30.6% of total population in the Republic of Croatia.
- Mountainous touristic macro-region includes 7.913 km^2 or 14% of the total surface of the Republic of Croatia, with 3% of the population
- Pannonian and peri-Pannonian touristic macro-region includes the surface of 30.776 km^2 or 54% of the land in the Republic of Croatia, with 66.4% of the population in the Republic of Croatia.

Continental Croatia consists of Mountainous and Pannonian and peri-Pannonian touristic region. Apart from large cities, especially the City of Zagreb, the number of inhabitants continuously decreases in these areas. This is one of key reasons for the slow economic development, even in tourism which is a central element for Croatian economic development. After the Republic of Croatia entered EU in 2013, new economic and touristic development opportunities were opened. The above is the result of new market segments in the touristic demand and new investments financed by EU funds.

The question is which tourism development strategy we wish to apply in continental Croatia. Authors of this paper researched golf tourism development possibilities as well as the possibilities for the development of other specific forms of tourism in continental Croatia. Therefore, the purpose of this paper is to analyse present golf tourism development in the Republic of Croatia and to establish the instructions for the sustainable tourism development in the Republic of Croatia.

Certain scientific research methods such as desk research method, descriptive statistics method and other were used in this paper.

2. Basic golf and golf tourism characteristics

Golf is an open sports activity practiced at the golf course. The aim of this game is to throw the ball into the hole with a help of a golf club with the smallest possible number of hits. The game was invented in Scotland in the 14th century. It was played at natural grass fields along the coast. First organized golf courses appeared in the 18th century. Golf rules remained the same throughout the centuries and this gives a special traditional spirit to this game.[1]

Golf course consists of 9, 18 or even 27 sections which have to be handled with minimal number of hits. Most courses are not limited as regards to the size because, apart from game sections, landscape diversity is also a special golf course element. Golf course with 18 holes is built most often and it takes up around 100 ha of surface. Basic content with its average size can be divided as follows:

- Golf course – 20 ha
- Training ground – 2 ha
- Lake surfaces – 1 to 5 ha
- Club facility – 0,5 to 0,8 ha
- Service building – 0,5 ha
- Developed surroundings – 10 ha
- Natural surroundings – 50 – 60 ha.[2]

Each of 18 holes at the golf course consists of the start, grass area and playing track, obstacles and green surface with the flag. Track length for certain holes is from 100 to 600 m. Standard golf course with 18 holes has the surface of 5000 – 7000 m.[3]

Golf is a sport where the player competes primarily against the golf course. As all other sports, golf has its own rules of the game and behaviour. It is one of rare sports that can be played only with a licence. The licence is issued by a professional golf teacher. It presents a certificate which proves that the player knows basic golf techniques and regulations and that he can, within acceptable timeframe, finish the course and not disturb the other players. The purpose of such treatment is to maintain the game order and flow at the golf course where up to 100 golfers can play at the same time. Apart from the mentioned, the purpose is to maintain the course itself. The beginners learn the game and practice their hits with the golf teacher at the training ground.

Golf can be played *competitively or as a recreational sport*. Competitive golf is played at professional courses intended for competitions. On the other hand, recreational golf is played at various courses. Professional golf course has to meet special conditions (for example, it has to be well connected to the main roads and airport, it has to have interesting landscape and it should not have noise or higher category hotel nearby). Golf courses are built in large cities and small touristic locations, at land and islands, hills and valleys. As these are professional golf courses, mostly *golf course clusters* are created. These are areas which include three or more golf courses and nearby accommodation capacities. In such form, they make recognizable tourist destinations.

Apart from the division into competitive and recreational golf, golf can also be divided into *touristic and club golf*. Touristic golf is basically competitive golf. However, it can also be recreational when it is played during travel to a destination with a golf course. Club golf refers to golfers gathering around a certain club. This is the most appropriate way to practice golf. There are several benefits from golf membership. Playing golf at the local golf course is

[1] Juras, Z. et al. (2007) „Golf and Environment: Situation and Developmental Possibilities“, Rovinj, pg. 16
[2] Ibidem, pg. 16
[3] Bartoluci, M., Čavlek, N. (2007): „Tourism and sport – development aspects”, Školska knjiga, Zagreb, pg. 51

financially payable. Clubs organize competitions and championships, visits to other golf clubs and courses. Wealthier golf clubs also have their own golf courses which are generally better maintained than the others and which have smaller number of golfers. The most exclusive are the Royal Golf Clubs. This title is awarded by the British Monarchy at the moment when the royalty member becomes honorary club member.[4]

Golf tourism in the broader sense includes active participation in golf activities, for example golf playing at Bled in Slovenia as a part of touristic activity.

Modern tourists, including golf tourists, almost never include only golf in their touristic activities due to relatively high life standard. Other motives which a certain touristic offer should meet are present as well. Golf tourism as a part of sports tourism has its specificities which refer to: [5]

- Golfers as specific touristic clients
- Golf courses as holders of the golf tourism offer
- Golf touristic destinations
- Golf hotels and resorts
- Food and beverages services
- Entertainment content and events
- Golf attractions
- Golf tournaments and competitions
- Golf equipment manufacturers
- Specialized touristic agencies and tour operators for "golf travels"
- Schools of golf.

Golf tourists whose secondary travel motif is golf also present an important group of tourists. These tourists travel for vacation, health, business and other reasons. Golf is not their main motivation although they often play it during their travels.

Golf courses as basic offer element are especially important at the golf tourism market. They are significant for the development of golf tourism in a certain area. There are several types of golf courses which can be divided as follows:

- Golf courses with 9 holes
- Golf courses with 18 holes
- Golf courses with 27 holes

Competitors in golf, as top golfers, most often compete at the courses with 18 or 27 holes. On the other hand, recreational golf players play at the courses with 9 holes or at golf training grounds.

The most important golf course division refers to the business method:

- Golf course financed by membership and enrolment fees
- Golf courses financed by golf tourists.

The first case refers to golf clubs with their own golf courses where club members and competitors mostly compete. Golf courses in tourism are used by various users – from

[4] Royal Golf Clubs, available at: http://www.golfalot.com/golf-courses/royal-golf-clubs-2776.aspx (21 August 2018)

[5] Jeremić, Z.: „Golf Tourism – Development Challenges and Perspectives", PhD thesis, Faculty of Economy in Osijek, Osijek, 2013. Pg. 49

competitors to recreational players and tourists. It is clear that such courses are a part of the touristic offer of a certain touristic organization or destination.

The tourists choose medium difficulty golf course and they gladly return to such course. Top golfers mostly choose the most difficult and the largest courses.

It is estimated that the golf tourism nowadays has a great touristic potential considering the fact that there are around 80 million active golf players in the world who travel in order to play golf.[6] Apart from these active golf players, it is estimated that there are another 20 million recreational golf players who occasionally play golf at golf resorts. Therefore, total global golf demand can be estimated to 100 million participants.[7]

The fact that the International Association of Golf Tour Operators (IAGTO) was founded in 1997 is especially important for golf tourism. Members of this organization are 600 specialized golf tour operators in 56 countries. There are 2400 business entities in 99 countries who are accredited to directly or indirectly deal with golf tourism. The above information is in accordance with the data obtained for the year 2015. The above mentioned business entities are golf tour operators, golf resorts, hotels, golf courses, receptive touristic agencies, airlines, touristic boards and other entities. It is estimated that IAGTO members control 85% of touristic golf activities in the world and that the turnover from these activities is around 2.11 billion USD per year.[8]

There are over 7000 golf courses with the total surface of approximately 300.000 hectares and over 4.151.258 registered golf players in Europe today (in accordance with the data obtained for 2016).[9] The following five European countries have the greatest number of golf players – United Kingdom, Germany, Sweden, France and the Netherlands. Therefore, these are leading emissive markets for golf tourism demand.

Table 1: *Number of golf courses and players from 2000 to 2010 in Europe (year, number of golf courses, chain index, number of golf players, chain index)*

Godina	Broj golf igrališta	Verižni indeks	Broj golf igrača	Verižni indeks
2000.	5.782	102,2	3.187.622	105,5
2001.	5.896	102,0	3.400.588	106,7
2002.	5.981	101,4	3.556.623	104,6
2003.	6.105	102,1	3.741.680	105,2
2004.	6.052	99,1	3.958.965	105,8
2005.	6.242	103,1	4.107.174	103,7
2006.	6.423	102,3	4.135.086	100,7
2007.	6.560	102,1	4.270.156	103,3
2008.	6.614	100,8	4.328.856	101,3
2009.	6.691	101,1	4.328.856	100,0
2010.	6.741	100,7	4.438.513	102,5

Source: Golf Channel Solutions, available at: www.golfchannelsolutions.com (31 August 2018)

[6] Garan – Vadell, J. B., de Borja – Sole, L. (2008) Golf in mass tourism destinations facing seasonality, a longitudinal study, Tourism Review, Vol. 63 (2), pg. 17
[7] Slamar, D., Bartoluci, M., Hendija, Z. et al. (2015) Preliminary Business Plan for Tourism Zone, Green Surfaces Zone, Sports, Recreation and Golf Zone, City of Varaždin, D.S. Golf, pg.23
[8] Slamar, D., Bartoluci, M., Hendija, Z. et al. (2015), quotation, pg. 27
[9] EGCOA, European Golf Course Owners Association (2017) European Golf Statistics 2016, pg. 2

Around 45% of European golf courses (2.993) are located in the United Kingdom. This is why this area is considered as the most developed golf area in Europe. Group which includes Scandinavia, Germany, Benelux and France and which accommodates 2.391 golf courses is the next to follow. 80% of all European golf courses and over 83% of European golfers are located in the above countries.[10]

Apart from the fact that golf is one of the most developed and massive commercial sports, all golf course analysis indicate that golf is an inevitable and needed part of the touristic offer, not only in Europe, but all over the world. Present touristic travels motivated by golf are going through a significant expansion.

Currently, the most popular golf destinations in the world are Mediterranean areas. 50% of tourists decide for these areas. Leading position belongs to Spain which gets 20% of such holidays although it has only 5.2% of golf courses in Europe. Other destinations which tourists visit in Europe are Austria and Portugal with 11% of the market and finally, the USA with 10% of the market. Regions such as Greece, Turkey and Croatia have a great potential. However, due to insufficient number of golf courses they did not profile into golf destinations.

The most emissive golf destinations are England, France, Germany and Sweden.

Golf contributes to the increase of the tourist product quality. This impacts the increase in the usage of accommodation capacities at the destination. The above especially refers to Mediterranean destinations which have extremely intensive summer movements and where golf can be played throughout the year due to favourable climate conditions. By including golf in the touristic offer, tourists with better payment ability are attracted and overall offer is increased, especially outside the season. This finally results in positive economic impacts within the destination.

3. Analysis of golf courses development in Croatia

Golf started to be played in Croatia between the two world wars. During this period, there were three courses: on Brijuni, in Ičići (Opatija) and in park Maksimir (Zagreb).

Beginnings of golf in the area of the Republic of Croatia can be traced back before the First World War. First golf course with 18 holes was finalized on Brijuni in 1922. Next year, the first official tournament was held there. Until the Second World War, it was a gathering of European and world aristocracy and golf elite. Last official competition on Brijuni was held in 1939. During the second half of 20th century, Brijuni became national park where great percentage of game lives. Last course renewal on Brijuni was in 2007.

Golf course was opened at Učka above Ičići in 1930. At that time, it was known as "Mountain Golf at the Coast". Golf Club was founded in Opatija and its members were dignitaries from Opatija, Rijeka and Trieste as well as Opatija's Riviera from other European countries. The guests would drive luxury cars or special buses from Opatija or Lovran to the golf course. The course was used until 1943 and later it changed its purpose. Today, it is a camp.[11]

From 1930s to the end of 1980s, golf disappeared from the Republic of Croatia. It was not present in Croatia as a form of sport until 1990s.

[10] Golf Channel Solutions, available at: www.golfchannelsolutions.com (31 August 2018)

[11] Criteria and Instructions for Golf Course Planning, pg. 51

Croatian Golf Association was founded in June 1992. After three months it became a part of the European Golf Association (EGA). Professional Golf Association (HGPA) was also registered in the Republic of Croatia.

First official individual golf championship in the Republic of Croatia was held on Brijuni in autumn of 1993. It was held at the course with 9 holes which was renewed by University Golf Club members from Zagreb.

Golf course Brijuni is one of the rare ecological courses in the world. Pesticides or artificial fertilizers are not used. The course is not watered and it depends on weather conditions. It is maintained without the usage of mechanics. The course is only mowed three times a year.

First golf course with 18 holes in the Republic of Croatia was opened in 1998 nearby Krašić. In the period from 2000 to 2009, golf course owned by Golf & Country Club Zagreb was finalized and opened. It consists of club facility, driving range and course with 9 and 18 holes. In 2009, golf course at the coast was opened – Kempinski Golf Adriatic nearby Savurdija in Istria with 18 holes. There are 4 golf courses and 550 golf players in Croatia today.

In Croatian Tourism Development Strategy[12], golf is mentioned in the touristic construction context. It is stated that "the new touristic content and capacities construction has to be focused on upgrading and supplementing the existing offer (golf course, fitness etc.)".

There are 3 professional golf courses in Croatia today:

1. Golf course Brijuni in the National Park Brijuni – 18 holes
2. Golf & Country Club Zagreb in Zagreb – 27 holes
3. Golf Course Adriatic in Savurdija – 18 holes.

Objectively, the Republic of Croatia disposes with very valuable resources which are suitable for golf tourism development. Therefore, it is logical that the Tourism Development Strategy for the Republic of Croatia until 2020 includes golf tourism development strategy.

Within the golf tourism development plans for Croatia, 89 golf courses are planned. Physical plans foresee 23 locations for golf course construction. Certain golf projects at certain locations are in the process of obtaining the permits and developing project and technical documentation.[13]

An increasing number of researches as regards to the golf tourism development in Croatia were implemented within the last 20 years. Some of them are: Bartoluci, M., Čavlek, N. (2000:, 2007); Bartoluci, M., Hendija, Z., Slamar (2016); Kesar, O., Hendija, Z. (2017)[14]; Jeremić, Z. (2013); Ćorić, D. (2018)[15] and others.

Golf offer development models are also stated in the Tourism Development Strategy for the Republic of Croatia. Three different models are provided:

- Golf course without commercial accommodation facilities – these should be constructed nearby existing commercial accommodation facilities which are larger in size. Such model would be based on public or private-public partnership where the state and/or

[12] Croatian Tourism Development Strategy, Official Gazette, No.113/1993.
[13] Jeremić, Z., quotation
[14] Kesar, O.; Hendija, Z.: Estimating Patterns of Golf Tourism Development in Continental Part of Croatia, Faculty of Economics & Business, Department of Tourism, Zagreb, Croatia (2017)
[15] Ćorić, D. (2018) Marketing Aspects of Sustainable Golf Tourism Development in Istria, Specialist postgraduate thesis, Faculty of Economy and Business, Zagreb.

local authority is usually one of the partners (ensuring the land, physical and planning documentation or a part of the investment) and touristic (hotel) entity at the destination is another partner (ensuring finances). EU funds can be used if it is a public golf course.

- Hotel resort projects with golf – these refer to hotel resorts which are to be constructed within the planned touristic zones and which, along with the other content, include golf.
- Golf courses with accompanying accommodation facilities – these should be constructed within the planned sports and recreation zones. There should be the possibility of constructing accompanying accommodation facilities in the contact construction zones in order to ensure investment profitability and offer and demand stability.[16]

If the aim is to improve the quality of Croatian touristic offer and attract tourists with payment ability, it is necessary to encourage the entrepreneurship in the golf tourism field. It is not questionable whether golf increases offer and touristic destination product quality. Pursuant to the foreign countries' experiences, especially experiences of touristic and competitive countries, it can be said that the integration of golf projects is extremely important for the development of Croatian tourism and profiling Croatia at touristic market as a destination providing new forms of tourism intended for modern touristic clients.

In accordance with the Tourism Development Strategy for the Republic of Croatia, the construction of new golf courses in Buje, Grožnjan, Motovun, Rovinj, Pićan, Labin, Baban and Marčani is planned in Istria County, along with the existing golf courses. Golf courses construction is planned pursuant to public and private partnership. Foreseen locations are a part of physical plans and their realization is expected through special studies and projects.[17]

4. Golf sustainability ecological analysis

As the construction of a golf course is a precondition for golf tourism development and as golf and accompanying content take up large surfaces (around 100 ha), golf tourism development should be strictly controlled in each area. Therefore, golf course construction precondition is the development of the *environmental protection study.* It is a basic factor for the development of golf tourism in a certain area.

Despite the fact that golf has numerous advantages, ecologists emphasize certain environmental issues such as endangering flora and fauna while using pesticides for course maintenance. As for watering, average golf course with 18 holes needs 500 - 1.000 m^3 of water a day during 3 to 4 months per year. On the other hand, experts state that golf is one of the leading symbols for environmental protection, nature preservation and healthy lifestyle.[18]

Nature and resources protection requires the application of the highest ecological standards during golf course and accompanying content construction. Apart from the mentioned, pesticide usage is strictly reduced during golf course maintenance. Long-term energy savings are realized through natural gas and solar panels usage.

Future golf tourism development vision in continental Croatia can be as follows. Sustainable development of golf tourism completes Croatian touristic product in a manner that it

[16] Tourism Development Strategy of the Republic of Croatia until 2020, pg. 42
[17] More on this topic can be found in „Analysis of Framework Possibilities for Golf Tourism Development in Istria County", Pula, Istra golf dizajn, 2009.
[18] Slamar, D., Bartoluci, M., Hendija, Z. et al. (2015) quotation, pg. 34

significantly contributes to tourism development by adding value to the touristic offer quality and by increasing touristic consumption and local population life quality.

Apart from positive impacts golf has as regards to touristic product formation, its negative impact also has to be considered. Considering that golf is played in nature, its environmental impact cannot be avoided.[19] This means that golf development has to be planned and involved in tourism in accordance with the tourism strategic development plans.

However, golf course construction can positively impact the environment. Apart from the economic impacts which especially refer to new work places, possible reuse of abandoned areas and areas with less valuable landscape can be another positive impact. Some visited golf courses in Austria and Slovenia were partially constructed at the waste disposal sites.[20]

The above experiences can be useful when planning golf course development in Croatia. Nature is extremely sensitive to golf course construction, chemicals usage during maintenance, water usage and other nature activities. Prior to each golf project, environmental impact assessment with all indicators has to be developed in order to decrease negative environmental impacts.

5. Golf economic sustainability in continental Croatia

Economic value of overall golf industry can be measured through <u>direct and indirect effects</u>.[21] <u>Golf industry direct economic effects</u> are realized directly in the golf destination where the golf courses are located (green fees, golf academies, golf equipment rent, hospitality services at golf courses etc.). <u>Indirect economic effects</u> are realized through activities which are supplied and which logistically help overall golf industry.

Golf tourism economic development factors refer to golf tourists consumption during golf travels, such as accommodation, food and beverages, entertainment, shopping and others.

Considering all advantages and benefits which can be a result of golf tourism, it has to be kept in mind that golf tourism requires large and attractive area. It also accumulates high land and infrastructure expenses. The aforementioned results in expenses caused by golf and accompanying infrastructure and in high fixed expenses and low return rates.

Nowadays, golf has become necessary and essential part of touristic offer in European countries. Croatia as a receptive touristic country has to include golf in its development plans in order to be competitive and in order to meet the touristic needs. Therefore, golf is a strategic challenge for Croatian Tourism development.

Pursuant to the researched model of golf as entrepreneurship program, it can be concluded that golf without accompanying content cannot be a profitable investment in all cases. Therefore, golf profitability for entrepreneurs with above stated financial conditions is questionable. Golf profitability can be achieved only with higher level of golf and accompanying contents usage, with higher services sales price, and by including catering, accommodation and other services. Therefore, it can be concluded that golf courses construction in Croatia is needed primarily due to the competitiveness of this form of tourism at the Mediterranean. Consequently, it should be

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[19] Radić Lakoš, T., Goleš, D., Šišak, A.: Analysis of the Golf Course Construction Impact on the Increase in the Touristic Capacities Usage Level in Šibenik-Knin County and Increase in the Tourist Destination Quality, available at: www.kvaliteta.net (31 August 2018)
[20] Golf Course Planning Criteria and Instructions, Republic of Croatia, State Physical Planning Council, Zagreb, 2010, pg. 14
[21] Jeremić, Z., quotation, pg. 67

supported by all relevant stakeholders at national and destination level. However, golf profitability in Croatian tourism can be achieved only in the most developed tourist destinations with the application of **public and private partnership concept.** While doing so, environment has to be considered and such projects have to be sustainable and acceptable. It is not realistic to expect that only entrepreneurs will invest in golf tourism. Public sector at the destination also has to be included in the golf course construction.

Pursuant to the data as regards to the golf tourism in the Republic of Croatia and pursuant to the projection for the golf development plans, SWOT analysis for golf tourism development can be made for the area of continental Croatia.

Table 2: *Golf tourism SWOT analysis for continental Croatia*

Advantages	**Disadvantages**
- Geographic position - Moderate climate - Ecological and non-polluted nature - Area which is not constructed - Human potential - Quality gastronomy - Historical and cultural heritage - Nearby emissive markets - Small distance from coastal and continental part - Local lifestyle - Long touristic tradition - Suitable safety situation - Accommodation capacities	- Lack of experts for golf - Small number of golfers - Quality of accommodation capacities - Land ownership issues - Debts of touristic companies - Quality entertainment - Hobby and recreational content - Quality infrastructure - Insufficient shopping offer - Tourism seasonality - Administrative obstacles
Opportunities	**Threats**
- Improvement of touristic product quality - Connection with European traffic corridors - Improvement of touristic destination image - Increasing foreign investments - Availability of quality area for golf development - New products development - Touristic season extension - Strengthening activities at the existing markets - Reaching new touristic markets - Increasing foreign investments - EU funds	- Possible pollution - Unplanned development - Speculative land purchase - Politics - Slow legal system - Regulating ownership relations - Losing control over resources - Losing local identity - Corruption possibility - Crises in emissive countries - Possible environmental pollution - Great competition - Lack of golf destination touristic image

Source: Authors analysis

6. Analysis of selected golf cases in Croatia

This paper researches the importance of golf as a touristic product in Istria. Testing instrument was structured questionnaire which was distributed to 100 respondents.[22] There were 45 completed and valid questionnaires which were used for the analysis in this paper. Due to paper limitations, we cannot present overall questionnaire analysis but only the most important research results.

Questionnaire results indicate the following.

Golf at Brijuni has a long tradition. Golf center Adriatic in Umag is the newest. This is very indicative for this paper. As for the respondents, most of them are men (68.9%). This is expected since golf and tourism experts are mostly elder men. This especially refers to golf field. Furthermore, the greatest number of respondents has high education and they work in public institutions in the field of education, culture, sports or administration.

The research showed that 68-89% of respondents think that golf content is very important for tourism development in Istria. 22.22% of the respondents think that golf content is quite important for golf development in Istria, while 4.44% of respondents think that such content is partially or not so important.

Dominant opinion among respondents is that the existing golf course offer meets the demand only to a small extent or that it is not enough. This means that new golf capacities are needed in order to develop this specific form of tourism in Istria. The respondents' opinion is that only two golf courses are not enough to form quality offer neither for tourists nor for competitors who are top golfers nor for the organization of national and international competitions. The existing courses can meet the needs of recreational players that are tourists. However, this is not enough for the development of golf tourism which would be competitive at international touristic market.

The greatest number of respondents, 51% of them, thinks that Istria needs 4 to 6 new golf courses. Such estimates are very realistic in relation to present tourist demand needs and high price of golf course construction.

The experts emphasize that golf can be far more profitable in combination with other contents in the touristic offer than it can be on its own. This is supported by experiences of other golf centers in tourism, especially by golf center in Umag.

Apart from positive effects generated by golf tourism, golf can also have some negative impacts on the environment, water consumption and horticultural organization. Therefore, prior to golf course construction, it is necessary to develop environmental impact assessment.

Pursuant to SWOT analysis and implemented primary research, certain golf destinations in continental Croatia with certain comparative advantages for golf and golf tourism development can be determined.

On one hand, there are existing tourist destinations at the Adriatic coast and islands – from Umag to Dubrovnik.

On the other hand, most of this so-called green Croatia includes landlocked counties – thirteen of them. Capital of Croatia, Zagreb, is located in one of them, as well as several large cities

[22] Ćorić, D. (2018) Marketing Aspects for Sustainable Golf Tourism Development in Istria, Specialist Postgraduate Thesis, Faculty of Economy and Business, Zagreb

such as Karlovac, Sisak, Koprivnica, Požega, Slavonski Brod, Vinkovaci, Osijek and others. As for continental Croatia destinations, we estimate that they are suitable for golf course construction connected to city centers. However, golf courses can be constructed in rural or spa areas as well. Tourism development plans have to include golf as sports and recreational content which can be integrated into touristic product of these destinations as the main or additional touristic content.

As an independent touristic product, golf is not likely to be economically sustainable. In order to realize long-term and sustainable development of golf tourism, golf has to be accompanied by other contents: hospitality, gastronomy, health, cultural, sports and other forms of tourism which are developed in continental Croatia.

7. Conclusion

Pursuant to the research, it can be concluded that golf, as a special form of tourism, has to be included in the future tourism development in the Republic of Croatia. This would improve destination touristic product and it would make it more competitive at the market. In the continental Croatia, golf has to be included in county physical plans and tourism development plans as a touristic content, special form of tourism or additional touristic and sports content.

As for golf sustainability in continental Croatia tourism, feasibility study has to be developed for each potential location. The feasibility study would indicate long-term sustainability of golf as touristic and sports content. Such study requires compliance with all sustainable development principles: ecological, social and cultural, technological and economic principles.

Compliance with sustainable tourism development principles means those tourism forms which can ensure long-term economic sustainability without endangering social, cultural and ecological value of the area. Sustainable development criteria have to be included in the physical development plans and tourism development plans in all destinations in continental Croatia.

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INTEGRAL QUALITY MANAGEMENT IN A CONTINENTAL TOURISM DESTINATION, SHOWN ON THE EXAMPLE OF POŽEGA-SLAVONIA COUNTY, THE CITY OF POŽEGA

ABSTRACT

Goal – At the level of European markets, continental tourism destinations are becoming increasingly popular. The current development of tourism in continental Croatia is largely left to the individual entrepreneurial initiative and scarce sources of funding. As a result, a heterogeneous and atomized tourist offer has developed without the possibility of a significant recognition on the international tourist map. Continental tourism destinations are forced to innovate and adapt products and services without respecting the indigenous values of the local community from an economic, ecological, and socio-cultural aspect. The main goal of this paper is to explore the role and significance of the application of the concept of integral quality management of a continental tourism destination through the prism of sustainable tourism development.
Methodology - Primary research was based on theories within epistemology and tourism, on the research of the attitudes of tourism experts dealing with the management of a continental tourism region or destination, as well as on the research of the views of key stakeholders in the tourism destination of Požega. The primary research of key stakeholders and tourism experts was carried out by means of a questionnaire and an interview structure, developed and used in four in-depth interviews of a qualitative approach, posing open-ended questions to the experts in tourism. This was complemented by the mapping of specific background factors. Primary research has been supplemented with the secondary research data, providing an analysis of key strategic documents of the destination development. On the basis of such collected and processed data, the results of the research were formulated and presented in the paper.

Contribution - This work addresses a vital but not fully explored aspect of an extensively implemented strategy for regional development. The contribution of this work is based on the knowledge of the means of creating a competitive continental tourism destination in the international market by adopting an integral quality management policy with the elements of sustainable development. This leads to the underlying hypothesis of this work, which reads: "Establishing the integral quality management of a continental tourism destination through the prism of sustainability is necessary when creating a competitive tourism destination".

Key words: *integral quality management, sustainable tourism development, continental tourism destination.*

1. Introduction

Sustainable development is increasingly becoming a priority issue in tourism development in the modern world. The basic goal is to educate local communities on the principles of this new approach. The purpose of the study was to diagnose programs produced by local governments in the area of sustainable tourism development, identify problem areas, and propose solutions on the example of Požega-Slavonia County. The city of Požega is taken as an example of a representative continental tourism destination in development, possessing exceptionally valuable natural and social resources. Tourism in continental Croatia could have a much greater role if we take into account its size or its natural and social potentials, which are insufficiently valorised. According to the Croatian Bureau of Statistics data (CBS, 2018), 3.5% of tourist accommodation capacities are located in the continental counties of the Republic of Croatia. The number of tourist arrivals is 13%, while only 5% of overnight stays in the entire Republic of Croatia take place in its continental part.

The subject of this paper is to explore the role and importance of applying the concept of the integral quality management of a continental tourism destination through the prism of sustainable tourism development on the example of Požega-Slavonia County and the city of Požega. The paper analyzes the views of tourism experts on the management of a continental tourism region or destination, as well as the views of key stakeholders in the tourism destination of the city of Požega.

The primary research of key stakeholders and tourism experts was conducted by means of a questionnaire and an interview structure, developed and used in four in-depth interviews of a qualitative approach, posing open-ended questions to the experts in tourism. This was complemented by the mapping of specific background factors. Primary research has been supplemented by the secondary data collected from official statistical reports, scientific and professional articles, and relevant Internet sites. The key strategic documents for the development of a region or destination have also been analyzed. The results of the research, obtained on the basis of such collected and processed data, confirm its hypothesis, which reads: "Establishing the integral quality management of a continental tourism destination through the prism of sustainability is necessary when creating a competitive tourism destination." In the survey conducted in October 2018, fifteen respondents were asked to analyze the strategic documents of tourism development, the level of their application, the level of co-operation between interest groups in the observed destination, the obstacles affecting the co-operation between interest groups in the destination, and the assessment of the level of sustainable tourism development in Požega. An in-depth open-ended interview was conducted with the representatives of the public regional and local administration in order to gain a full insight into the current situation regarding the management of tourism in the observed area. The survey is

considered relevant because it includes tourism experts on the observed area as well as key stakeholders of the observed tourism destination, that is, the city of Požega.
The research findings are based on the understanding that the establishment of the integral quality management of a continental tourism destination implies the production and adoption of strategic tourism management documents, based on the principles of sustainable tourism development. The paper presents the results of the research in order to suggest the critical implications which need to be considered by the local authorities in tourism development, pointing to the role and importance of local interest groups.

2. Literature review

The issue of long-term sustainable management of a tourism destination has for some time been one of the fundamental concerns of public authorities at both national, regional, and local level in almost all countries with tourism potential (Ruhane, 2004; Sofield and Li, 2011; Jamal and Watt, 2011; Bramwell, 2011; Ruhane, 2013, Goodwin, 2016; Liu et al., 2017). The concept of sustainable development is becoming more and more part of the life and development decisions made by man. This trend is also affecting the area of tourism due to its environmental, economic, social, and cultural impact. The success of the introduction of sustainable development rests partly on support from and participation of the parties involved in the business of tourism. This is because tourism yields a number of benefits for local communities experiencing the influx of visitors and affects their quality of life. Historical functions of local communities become transformed and the analysis of interaction between tourism and community life becomes increasingly important (Liu et al., 2017). This forces local governments to pay more attention to the emergence of a tourism industry that respects the quality of life needs of local communities (Liu et al., 2017). At the local government level, there is a growing consensus that tourism development should be driven by local communities and not globally established tourism organizations (Goodwin, 2016). This new approach yields important implications for the sustainable development of the tourism sector given that it affects the relationship between political entities and the ability of the government to impact the economy. It also affects the choice of political instruments and indicators as well as sparks political debate in some cases (Hall, 2011). The manner in which institutional management systems are established determines the manner in which stakeholders operate in the arena of tourism policy as well as the instruments and indicators used to achieve political aims across all fields of policy including tourism development (Sofield, Guia, Specht,2017). It can be said that "sustainable management of a tourism destination implies the development in the scale and manner that is long-term and integrative to the local community, and which does not degrade or radically change the environment in which it takes place in a way that could jeopardize the successful development and the welfare of other activities and processes" (Butler, 1993).
It is generally accepted that the sustainability paradigm applied to tourism requires a comprehensive and systematic approach to integrate interventions which take into account the complex and dynamic interactions of economic, environmental, cultural, and social challenges facing the current process of development (Pulido-Fernández et.al. 2015, 48). A major part of literature on tourism competitiveness highlights sustainability as one of the most important factors of competitiveness. It is emphasized that the competitiveness of a destination can be enhanced by the management based on the quality of environment and the development of sustainable tourism (Ritchie and Crouch, 2003, 5). Also, it has been noticed that according to all models designed to identify and study the determinants of the competitiveness of destinations, sustainability is a key factor (Pulido-Fernandez et al. 2015, 59). In the context of tourism destinations, Baggio, Scott, Cooper (2010, 52) indicate that in certain circumstances

"management system can be considered a tool for the adaptation of a tourism destination". Accordingly, Bramwell points out that the process of tourism management encompasses various mechanisms of governance, regulation, and incitement of activities through institutions, decision-making rules, and established practice (Bramwell, 2011, 461). Also, Hall emphasizes the need to incorporate the principle of sustainable development into the strategic plans of the development of a destination, as a way of integrating social, economic, and ecological development goals, but also of cultural and political development goals (Hall, 2002, 14). As a result, the process of managing a tourism destination can be defined as a coordinated process of making strategic, organizational, and operational decisions in order to define, promote and comercialize a destination as a tourism product. It is necessary to create a balanced and sustainable traffic of visitors, sufficient to meet the economic needs of local stakeholders in a destination, while connecting all the important components of a tourism destination, in order to reduce the gap in the management process (Popesku, 2016).

Destination management denotes managing a tourism destination, and the term is most often used when it comes to specific functions, tasks, and operations and operational responsibilities. The term destination governance is more commonly used in the context of establishing a connection system between interest groups in a destination, and their encouragement to participate in the management. As a result, it encompasses a wider area, that is, it includes long-term processes ensuring benefits to all interest groups in a destination. Managing a tourism destination involves the co-ordination of tourist functions in a destination that cannot be performed by individual bidders, their joint appearance giving them greater prospects for achieving goals. Managing a continental tourism destination as a complex system is extremely difficult and demanding. This may be related to the highly fragmented structure of the tourist offer, the inconsistency between different strategies of local interest groups, the lack of hierarchy of destination management organizations, and the complexity of interest among local institutions (Buhalis and Fletcher, 1995, 4). While managing a continental tourism destination, it is necessary to unite the interests of the public sector, the private sector, the domicile population, and the tourists. The successful management of a tourism destination manifests primarily in raising the quality of tourism product experience from the aspect of tourism, achieving competitiveness, raising the quality of life of the local population, in greater economic benefits of tourism, and in the creation of a strong and recognizable destination on the tourism market (Boranić Živoder, 2011, 18).

Numerous authors point out that it is crucial to identify interest groups in a tourism destination, and to cultivate their interrelationships (Tosun, 2000, Simpson, 2001, Byrd, 2007, Hall 2011; Lyon, Hunter Jones, Warnaby, 2017, Domínguez-Gómez, González-Gómez, 2017). An interest group can be defined "as any group or individual with an influence on or influenced by the goals of an organization" (Byrd, 2007). While not all stakeholders need be equally involved in the decision process associated with sustainable development, all their interests need to be identified and understood (Donaldson, Preston, 1995). If the interests of a key group of stakeholders are not identified, then the entire process may fail (Clarkson, 1995).

The integral quality management of a continental tourism destination based on the business philosophy of sustainability rests on two key constraints: on the increased level of participation of many stakeholders in planning processes and on the need for strategic orientation when it comes to tourist planning (Simpson, 2001). Stakeholder partipation denotes individuals, organizations, and groups exposed to the influence of tourism development, which fully or partially participate in decision-making on the directions of selected developmental processes in a tourism destination (Simpson, 2001). This is due to the fact that all interested parties vary in terms of their interests and goals, and do not represent a united front (Lyon, Hunter-Jones, & Warnaby, 2017). In the conversation on tourism, the diversity of stakeholders defending their own views and in many cases opposing aims calls for the use of an innovative approach to the management of the decision-making process as well as the use of appropriate tools (Domínguez-Gómez & González-Gómez, 2017). Also, Byrd (2007) points out that when interest groups are involved in the development process, "there is no need for the equal inclusion of all stakeholders in the decision-making process, but it is necessary to be acquainted with and understand their interests". "At the local level, representatives of the local community or local government officials usually are assigned specific areas of authority and tasks to be completed including those related to the tourism sector. In order to make their work more effective, local governments collaborate at the national and international level with other political and non-political entities. One particularly important form of collaboration consists of joint efforts between local residents, tourists, and the public sector" (Liao & Chern, 2015). However, other entities need participate in this process as well in order to facilitate the development of the tourism sector using the rules and guidelines associated with the concept of sustainable development. All interested parties need to discuss relevant issues together (Hardy, Pearson, 2017). This is due to the fact that all interested parties vary in terms of their interests and goals, and do not represent a united front (Lyon, Hunter-Jones, Warnaby, 2017). In the conversation on tourism, the diversity of stakeholders defending their own views and in many cases opposing aims calls for the use of an innovative approach to the management of the decision-making process as well as the use of appropriate tools (Domínguez-Gómez, González-Gómez, 2017). Historical functions of local communities become transformed and the analysis of the interaction between tourism and community life becomes increasingly important (Liu et al., 2017). This forces local governments to pay more attention to support for the emergence of a tourism industry that respects the "quality of life needs" of local communities (Liu et al., 2017). At the local government level, there is a growing consensus that tourism development ought to be driven by local communities and not globally established tourism organizations (Birkić et al., 2014, Goodwin, 2016).

The public sector includes an institutional system with political authority and power for effective systematic management of sustainable tourism development. One of the characteristics of the public sector is that it is both slow and inadequate in the dynamic tourist environment, and it can either support or limit sustainable tourism development. It is responsible for making political decisions and developing strategies, which is why, regardless of the ideological pattern, the local government functions as a key player in the development and management of tourism activity and its quality. The establishment of the integral quality management of a tourism destination in accordance with the principles of sustainability can bring the following benefits (UNWTO, 2007: 9):

1. Ensuring a competitive advantage on the basis of a strong and unique positioning by offering a different type of experience in relation to other destinations, and delivering a service of quality, whose value exceeds the money invested by visitors,
2. Ensuring the sustainability of tourism, which implies maintaining the integrity of a local community environment, and preventing social and cultural conflicts,
3. Expanding the effects of tourism generated by tourists' consumption and its benefits through the support offered for the development of local community-based products and services, the support for rural tourism, and the promotion of small and middle-sized entrepreneurship development and crafts,
4. The growth of tourism revenues on the basis of the increase in the length of tourist stay, the increase of average tourist consumption, and the reduction of the seasonal pattern of tourism with the aid of the appropriate spatial planning and marketing activities.

1. At the local level, representatives of the local community or local government officials usually are assigned specific areas of authority and tasks to be completed including those related to the tourism sector. In order to make their work more effective, local

governments collaborate at the national and international level with other political and non-political entities. One particularly important form of collaboration consists of joint efforts between local residents, tourists, and the public sector (Liao, Chern, 2015). However, other entities need participate in this process as well in order to facilitate the development of the tourism sector using the rules and guidelines associated with the concept of sustainable development. All interested parties need to discuss relevant issues together (Hardy, Pearson, 2017).

The integral quality management of a continental tourism destination implies a development in which tourism is only one dependent variable, not perceived as an isolated phenomenon, but in its interrelationship between numerous components of the socioeconomic reality of a certain milieu, where different tourism activities are possible and develop in mutual consent, but also with other economic activities, largely subordinated to the concept and policy of the tourism development of such spatial units (Vukonić, Čavlek (2001).

This new approach yields important implications for the sustainable development of the tourism sector given that it affects the relationship between political entities and the ability of the government to impact the economy. It also affects the choice of political instruments and indicators as well as sparks political debate in some cases (Hall, 2011). The manner in which institutional management systems are established determines the manner in which stakeholders operate in the arena of tourism policy as well as the instruments and indicators used to achieve political aims across all fields of policy including tourism development (Sofield, Guia, Specht, 2017).

The goal of the integral quality management of a continental tourism destination in accordance with the principles of sustainability implies a greater number of coordinated actions, such as long-term planning, the co-operation of interest groups in a tourism destination, the education for sustainable development, the development of dialogue, and the creation of a common vision for sustainable tourism development. Considering the large number of interested parties involved in tourism activities (the public sector, business or private sector, non-profit sector, local population) and the fact that their interests often do not overlap, this task becomes very complex (Bramwell, 2011, 461).

3. Materials and methods

3.1. Reseach area and background

This study was performed in the City of Požega, which is the administrative center of Požega-Slavonia County. The city of Požega encompasses 133.91 km^2, which makes up for 7.38% of the area of Požega-Slavonia County. Located in the Požega valley, framed by the Slavonian mountain ring of Psunja, Papuk, Dilj, Krndija, and Požega hills, the valley was also called Vallis aurea (Golden Valley) by the Romans. Požega-Slavonia County includes the unique Croatian geopark Papuk, one of the most famous geoparks in this part of Europe. Požega is a city of a long urban, administrative, cultural, educational, religious, and economic tradition. According to the 2011 census, it is the largest city of the county with its 26,248 inhabitants. The population density of this area is 196.3 inhabitants per square kilometer, four times more than the average for Požega-Slavonia County (43 inhabitants per square kilometer) and for Croatia as a whole (76 inhabitants per square kilometer). It is an area of extraordinary natural and social potentials, but its tourism is not sufficiently valued. The natural and social resources responsible for the growth and development of tourism in Požega-Slavonia County and in the vicinity of Požega involve the Slavonian mountain ring with lush forests suitable for hunting, hiking, cycling, walking, observing plant and animal life. The following ten attractions function as the basis for spending an active vacation in Požega-Slavonia County and Požega: Lipik National stable, Lake Sovsko, Wine Roads, Omanovac, Kutjevo wine cellars, Jankovic palace, vineyard hills Klikun and Starac, Diocesan Museum, Lipik Park, Papuk Nature Park. In addition, Požega has a rich cultural and historical heritage which is not sufficiently valued in tourism.

3.2. Data collection and analysis

In the empirical part of the paper, the method of primary data collection was used. A standardized questionnaire was used and sent to 25 business entities and institutions in Požega in October 2018. The survey aimed at people who are involved in the creation of tourism products and services in the city of Požega. A total of fifteen questionnaires was completed and returned, constituting a representative sample. The group of respondents consisted of the representatives of the regional tourist community (1), the local tourist community (2), the local self-government of the city of Požega (2), the representatives of civil associations (2), the private sector (3), the representatives of tourist offer system (tourist agencies, hotels, and similar service providers in tourism) (3), public administration and public institutions, such as nature park managements, cultural institutions, higher education institutions (3). Moreover, an in-depth open-ended interview with the representatives of regional and local administration was conducted. The data collected by means of primary research have been analyzed by appropriate statistical methods, using the software program for social sciences. On the basis of the data collected and processed in this manner, the results of the research are presented in the rest of the paper. The secondary data for the paper were collected by means of a desk method: the number and structure of tourist accommodation facilities in Požega-Slavonia County and the city of Požega in the period from 2016 to 2018, and the number of tourist arrivals and overnight stays in the period from 2016 to 2018. The results of the research should be considered having in mind its constraints, the spatial restriction, and the subjectivity of the respondents.

3.3. Research results

The information about the existing accommodation capacities in Požega-Slavonia County and the city of Požega, as well as the information on tourist movement, are presented below.

Table 1: *The overview of accommodation capacities in Požega-Slavonia County, the city of Požega*

Destinations	2016	2017	2018	Index 2018/16
The Republic of Croatia	1 133 751	1 207 422	-	106
Continental Croatia	34012	36 222	-	106
Continental Croatia without the City of Zagreb	18903	20 163	21 574	107
Požega-Slavonia County	601	674	1061	176
The city of Požega	206	206	326	158

Source: The Croatian Bureau of Statistics 2019

According to the data of the Tourist Board of Požega-Slavonia County, the accommodation facilities in Požega-Slavonia County in 2019 have a total of 1061 beds, 57% of which are in accommodation, 15% in households, 7% in apartments, 5% in mountaineering homes, 10% in heritage hotels, 4% in rooms for rent, and 2% in unclassified facilities. There exists a clear lack of facilities of a highter category of accommodation, such as hotels with larger capacities. In 2018, the number of accommodation capacities increased in comparison with 2016 by as much as 76%, and in Požega by 58%. In 2018, the share of the accommodation capacities of Požega-Slavonia County in the continental Croatia, without the city of Zagreb, was 5%, and it has a growing tendency. Below is the overview of the number of realized tourist arrivals and overnight stays in Požega-Slavonia County and Požega in relation to the Republic of Croatia and continental Croatia.

Table 2: *The survey of tourist arrivals in Požega-Slavonia County, the city of Požega*

Destinations	2016	2017	2018	Index 2016/18
The Republic of Croatia	15 454 000	17 430 000	18 666 850	112
Continental Croatia	2 009 020	2 265 900	2 516 035	113
Continental Croatia without the city of Zagreb	900 000	979 900	1 115 834	109
Požega-Slavonia County	11 516	13 399	16 252	118
The city of Požega	5 911	6 344	7 254	107

Source: The Croatian Bureau of Statistics 2019

The analysis of the data from table 2 indicates that at the level of continental Croatia, Požega-Slavonia County participates in tourist arrivals with only 1.5%, but there exists an evident increase in tourist arrivals. In 2018, in comparison with 2016, there exists an increase of 18%. The city of Požega, a part of Požega-Slavonia County, participates in total tourist arrivals in 2018 with 45%. There has been a growth of tourist arrivals in 2018 by 7% in comparison with 2016.

Table 3: *The summary of realized tourist overnight stays in Požega-Slavonia County, the city of Požega*

Destinations	2016	2017	2018	Index 2018/16
The Republic of Croatia	77 919 000	86 200 000	89 651 789	115
Continental Croatia	3 895 950	4 310 000	4 855 415	124
Continental Croatia without the city of Zagreb	1 923 950	2 046 000	2 343 598	121
Požega-Slavonia County	26 000	31 000	36 134	138
The city of Požega	12 116	13 444	14 900	122

Source: The Croatian Bureau of Statistics 2019

When it comes to the overnight stays in 2018, Požega-Slavonia County achieved a significant increase in comparison with 2016, by as much as 35%. Požega lags behind this average, but there exists an evident increase by 22% in the number of overnight stays in 2018 in comparison with 2016. The County of Požega-Slavonia participates in the total number of overnight stays in continental Croatia, without the city of Zagreb, with a modest 1.5%. The average level of the utilization of accommodation capacities of continental Croatia without the City of Zagreb is 20%. The utilization of accommodation capacities in Požega-Slavonia County in 2018 amounts to 10%, while the utilization rate of accommodation capacities in the city of Požega amounts to 12.5%. The average stay of tourists in a continental tourism destination is 2.1 days, in Požega-Slavonia County 2.3 days, and in the town of Požega 2.1 day. (CBS 2019).

The response to primary research was elicited from 40% of male and 60% of female population. The respondents aged 41 to 50 years made up the majority, 40%, followed by 31 to 40 year-olds with 26%, 15% of respondents aged 51 to 60 years, and 7% of respondents aged 21 to 30 years and 61 to 65 years. Regarding the level of education, 67% of respondents have completed some form of higher education or college, and 33% of respondents have a vocational qualification.

The elements of the integral quality management model were observed at the level of four Strategic Management Plans for Požega-Slavonia County and the city of Požega. The observed elements of the integral quality management of a continental tourism destination are: Long-term Strategic Development Plan for Požega-Slavonia County, Long-term Strategic Development Plan for Požega, Strategic Tourism Development Plan for Požega-Slavonia County and the city of Požega, Marketing Tourism Development Plan for Požega-Slavonia County and the city of Požega, and Environmental Protection Plan for the destination.

Each of these plans is independent from the others, that is, none of the plans can make an individual contribution to the integral model of quality management of a tourism destination. For each of the plans, a desk method was used first in order to determine whether they exist in Požega-Slavonia County, or in the observed destination, the city of Požega. The desk method research has established that in Požega-Slavonia County, as well as in the city of Požega, there exist only legally prescribed strategic development documents. For the purpose of this research, these are County Development Strategy of Požega-Slavonia County 2014-2020, Požega Development Strategy 2015-2020, and Environmental Protection Plan for the destination. This research sought to establish whether the respondents were aware of the existence/non-existence of these strategic documents. In order to investigate the extent of the respondents' awareness of the existence or absence of such strategic development plans, they were provided with four strategic development plans, and asked to evaluate their existence and the level of their implementation. Table 7 shows the respondents' answers to the question of which plans exist in their destination, and whether they are used in managing the quality of the continental tourism destination.

Table 7: *The existence of strategic plans for the development of the city of Požega*

Elements of the integral model of planning	Use	Don't use	I don't know
Long-term Strategic Development Plan for the Destination	60%	10%	30%
Strategic Tourism Development Plan	50%	30%	20%
Marketing Tourism Development Plan for the Destination	50%	30%	20%
Environmental Protection Plan for the Destination	40%	60%	20%

The analysis of the results of the research shown in Table 7 shows that the respondents are not sufficiently familiar with the existence/absence of strategic development documents at the level of the county or at the level of Požega. As many as 50% of the respondents believe that Strategic Tourism Development Plan and Marketing Tourism Development Plan for the Destination exist, and that they are implemented. These responses may indicate that the respondents are familiar with the strategic documents existing at the level of the destination, as well as with their application. Neither of the strategic plans for the destination exist, and 60% of respondents believe Strategic Tourism Development Plan exists, and that it is used in the everyday process of destination management. Environmental Protection Plan is legally prescribed at the destination level, but only 40% of respondents are aware of its existence. These data may suggest that a wider social community was not involved in the development of strategic development documents. When asked to assess the extent to which strategic plans for the development of the destination and environmental protection plans were implemented, the respondents assessed the level of implementation with a very low score of 2.81.

In the process of integral tourism planning and the adoption of crucial developmental decisions, the maximum involvement of local interest groups should be ensured, emphasizing the positive effects that tourism brings to the local community, as well as stimulating the active role of interest groups in protecting and improving the natural and constructed values of a given space. In an in-depth interview with open-ended questions, the interlocutors have emphasized precisely the development of tourism products based on natural and cultural heritage and enogastronomic authenticity. Emphasis has also been put on the development of cycling tourism, hiking, and walking, valorizing for this purpose Papuk Nature Park and the spatial arrangement of the other four mountains and hills. The Ministry of Tourism of the Republic of Croatia has encouraged the development of tourism products of Požega-Slavonia County, but its actions are still insufficient considering the possibilities and the existing potentials, various forms and incentives. The result of these activities are new accommodation capacities, quality improvement, wine cellars, tastings, and other attractive facilities in Požega-Slavonia County and the city of Požega. The entrepreneurs who they are not related to the market function as the main disadvantage. They are considered competition because they are acting individually. The current development of tourism in continental Croatia is largely left to the individual entrepreneurial initiative and scarce sources of funding. As a result, a heterogeneous and atomized tourist offer has developed without a significant recognition on the international tourist map. Continental tourism destinations are forced to innovate and adapt products and services without respecting the indigenous values of a local community from an economic, ecological, and socio-cultural aspect.

It is therefore necessary to develop the forms of management which will encourage networking, communication, and coordination in the common efforts to achieve recognition and raise the quality level. In this sense, along with cycling tourism functioning as a supplement, an eno-gastronomic offer is developing under the joint name "The Taste of Golden Slavonia". It includes ten catering establishments in Požega-Slavonia County, offering at least ten traditional Slavonian autochthonous dishes, at least three types of native indigenous wines, and at least one native autochthonous brandy. The Croatian Tourist Board provided them with significant assistance in the realization of this project, which may be considered an important step in the establishment of the integral quality management of a continental tourism destination, the development of which was not accompanied by strategic documents, but by action plans for the development of tourism products. The plan is to make an Eno-gastronomical guide through Požega-Slavonija County, and to create a multimedia guide for the tourism valorization of Papuk Nature Park and the mountains and hills of Požega-Slavonia County, Psunj, Krndija, Požega Hills, and Dilj.

An issue highlighted in further growth and development of the quality of tourism in Požega-Slavonia County is networking. There was an inadequate degree of networking of business entities in their participation on the tourism market and in the process of developing new and improving the existing tourism products and services.

In order to assess the level of mutual cooperation between key stakeholders in the continental tourism destination, Požega, the respondents assessed the level of mutual cooperation by giving grades from 1 to 5 (1 – a very low level and 5 – a very high level of cooperation). The results are shown in Table 8.

Table 8: *The descriptive statistics of respondents' assessment of mutual cooperation between interest groups on the growth and development of tourism in Požega (1 – exceptionally bad cooperation, 5 – extremely good cooperation)*

Interest group	N	Min.	Max.	Average	Development level
Local Self-Government (Administrative Department for the Economy)	15	1	5	3.71	1.24
Catering companies	15	1	5	3.05	1.25
Tourist Board	15	1	5	3.80	1.14
Travel/tourist agencies	15	1	5	3.09	1.00
Cultural institutions and organizations	15	1	5	4.56	0.98
Sports institutions and organizations	15	1	5	4.44	1.08
Non-governmental organizations (civil associations)	15	1	5	3.39	1.33
Transport companies	15	1	5	3.09	1.06
Utilities	15	1	5	3.65	1.02
Public Order Service	15	2	5	3.51	0.98
Other services	15	1	5	3.14	1.01

Generally, the respondents assessed the level of co-operation of interest groups with an average rating of 3.28, indicating a low level of stakeholder co-operation. The highest average ratings for the co-operation between community interest groups were allocated to *municipal services*, 3.65, and to *cultural institutions and organizations*, 4.56, while the lowest average ratings were given to the level of co-operation *with travel/tourist agencies,* 3.09. The level of cooperation with *transport companies* was also given a low average rating of 3.09.

Collaboration through partnership between different interest groups denotes a loosely connected system of organizations and individuals belonging to different spheres of the public and private sector, cooperating in order to achieve goals unattainable to individuals (Selin, 1999, Feadeeva, 2005). In this loose alliance it is crucial to constructively consider the problem, to discern the differences between the constituents of the alliance, and the advantages and disadvantages which make it possible to find solutions more far-reaching than the ones proposed by individual constituents. It is very difficult to ensure and maintain a coordinated approach among the interest groups in the tourism destination, and there also exists a number of obstacles in the process of ensuring coordination within the tourism sector itself (Bramwell, 2011). Different interest groups have different interests, beliefs and priorities. Given the complexity of this issue, ensuring co-operation and co-ordination of activities among different interest groups presents a special challenge for local government in any tourism destination.

Table 9, presented below, gives the respondents' estimates of obstacles affecting the co-operation between target groups in the destination.

Table 9: *Descriptive statistics of the estimates of obstacles affecting the co-operation between interest groups in the destination (1 – no obstacle, 5 – an exceptionally large obstacle)*

The following constraints have influenced the co-operation between interest groups in the destination:	N	Min	Max	Average	Development level
Differences in the implementation goals of interest groups	15	1	5	3.63	.935
The lack of leader/coordinator at the city level	15	1	5	3.21	1.226
The lack of planning documents on sustainable tourism development	15	1	5	3.00	1.373
The lack of financial resources for the implementation of the tourism development strategy	15	1	5	3.00	1.195
The lack of qualified staff for drafting and implementing action plans	15	1	5	2.79	1.166
The lack of information on the needs and desires of interest groups	15	1	5	3.00	1.155
The lack of information on the needs and wishes of local entrepreneurship	15	1	5	2.95	1.154
The subordination of the general interest to short-term economic gains – profit	15	1	5	3.54	1.120
The resistance to community change	15	1	5	3.33	1.195

The biggest obstacles affecting the cooperation between interest groups in Požega are the following: differences in the implementation objectives of interest groups, amounting to 3.63, the subordination of general interest to short-term economic gains – profit, amounting to 3.54, the resistance to community changes, adding up to 3.33, and the lack of leaders/coordinators at the city level, amounting to 3.21. Destination management needs to make efforts to develop new mechanisms and processes to coordinate the activities of all interest groups in accordance with the elements of a continental destination tourist system. It is crucial that all members of specific interest groups agree on goals, and that they have the same opportunities for achieving them. However, it is also of great importance that they accept their share of responsibility for the development of the destination, having in mind both the today's generations, and the future ones. In order to assess the level of sustainable tourism development in the continental destination, Požega, the respondents rated sustainable tourism development from 1 to 5. The results are shown in Table 10.

__Table 10:__ Descriptive statistics of the assessment of the level of sustainable tourism development in the local community (1 – a very low level, 5 – a very high level)

The element of sustainable tourism development	N	Min	Max	Average	Development level
The preservation of the natural environment of the destination	15	1	5	4.49	1.12
Planning and managing the destination space	15	1	5	3.16	0.90
The preservation of the natural appeal of the destination	15	1	5	4.13	1.00
The preservation of the cultural appeal of the destination	15	2	5	3.61	0.86
The increase in the number of tourist accommodation facilities in the destination	15	1	5	3.70	1.03
Improving the quality of existing accommodation/tourist facilities in the destination	15	1	5	3.12	0.73
The number of parking lots/parking spaces	15	1	5	3.05	0.82
The development and improvement of traffic infrastructure	15	2	5	3.28	0.63
The development and improvement of communal infrastructure	15	2	5	3.21	0.70

Table 10 shows the average ratings given by the respondents based on their own assessment of sustainable tourism development of the destination. The analysis of the ratings has shown that the respondents give a score of 3.53 for the currently achieved level of sustainable tourism development in Požega. The highest average ratings of sustainable tourism development of destinations were assigned to the following variables: the preservation of the natural environment of the destination, amounting to 4.49, the preservation of the natural appeal of the destination, adding up to 4.13, and a somewhat lower grade, 3.61, was given to the preservation of the cultural appeal of the destination. The lowest ratings were given for the number of parking spaces and for the traffic and communal infrastructure of the city of Požega.

Nowadays, manifestations are at the heart of culture more than ever before. There are more and more manifestations in tourism destinations whose design and implementation is conditioned by strategic reasons, above all the economic ones (Getz, 2007). However, the role of manifestations in the offer of a tourism destination is significant also because of their tourist, social, and cultural functions (Getz, 2008), as well as because of their roles in local and regional development (Wood, 2005, Whitford, 2009, O Sulivan, Pickernell and Senyard, 2009). The tourism functions of manifestations are demonstrated in the expansion of the tourism market of a destination (Piporas, 2005), in the extension of the tourists' stay in a destination, the construction of the image of a destination (Jago, Chalip, Brown, Mules and Ali, 2002, Xing and Chalip, 2006), a better promotion of a destination (Schulenkorf, 2010). As an element of attraction and animation in a destination (Derret, 2002), the manifestations also enable the valorization of the local culture, traditions, and customs (Hong, 2010) providing fun and recreation to the participants, as well as social cohesion, cultural, and social progress (Fredline and Faulkner, 2000, Derrett, 2000). As a result, it is certain that the role of manifestations is extremely large because of their significant impact on a destination and its sustainability or competitiveness. Požega Tourist Board, a feature of Požega, highlights a number of events taking place during the year. A calendar of the manifestations held in Požega throughout the year is presented below.

__Table 11:__ The display of events taking place during the year in the city of Požega in 2019

Date	The Event	The type of event	The character of the event
19th January	Vincelovo u Požegi	Touristic	Local
5th March	Children's masquerade	Touristic	Local
10th March	Grgurevo Bike and Hike	Sports	Regional
12th March	Day of the town - Grgurevo	Culture	Regional
1st May	Požeški kotlić	Gastronomic	Regional
25th May	Požega - a healthy town	Ecological	Local
21st June	Ivanjski krijes	Touristic	Local
21st June-1st August	Požega's cultural summer	Culture	Regional
28th-29th June	Kulenijada	Gastronomic	Local
29th August-1st September	Aurea fest	Art	Nacional
30th August	Fišijada	Gastronomic	Regional
9th November	Okusi jeseni u Požegi	Gastronomic	Local
1st December-31st December	Advent in Požega	Touristic	Local
31st December	New Year's Eve	Touristic	Local

Source: The Tourist Board of the city of Požega, 2019

The analysis of the calendar of the manifestations in the city of Požega shows that tourist manifestations of a local character, taking place during the summer, are dominant. There exists a very small number of sports manifestations, and manifestations of a regional character. There are no manifestations of a national character, which could significantly contribute to the expansion of the tourism market of the destination, to the extension of the tourist stay in the destination, and to a better promotion of the destination. The role of manifestations in Požega is significant in terms of its contribution to the expansion of the tourist offer and the increase of quality, with the aim of increasing competitiveness. Požega Tourist Board has not adopted the strategic development plan for manifestations. Event Development Strategy should be integrated into Development Strategy, together with the involvement of all relevant stakeholders.

4. Conclusion

In order to fully ensure the positive effects of tourism development and its maximization, it is necessary to provide the integral quality management system of a continental tourism destination in accordance with the principles of sustainable tourism development so as to raise the quality of a tourism product. The quality of a tourism product, often represented by the very destination, denotes its competitiveness. Numerous studies have shown that destinations which base their strategic consideration of tourism development on the principles of sustainable development are considered more competitive. Continental tourism destinations manage their tourism development in different ways, often without deliberation, partially, and very rarely on the basis of sustainable development principles integrated into strategic documents. In order to establish the integral quality management of a continental tourism destination in accordance with sustainable development principles, it is desirable to include a wider social community so as to harmonize different development goals. The quality management of a tourism product of a continental destination is complex because it includes a fragmented tourist offer. Participants who do not possess the appropriate experience, knowledge, and skills take part in the development of a quality tourism product. Entrepreneurial initiative providers are often perceived as competition, they are not interconnected, they do not cooperate, and they often lack the adequate support from the public sector. The lack of financial resources for a more significant strategic approach to development and for the elaboration of marketing activities is also evident. If the integral quality management of a continental tourism destination such as Požega-Slavonia County or Požega is expected and supported, it is necessary to create tourism and spatial development goals resulting from the vision and mission of many stakeholders in the planning process of a destination.

The links between the goals of a continental tourism destination and business entities in a destination are effectively established through strategic development plans that should enable the establishment of appropriate, acceptable forms of tourism; the development of infrastructure; the establishment of new development programs; spatially balanced development; the increase of economic effects; the increase of the quality of life of the local population. Public local government in cooperation with regional government has a key role and is considered most appropriate for coordination in the process of establishing the integral quality management model according to the principles of sustainable development. Values defined at local and regional level should be the focus of integral quality management according to the principles of sustainable tourism development.

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DIFFERENCES IN PERCEIVED CAMPSITE AND DESTINATION QUALITY: MANAGERS VS. GUESTS

ABSTRACT

Croatian tourism is strategically focused on increasing overall service quality. In this process, improving the quality of campsites has a crucial role.

Being a complex category, quality today is about providing the best possible service and exceeding guest expectations. The quality of tourist destinations is vitally linked to the satisfaction of guests in a destination, which is the result of service quality in accommodation facilities, including service quality in campsites.

This paper investigates how campsite guests and campsite managers perceive the quality elements of campsites as important type of accommodation in the destination. Based on research results, the paper presents additional guidelines for managers to ensure the continuous monitoring and improvement of quality of campsites and tourist destinations.

The paper also explores whether there is a statistically significant difference between the perceptions of campsite managers and campsite guests with regard to campsite and destination quality. To this end, an independent samples t-test was conducted on the original data.

Key words: *service quality*, *campsite quality, quality of destination, perception*

1. Concept and dimensions/elements of quality

Service quality can be defined as "the customer's assessment of the overall excellence or superiority of the service" (Zeithaml, 1988, 3). Determinants of service quality are: tangibles, reliability, responsiveness and assurance (Berry, Parasuraman and Zeithaml, 1988).

Quality is "the consumer's overall impression of the relative inferiority/superiority of the organisation and its services" (Bitner and Hubbert, 1994, 77) and is considered to be one of the management's topmost competitive priorities and a prerequisite for the sustenance and growth of firms. The quest for quality improvement has become a highly desired objective in today's intensively competitive markets (Sureshchandar et al., 2002; Johnes et al., 2004). However, it is apparent that service quality evaluations are highly complex processes that may operate at several levels of abstraction (Carman, 1990). Every new investigation reflects this complexity and the hierarchical nature of the construct.

The above-quoted definitions of quality indicate that the aim is to ensure customer satisfaction through quality. Some authors, however, deem that it is no longer sufficient to merely meet the requirements of a customer, but that it is necessary to also delight the customer. Thus, for instance, quality is "the ability of a product or services to continually fulfil, or even surpass the customer's expectations" (Stevenson, 1993, 96). W.J. Schroeder similarly believes that quality means "to fulfil or surpass customers' requests now and in the future" (Schroeder, 2000, 31).

Empirical studies have proved that perceived service quality should rather be considered as the evaluation of a particular service, not as a gap between the performance of service providers and some kind of norms or expectations (Suuroja, 2003). There has been little debate on the negative aspects of quality (dissatisfaction, dissonance, disconfirmation and disaffection). This framework can be used to better understand the relationship between the various approaches that are used to provide organisations with feedback on customers' perceptions of their service quality, such as complaints procedures, surveys, suggestion boxes, focus groups and representation and consultation (Dawes and Rowley, 1999; Brady and Cronin, 2001).

According to Brady and Cronin (2001), qualitative research is used to identify the sub-dimensions customers consider when evaluating the quality of the interaction, physical environment, and outcome dimensions of a service experience. The findings indicate that the valence of the service outcome can have an effect on overall perceptions of service quality and indicate that the importance of the dimensions may vary depending on industry characteristics. Service quality is reflected in every detail, both through the decoration and equipment of the facility, staff expertise and their attitude towards guests.

1.1. Destination quality

Tourists/guests are becoming increasingly discerning and more and more focused on having their expectations met. This has impacted the need and importance of developing destination quality-oriented approaches. The destination quality management approach was developed taking into account the PDCA concept (Plan, Do, Check, Act) which is the basis of TQM. The primary role of integrated destination management is to bring together and coordinate different interests to design and deliver the optimal quality of a destination's tourism product (Bartoluci and Čavlek, 2011, 402). IQM integrates all stakeholders who are directly or indirectly involved in designing the quality and content of a tourism product at the tourist destination level. “The key elements of the IQM approach are (European Commission, 2000, 10):

- A focus on visitors to improve the quality of what is provided to them, satisfy their needs and influence their activities, so they will revisit the destination or recommend it to others.
- The involvement in the management of the destination of local people and local tourism enterprises, as participants in and customers of the management process.”

Tourist destination quality hinges on a number of elements affecting guest satisfaction, ranging from the guests’ pre-arrival perception and their stay in the destination to their post-stay experience. Hence, a destination quality management approach involves various stakeholders and takes into account the satisfaction of tourists, the satisfaction of the local tourism industry, the quality of life of residents and the quality of the environment. Because the satisfaction of tourists with their stay in a destination is affected by a variety of factors such as friendliness and hospitality and the destination’s offering, safety, cleanliness and infrastructure, an integrated approach is needed to manage quality in the destination. All elements in the tourism value chain have to be taken into account: pre-visit image/messages, pre-visit information, making bookings, journey to the destination, initial welcome, information in the destination, places to stay, places to go, attractions and amenities, infrastructure and environment, farewell and return journey, and after-visit contact and memories (European Commission, 2000, 11). In order to measure and monitor the quality performance of a destination over time, an integrated tool, QUALITEST, was developed (European Commission, 2005, 5). “The QUALITEST tool was developed using the life cycle of a typical holiday experience” (European Commission, 2005, 7). During a study, ten destinations ranked the ten sectors in their local tourism industry, considered as being the most important for the quality of tourism in the destination. Results show that “Hotels” and “Transport” are the most important sectors, with “Campsites” ranked seventh.

Table 1: *Ranking of sectors by importance to the quality of tourism in destinations*

Rank	Sector
1	Hotels
2	Transport
3	Eating and drinking
4	Commercial tourist attractions
5	Sporting & recreational activities
6	Non-serviced accommodation
7	**Campsites**
8	Retail
9	Serviced accommodation
10	Rented rooms

Source: European Commission (2005): ***A manual for evaluating the quality performance of tourist destinations and services***, Office for Official Publications of the European Communities, Luxembourg.

1.2. ADAC campsite quality rating system

The quality of campsites in Europe is monitored through national categorisation systems that differ from one another and are not comparable. A uniform campsite categorisation system does not exist at the European level. The German automobile club ADAC conducts the most systematic research of quality in campsites in Europe, Croatia included, and publishes the results in its annual Camping Guide. A comparison of results in 2011 and 2018 indicates significant improvements in ratings of overall and individual quality.

Table 2. Comparison of average scores in the 2011 ADAC Camping Guide, by country

	Total	Sanitary facilities	Pitches	Shops	Recreation	Swimming
1	The Netherlands 3.16	The Netherlands 2.93	The Netherlands 3.52	Spain 3.13	The Netherlands 2.81	The Netherlands 3.5
2	France 2.53	Austria 2.89	France 3.12	The Netherlands 3.05	**Croatia 2.39**	France 2.27
3	**Croatia 2.5**	Germany 2.76	G. Britain 2.92	Italy 3.01	France 2.32	Italy 2.16
4	Italy 2.37	Denmark 2.71	Denmark 2.82	**Croatia 2.91**	Denmark 2.21	**Croatia 1.71**
5	Spain 2.3	France 2.59	Austria 2.74	Portugal 2.79	Italy 2.12	Spain 1.05
6	Denmark 2.14	G. Britain 2.48	**Croatia 2.68**	Greece 2.73	Finland 1.99	Austria 0.83
7	Austria 2.04	**Croatia 2.36**	Germany 2.66	France 2.35	Sweden 1.93	Germany 0.83
8	Germany 1.99	Switzerland 2.27	Spain 2.62	Denmark 2.23	Austria 1.91	Hungary 0.8

	Total	Sanitary facilities	Pitches	Shops	Recreation	Swimming
9	Sweden 1.77	Italy 2.17	Sweden 2.7 2.57	Switzerland 2.19	Hungary 1.73	Denmark 0.74
10	G. Britain 1.71	Spain 2.13	Ireland 2.44	Sweden 2.09	Germany 1.7	Switzerland 0.51

Source: Compiled after ADAC Camping & Caravaning Führer, (2011). ADAC Verlag München

In the above table, the results of rating, ranging from 1 to 5 stars, show that Croatian campsites were ranked third with regard to total quality. Seventh place for the quality of sanitary facilities and sixth place for the quality of pitches, however, indicated challenges for further improvement, considering that these are the most important elements of quality in campsites.

The ratings of Croatian campsite quality are considerably higher in the 2019 ADAC Camping Guide. Despite the fact that the rating system has changed, with quality now being measured on a scale of 1 to 10 points, it is possible to make a comparison with the 2011 results.

Table 3: *Comparison of average scores in the 2018 ADAC Camping Guide, by country*

	Total	Sanitary facilities	Pitches	Shops	Recreation	Swimming
1	The Netherlands 6.74	Austria 7.76	The Netherlands 8.18	**Croatia 5.54**	The Netherlands 5.17	Italy 4.81
2	**Croatia 6.31**	The Netherlands 7.64	Belgium 7.29	Spain 5.28	Belgium 4.01	Spain 4.71
3	France 6.06	**Croatia 7.49**	**Croatia 7.27**	The Netherlands 5.16	France 3.71	France 4.55
4	Belgium 5.92	Germany 7.42	France 7.18	Italy 5	**Croatia 3.43**	**Croatia 4.12**
5	Italy 5.81	Belgium 7.25	Denmark 7.11	France 3.85	Italy 3.18	The Netherlands 3.8
6	Austria 5.71	France 7.11	Austria 7.01	Belgium 3.8	Spain 3.03	Europa 2.98
7	Spain 5.7	Denmark 6.95	Germany 6.86	Europa 3.63	Denmark 2.82	Belgium 2.53
8	Germany 5.52	Switzerland 6.87	Sweden 6.68	Switzerland 3.57	Europe 2.64	Sweden 2.23
9	Europe 5.46	Europe 6.82	Europe 6.67	Germany 3.31	Sweden 2.46	Denmark 2.13
10	Denmark 5.41	Italy 6.72	Italy 6.52	Sweden 3.28	Austria 2.33	Austria 2.03

Source: Compiled after ADAC Camping& Caravaning Führer (2019). ADAC Verlag München, It is evident that the overall quality of campsites in Croatia has increased, with Croatian campsites holding second place in 2018 compared with third place in 2011. The ratings of the quality of individual elements have also improved. For example, for the quality of sanitary facilities Croatia was ranked seventh in 2011 but third in 2018. There have also been improvements to the quality of pitches (up to third place in 2018, from sixth place in 2011) and the quality of shops (Croatia in first place in 2018, but in fourth place in 2011). With regard to the quality of recreational services (leisure), however, Croatia dropped from second place in 2011 to fourth place in 2018, while changes were made to the rating criteria in the category "Animation".

2. Research methodology and results

To accomplish the objectives of research, a survey was conducted that focused on the elements of campsite quality and the elements of tourist destination quality. For the needs of empirical research, structured questionnaires were designed and adjusted to the respondents: 120 managers and 130 guests in campsites on the Croatian Adriatic coast.

This paper uses the results of processing four sets of questions posed to campsite managers and two sets of questions posed to campsite guests. The respondents were asked to evaluate the importance of the elements (characteristics/dimensions) of campsite quality and tourist destination quality using a Likert scale (1- extremely unimportant, 5 – extremely important). Data regarding camping experts were collected by the survey method in October 2017 and data regarding campsite guests, by field and online surveys from June to September 2018. The data were analysed using methods of descriptive and inferential statistics and were processed by the IBM SPSS Statistics 23 software.

A survey among managers/camping experts of Croatian campsites (mostly in Istria; 40.0% and the Kvarner region; 27.5%) and guests in campsites on the Croatian Adriatic coast was conducted by field and online surveys in the period from 25 July 2018 to 15 October 2018.

To determine whether any differences exist in the perceptions of guests and campsite managers, the respondents were asked to rate the importance they attribute to certain elements of campsite quality and elements of tourist destination quality. Results expressed as average scores given by the two groups of respondents are presented below.

Table 1: Perceived importance of campsite quality elements

No.	Element of campsite quality	MANAGERS		GUESTS	
		MEAN	SD	MEAN	SD
1	Exterior area/landscaping of campsites (horticulture, roads, scenic overlooks, park grounds, walkways)	**4.62**	.712	**4.04**	1.039
2	Peace, relaxation, intimacy, laidback atmosphere of the campsite	**4.56**	.765	**4.09**	1.070
3	Swimming facilities in the campsite	**4.41**	.804	**4.20**	1.000
4	Auxiliary facilities/services in the campsite (animation and others)	**4.41**	.692	**3.95**	1.131
5	Opportunities for outdoor activities in the campsite	**4.23**	.707	**3.47**	1.172
6	Wellness and spa facilities/services in the campsite	**3.83**	1.157	**2.79**	1.357

Source: Author's research

The results of the conducted research show that the importance scores given by campsite managers to all campsite quality elements are higher than those given by campsite guests, indicating differences in how the importance of individual quality elements is perceived. For example, managers consider the exterior area/landscaping of a campsite as being of the utmost importance, whereas the most important element for guests is the swimming facilities in a campsite. The second most important element for managers and guests alike is “Peace, relaxation, intimacy, laidback atmosphere of the campsite”. “Exterior area/landscaping of campsites” is the third most important element to guests. The elements “Swimming facilities in the campsite” and “Auxiliary facilities/services in the campsite” are of equal importance to managers, while guests find the quality of “Swimming facilities in the campsite” to be considerably more important than the quality of “Auxiliary facilities/services in the campsite”. The ranking by importance of the elements “Opportunities for outdoor activities” and “Wellness and spa facilities/services” is the same for managers and guests.

The results of this study coincide with previous research demonstrating which factor is of crucial importance for guests in choosing a campsite, that is, what first comes to a guest's mind when selecting a campsite. For 36.4% of respondents, this is the overall quality of the campsite; for 32.7%, the immediate destination, and for only 21.4%, the country (Cvelić-Bonifačić, 2012).

Special focus was placed on exploring which quality elements can help a campsite gain a competitive advantage. Results show that guests gave the highest scores to the quality of beaches and swimming, followed by the elements of safety, friendly staff and relaxation, peace and quiet.

***Table 2:** Importance of campsite quality elements as perceived by guests and managers (t-test)*

No.	Variable	t-value	df	p
v1	Exterior area/landscaping of campsites (horticulture, roads, scenic overlooks, park grounds, walkways)	-4.933	194.756	**.000**
v2	Swimming facilities in the campsite	-1.700	190.951	.091
v3	Wellness and spa facilities/services in the campsite	-6.011	193.468	**.000**
v4	Opportunities for outdoor activities in the campsite	-5.647	154.187	**.000**
v5	Peace, relaxation, intimacy, laidback atmosphere of the campsite	-3.646	172.746	**.000**
v6	Auxiliary facilities/services in the campsite (animation and others)	-3.509	151.715	**.001**

Source: Author's research

As mentioned earlier, managers, relative to guests, attach greater importance to the listed elements of campsite quality. As confirmed by the t-test (v1, v3, v4, v5, v6, $p < 0.05$), statistically significant differences are present in all variables with the exception of "Swimming facilities in the campsite".

The study then focused on how the importance of destination quality elements was rated by campsite guests and managers. Results are presented in Table 6.

***Table 3:** Perceived importance of destination quality elements*

No.	Element of destination quality	MANAGERS		GUESTS	
		MEAN	SD	MEAN	SD
1	Preserved nature in the destination	**4.68**	.550	**4.27**	1.033
2	Accommodation facilities in the destination	**4.18**	.914	**3.68**	.920
3	Gastronomic offering of the destination	**4.35**	.827	**3.55**	1.081
4	Shopping in the destination	**3.73**	1.019	**2.95**	1.222
5	Cultural and historical offering in the destination	**4.27**	.719	**3.21**	1.127
6	Municipal infrastructure in the destination	**4.14**	.990	**3.61**	1.058
7	Accessibility and transport in the destination	**4.09**	1.123	**3.64**	1.120
8	Friendliness and hospitality in the destination	**4.71**	.456	**4.69**	.800

Source: Author's research

The results concerning destination quality elements indicate that there are differences in the two respondent groups' perceptions. Compared with guests, managers attribute greater importance to certain elements of quality. Both guests and managers are in agreement, however, that the most important element of destination quality is "Friendliness and hospitality in the destination", followed by "Preserved nature in the destination", in second place.

In third place is "Gastronomic offering of the destination" according to managers and "Accommodation facilities in the destination" according to guests. Other differences are evident as well. "Accessibility and transport in the destination" is in fourth place for guests and "Accommodation facilities in the destination", for managers. "Municipal infrastructure in the destination" is the fifth most important quality element for guests and "Cultural and historical offering in the destination", for managers. Managers and guests alike attach the least importance to "Shopping in the destination".

Table 4: *Perception of destination quality elements by guests and managers (t-test)*

No.	Variable	t-value	df	p
v1	Preserved nature in the destination	-3.761	161.030	**.000**
v2	Accommodation facilities in the destination	-3.989	218	**.000**
v3	Gastronomic offering of the destination	-6.082	180.700	**.000**
v4	Shopping in the destination	-5.170	216	**.000**
v5	Cultural and historical offering in the destination	-8.055	159.931	**.000**
v6	Municipal infrastructure in the destination	-3.839	203.350	**.000**
v7	Accessibility and transport in the destination	-2.990	217	**.003**
v8	Friendliness and hospitality in the destination	-.148	141.289	.883

Source: Author's research

The above established differences in the perceived importance of individual destination quality elements are statistically significant with regard to all analysed elements (variables) as confirmed by the conducted t-test ($p<0.05$), with the exception of "Friendliness and hospitality in the destination" which received a high score from both managers (4.71) and guests (4.69).

3. Conclusion

A vital element in tourist destination development, quality rests on the key sectors of a destination. One such sector includes campsites as accommodation facilities. Aimed at promoting campsite quality elements that are central to enhancing destination quality, this paper examines managers' and guests' perceptions of destination quality and campsite quality.

Managers perceive the importance of campsite and destination elements and attach greater importance to quality elements. In the future, however, managers will need to focus more on the quality elements that are important to campsite guests and adjust to them accordingly.

Research results point to a number of disparities but also to some interesting similarities. With regard to the scores given to campsite quality elements, it is evident that managers perceive quality elements as being considerably more important than guests do. The disparities are particularly obvious in the ranking by importance of the individual elements. For example, the most important campsite quality element for guests is "Swimming facilities" and for managers "Exterior area/landscaping of campsites". Ranked second in importance by both managers and guests is "Peace and relaxation in the campsite". The elements in third place in the ranking are completely different for guests and managers: for guests it is "Exterior area/landscaping of campsites" and for managers, "Swimming facilities" and "Auxiliary facilities/services in the campsite". The conducted t-test points to statistically significant differences in scores for all campsite quality elements, with the exception of “Swimming facilities in the campsite”.

The results of research concerning the perception of destination quality elements show more similarities. The same elements are in first and second place of the rankings by managers and guests. Both groups agree that “Friendliness and hospitality in the destination” is the most important quality element in the destination and “Preserved nature in the destination”, the second most important. Differences emerge in the perception of other quality elements: ranked third in importance by guests is “Accommodation facilities in the destination” and by managers, “Gastronomic offering of the destination” (which is ranked sixth by guests). Both managers and guests agree that “Shopping” is the lowest ranked element of destination quality. Although some elements have the same ranking, managers attach greater importance to destination quality elements than guests do, as confirmed by t-test for all elements, with the exception of “Friendliness and hospitality”.

Research on the perception of elements of campsite quality and destination quality reveals that campsite and destination quality is a challenging field that requires further studies which should include campsite guests staying in various types of accommodation facilities to expand knowledge on campers’ perceptions.

The results of this study point to significant differences in the perception of quality, suggesting that managers need to continuously monitor campsite guests’ evaluation and perceived importance of quality elements to ensure and enhance quality pursuant to the opinions of campsite guests. The study also suggests there are numerous challenges in understanding the guests’ perception and in seeking appropriate responses and well-designed solutions that will help meet guest expectations.

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DOMESTIC TOURISTS AS SEGMENT OF DESTINATION IDENTITY

ABSTRACT

Tourism is one of the most important sources of income in many countries, and the development of a tourist destination has become a multidisciplinary issue, which is viewed from different perspectives, as well as by different target groups. On the example of Croatia, it is possible to conclude that domestic tourists are recognized as an important segment of tourist demand and destination identity. In addition to functional information on previous journeys, for the successful development of tourist destinations in relation to the target group of domestic tourists, it is extremely important to understand the attitudes, motives and expectations of domestic tourists from tourist destinations. With this aim of the paper, on the example of domestic tourists in Croatia, we will analyse expectations, motives, travel attitudes as a basis for managing the pleasure of domestic tourists and building destination identity starting with domestic tourists. For the purpose of this scientific work, we will use secondary data on the attitudes of domestic tourists for 2017, on a representative sample of 4,000 respondents aged between 15 and 65 years. In addition to descriptive analysis, we will conduct segmentation within a group of domestic tourists (segments profiled with motives and expectations), described by socio-demographic variables.

***Key words**: Domestic tourists, Development of tourist destinations, Travel attitudes, motives and preferences*

1. Introduction

In this paper, the issue of defining the terms of tourism, tourist destinations and the expectations of domestic tourists is discussed, in order to be clearly expressed. The aim of the paper is to further understand attitudes, motives and expectations of domestic tourists from a particular tourist destination in order to achieve a more successful development of that destination, having in mind domestic tourist as the basis of destination identity, being not only tourists but country inhabitants as well, part of national identity.

Based on the example of domestic Croatian tourists, the paper analyses expectations, motives and attitudes on travel as a basis to manage and improve the satisfaction of domestic tourists, to expand previously acquired knowledge, and finally to present objective reality of the explored topic.

The paper consists of two key sections, with one being theoretical and the other research-focused. The theoretical part, along with the introduction, which defines the aim and the purpose of the paper, also includes the method of research, general information on tourist resources, offer and demand in Croatia, profiling of domestic tourists, and development of the potential of tourist destinations based on the analysis of domestic tourists.

The research-focused section of the paper discusses attitudes and preferences of domestic tourists. The data on attitudes of domestic tourists acquired for this research was provided by the IPSOS agency for 2017, on a representative sample of 4,000 respondents between the ages of 15 and 65 years. Segmentation within the group of domestic tourists was conducted based on an 18-statement scale. Along with the descriptive analysis, profiling of segments according to motives and expectations described by socio-demographic variables was carried out. The derived conclusions of the research-based section are expressed at the end of the paper along with the proposed methods to further develop particular tourist destinations according to attitudes and preferences of domestic tourists.

2. Research methods

Appropriate scientific methods were used in the paper in order to achieve a high-quality analysis of the defined subject and to further the knowledge on the explored topic. The paper discusses theoretical issues; therefore, the dominant method of research is the study of professional and scientific literature on tourism. Additionally, analysis of attitudes, motives and expectations of domestic tourists in regard to the tourist destination was conducted. Descriptive statistics were used to summarize a given data set. As mentioned, segmentation of domestic tourists based on an 18-statement scale was conducted.

3. Tourist offer and demand of the Republic of Croatia

Croatia bases its tourism services on cultural heritage and natural resources, with the tourist offer being the richest and most diverse in summer. In order to lengthen the tourist season and attract new tourists, it is crucial to invest in high quality and interesting tourist attractions as an additional value intended for tourists. The Tourism Development Strategy of the Republic of Croatia until 2020, which was adopted by the Croatian Parliament and published in the official gazette of the Republic of Croatia Narodne novine in 2013, separates tourism products into dominant products and products with a pronounced perspective of development. As published by Narodne novine (2013), dominant products of Croatian tourism are: the sun and the sea (which make 85% of total tourist products), nautical tourism, cultural tourism and business tourism; while medical tourism, cyclo-tourism, gastronomy and oenology, rural and mountain tourism, golf tourism, adventure tourism and sport tourism, and lastly, ecotourism are defined as products with a pronounced perspective of development.

According to the Croatian Ministry of Tourism, Croatia has eight national parks (Brijuni, Krka, Kornati, Mljet, Paklenica, Plitvička jezera, Risnjak, Sjeverni Velebit), with the national park Plitvička jezera receiving the most visitors, reaching 1,720,331 visitors in 2017. All national parks, with the exception of Brijuni, are becoming increasingly more popular tourist destinations each year. In the future, attention should be devoted to this fact and tourist quotas lowered in order to avoid possible negative externalities.

Croatia has 408 protected natural areas, which are spread throughout all statistical areas, namely, Adriatic, Northwest and Pannonian Croatia. The largest share in total accommodation is held by private rooms with 61.4%, followed by camps and resorts with a share of 20% in total accommodation capacity. Hotels and aparthotels failed to increase their capacities as shown by a visible decrease of 1.1% in the analysed period. According to data of the Croatian Ministry of Tourism (2018), the total number of accommodation units reached 7,946 in 2017, with the largest share, namely 82.4%, offered by other accommodation capacities, followed by hotels and aparthotels with 721 accommodation units. An increase of 3% in the structure of hotel categorisation was recorded between 2016 and 2017, in which three-star hotels increased their categorisation through investment. Despite the fact that increase in categorisation accurately illustrates the effect of investing in tourism, it also increases the pricing of accommodation, causing Croatia to become an increasingly expensive tourist destination.

Istria County has 306,040 beds in its tourist offer, which makes it the leading county in the total number of beds, followed by Split-Dalmatia County with 263,597 available beds. Among the counties with the least number of beds are Požega-Slavonia County with 596 beds and Virovitica-Podravina County with 705 beds. The City of Zagreb is separated from Zagreb County as the capital of the Republic of Croatia and has 16,059 available beds.

3.1. Proportion of domestic tourists

The domestic tourist is "the resident of a concrete country, who travels to another destination within the borders of their country, but outside of their usual surroundings in the period of at least one overnight stay to at most six months, with the purpose of visit whose aim is not to realise any type of paid activity" (Smith, 1995:24). In 2017, there were 17.4 million tourist arrivals and 86.2 million tourist nights recorded in tourist accommodation establishments in Croatia. In 2017, as compared to 2016, arrivals increased by 13% and nights by 11%. Concerning the structure of total tourist arrivals, the share of foreign tourist arrivals was 89% and of domestic ones 11%. In 2017, as compared to 2016, the number of domestic tourist arrivals increased by 5% and of foreign ones by 14%. Concerning the structure of total tourist nights, foreign tourists accounted for 93% and domestic tourists for 7% of tourist nights. In 2017, as compared to 2016, the number of domestic tourist nights increased by 3% and of foreign ones by 11%.

Table 1: *Domestic tourist nights from 2013 to 2017 (in 000)*

	2013		2014		2015		2016		2017	
	Total	Domestic	Total	Domestic	Total	Domestic	Total	Domestic	Total	Domestic
Total	Nights	Nights	Nights	Nights	Nights	Nights	Nights	Nights	Nights	Nights
	64,617,349	5,094,822	66,269,931	5,116,411	71,437,476	5,705,007	77,918,855	5,819,465	86,200,261	5,978,264

Source: https://www.dzs.hr/Hrv_Eng/publication/2017/04-03-02_01_2017.htm (accessed on June 16, 2018)

From the beginning of the observed period to the year 2017, the number of domestic tourists has been increasing, which is the result of an increase in personal income and an improved economic situation.

According to data published in Statistical Yearbook of the Republic of Croatia 2017 by DZS (Croatian Bureau of Statistics) (2017), domestic tourists have made the most overnight stays in Primorje-Gorski Kotar County, totalling 1,919,326 overnight stays, followed by Split-Dalmatia County and Istria County. The largest number of travels within Croatia with one or more overnight stays was made by citizens of the City of Zagreb, while the smallest number of travels was made from Virovitica-Podravina County. Tourists from the area of the City of Zagreb have spent HRK 950,790,451 on tourist expenses in 2016.

Table 2: *Age structure of domestic tourists in 2016 (in 000)*

	2016								
	Private								
	Travels			Nights			Outlay		
	Croatia			Croatia			Croatia		
Age	Total	1-3 nights	4 and more nights	Total	1-3 nights	4 and more nights	Total	1-3 nights	4 and more nights
15-29	674,210	404,485	269,725	4,114,445	814,873	3,299,572	823,353,736	308,903,768	514,449,968
30-49	1,024,337	495,166	529,172	6,305,446	960,000	5,345,446	1,419,175,060	411,282,879	1,007,892,181
50 and more	847,728	419,066	428,662	6,372,413	825,728	5,546,685	904,176,966	239,829,985	664,346,981

Source: authors customized the data available on https://www.dzs.hr/ (accessed on June 16, 2018)

According to the Croatian Ministry of Tourism (2018), from the total number of domestic tourists, men aged 35 to 44 and women aged 25 to 34 travelled the most. The largest number of overnight stays was made by men and women aged between 35 and 44. According to the available data from the Croatia Bureau of Statistics (2018), in most cases Croatians travel within Croatia by car or bus, while travelling by train or airplane is less represented. A fact to note is that domestic tourists mostly stay in their own vacation houses or with their family and friends, while boats or accommodation in rural households are used in the lowest number of cases.

Table 3: *Selection of destinations of domestic tourists in 2016 (in 000)*

	2016								
	Private								
	Travels			Nights			Outlay		
	Croatia			Croatia			Croatia		
	Total	1-3 nights	4 and more nights	Total	1-3 nights	4 and more nights	Total	1-3 nights	4 and more nights
City	840,518	433,905	406,613	5,495,875	896,552	4,599,324	1,162,007,091	391,821,005	770,186,086
Sea	973,290	260,374	712,915	9,395,685	576,376	8,819,309	1,576,631,589	210,743,816	1,365,887,773
Nature in the countryside	141,613	90,391	51,222	641,446	157,286	484,160	170,053,511	57,244,930	112,808,581
Cruise ship cruise	-	-	-	-	-	-	-	-	-
Mountains	11,227	8,246	2,981	49,409	10,132	39,277	8,372,878	2,308,659	6,064,219
Other	1,446,896	939,399	507,498	7,492,760	1,821,862	5,670,898	1,402,293,695	631,194,167	771,099,528

Source: authors customized the data available on https://www.dzs.hr/ (accessed on June 16, 2018)

The largest expenses of domestic tourists are recorded on the Croatian coast and in Adriatic Croatia, which is the result of an increase in prices of goods and services during the tourist season. Most expenses for housing over the course of 1 to 3 overnight stays are spent while staying with family or friends, followed by expenses on hotels, tourist settlements, motels, boarding houses and the like. On trips involving 4 and more overnight stays, the most accommodation-related expenses are spent on rooms, apartments and vacation houses and the least amount is spent on bungalows and other types of paid accommodation, excluding boats and rural households. In addition, it is important to note that domestic tourists have a habit of staying in tourist accommodation with most overnight stays being made in apartments, rooms, vacation houses and hotels.

Table 4: *Domestic tourist nights by type of accommodation in 2016 (in 000)*

	2012	2013	2014	2015	2016
	Domestic tourist nights				
Total	5221	5138	5160	5743	5857
Hotels	1923	1873	1829	1984	2043
Tourist resorts	183	179	179	208	203
Tourist apartments	76	51	47	52	47
Boarding houses	60	65	50	56	94
Guest house	16	24	7	6	4
Rooms to let, apartments, studio apartments, holiday homes	1846	1846	1969	2302	2359
Hostels	176	206	220	262	300
Spa	115	115	132	119	85
Lodge	79	65	78	80	70
Children resorts	192	137	85	81	80
Inns offering accommodation services	8	10	14	2	3
Camps	410	446	421	480	446
Other	138	122	130	111	123

Source: authors customized the data available on https://www.dzs.hr/ (accessed on June 16, 2018)

When it comes to choice of destination, the main destinations domestic tourists choose are the seaside, urban areas, and other destinations. In urban areas, domestic tourists mostly stay from 1 to 3 nights, totalling 5,495,875 overnight stays, according to the Croatian Bureau of Statistics. Most domestic tourists stay 4 and more nights at the seaside, totalling 9,395,685 overnight stays. Expenses spent in a specific destination depend on the length of the trip and the variety of the tourist offer. On trips involving 1 to 3 overnight stays, tourists spend the most money in urban areas (HRK 391,821,005), while on trips involving 4 and more overnight stays the most money is spent at the seaside (HRK 1,365,887,773). According to data from the Institute for Tourism (2017), overnight stays of domestic tourists make up 7.5% of the total number of overnight stays, with domestic tourists realising 3.3 overnight stays on average.

4. Study of attitudes, motives and preferences of domestic tourists

For the purposes of this study, data on attitudes of domestic tourists collected in continuous, syndicated study by IPSOS, named BRANDPLUS, for 2017, on a representative sample of 4,000 subjects aged 15 to 65, was acquired from the IPSOS agency. Segmentation within the group of domestic tourists was conducted based on an 18-statement scale. Along with the descriptive analysis, profiling of segments according to motives and expectations described by socio-demographic variables was carried out.

4.1. Purpose of the study

The aim of this study is to comprehend attitudes, motives and preferences of domestic tourists and determine their function in the creation and development of tourist destinations in the Republic of Croatia. For the purposes of this paper, the territory of the Republic of Croatia is divided into three regions, namely, Adriatic Croatia, Northwest Croatia and Pannonian Croatia, which represent separate tourist destinations.

The research project by IPSOS agency, focused on brand tracking in Croatia, also collects attitudes on tourism in the local population as additional descriptive variables. It is conducted in the field, utilising the CAPI method, two times per year (one wave 2,000 sample units). As the goal of this paper is to analyse attitudes of domestic tourists on a representative sample, a set of variables related to attitudes and preferences in tourism, along with socio-demographic variables, was selected from the much wider nationally representative BRANDPLUS study. Hence, the aforementioned variables can be considered a secondary source of data, as the primary purpose of their collection was different. However, the raw data used in the study was further analysed according to the purpose stated in this paper.

The BRANDPLUS study uses attitudes on vacation and socio-demographic variables, such as gender, age, region, type of settlement, level of education, occupation and income of subjects. Attitudes on vacation represent variables on the preferences and motives of domestic tourists. Variables referring to attitudes of domestic tourists with respect to vacation are:

1. A good night out is the best way to spend a vacation in my opinion.
2. I shall endeavour to visit a good cultural manifestation or exhibition on my vacation.
3. While on vacation, I enjoy beautiful natural landscapes the most.
4. While on vacation, I visit cultural landmarks with increased interest.
5. I like to visit night clubs or disco clubs while on vacation.
6. Using the wellness treatment is the best part of vacation in my opinion.
7. The most important part of my vacation is getting a good night's sleep.
8. I expect my vacation destination to provide entertainment options for the entire family.
9. Vacation is the best opportunity to spend time with family members.
10. While I am on vacation, I only want to be lying down.
11. Vacation without contact with pristine, true nature is not a real vacation for me.
12. Vacation is the only opportunity for me to spend time with my family.
13. It is important to me to spend my vacation in a place with beautiful nature.
14. It is important to me to learn more about the history of the place where I am spending my vacation.
15. During my vacation I endeavour to spend my time on unbridled fun and good times.
16. My ideal vacation is the one spent in a well-equipped spa.
17. For my vacation I choose destinations which offer special health programmes.
18. I want to spend my vacation in completely serene surroundings.

For destination development, which starts with understanding destination identity, creation of tourist offer according to the tourists preferences is a “must” process.

The aforementioned study has enabled comprehension of the inhabitants of Croatia from the perspective of the domestic tourist and has given general answers how one should relate to the domestic tourist, which types of content to develop and in what ratio, all to put the domestic tourist in the function of tourist destination identity development in Croatia.

4.2. Description of sample

In addition to the fact that the sample analysed in this paper is large (n=4.000 respondents), it is also representative for the population aged from 15 to 65 controlled and weighted by multiple variables (gender, age, county, type of settlement) according to the latest census of population.

Graph 1: *Structure of socio-demographic characteristics of the sample*

Source: authors' creation

This representatively allows not only the trust and relevance of the overall results, but also the crossing by socio-demographic variables. The sample size allows sub-segment observing.

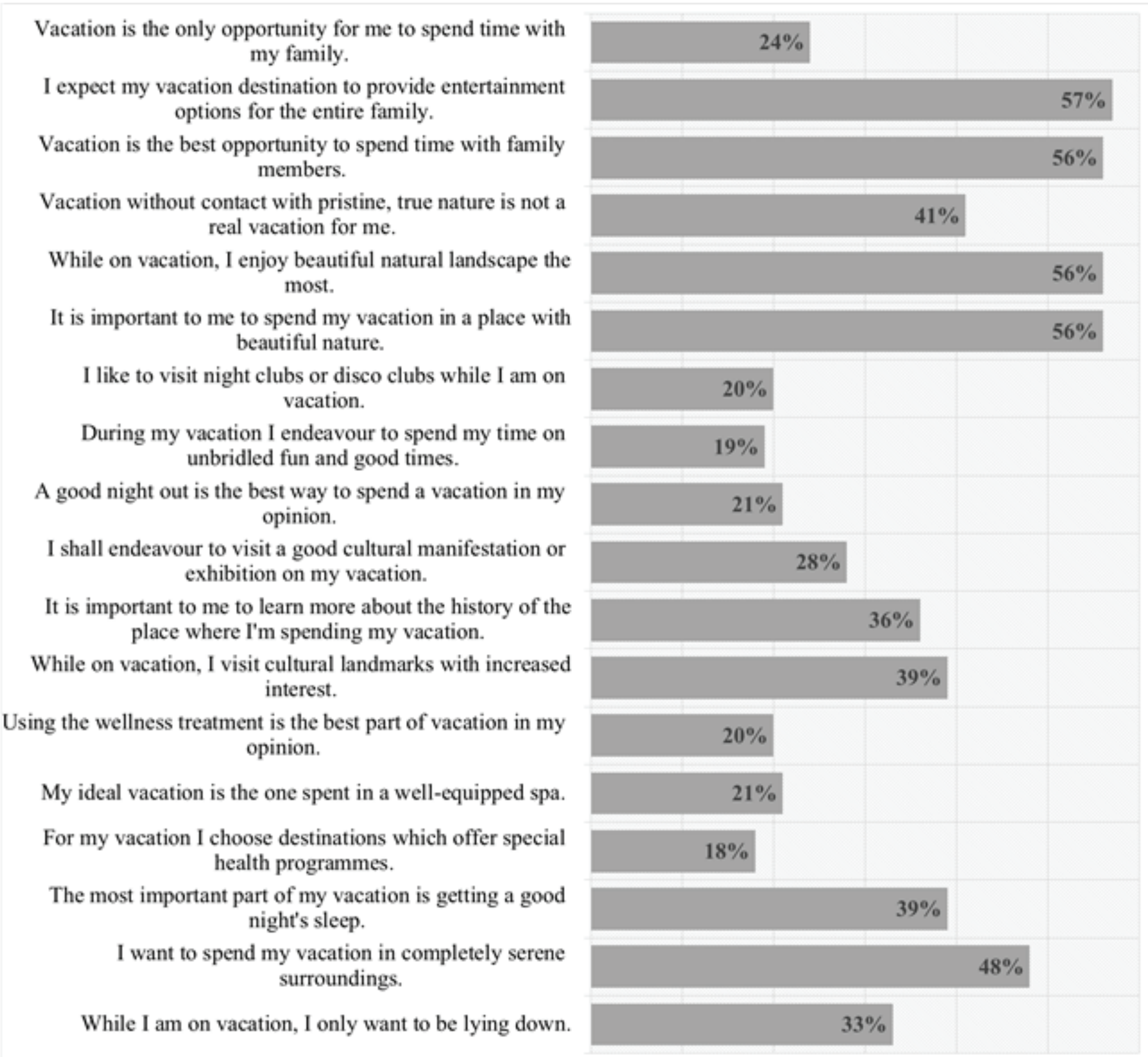
4.3. Descriptive statistics

The results of the research, more precisely the attitudes of domestic tourists on vacation are described in the following section of the paper by descriptive statistics.

4.3.1. Frequency analysis

Respondents on a scale from 1 to 5 rated the degree of agreement with each individual statement, where 1 meant "I totally disagree" and 5 "completely agree". For the purposes of analysis, grades 1 and 2 are merged into response modalities "I disagree", and grades 4 and 5 in "I agree" mode, while grade 3 remained neutral. The data obtained in relative form are shown in Graph 2.

Graph 2: *Attitudes of domestic tourists regarding vacation in 2017., top two boxes (4 + 5)*



Source: authors' creation

Of the total number of respondents, 33% do not just want to be lying down on vacation, which increases the need for a higher quality tourist offer, on the other hand, 32% disagree with this statement. For respondents, more precisely 45% of them, it is very important to spend a vacation in a completely peaceful environment, while 39% of them want to sleep well. Destinations that offer special health programs are not recognized by the respondents, therefore 54% respondents do not choose such destinations, while 18% choose these destinations, while the remaining 26% are indecisive when choosing. Of the total number of respondents, 51% think that well-equipped spas do not represent an ideal vacation, while 21% of respondents agree with the stated statement. Using wellness treatments as the best part of the vacation is confirmed by 20% of the respondents, while 52% do not agree with the statement and believe that wellness treatments are not the best part of the vacation. Respondents, specifically 39% of them visits cultural monuments on vacation, with 36% of respondents wanting to get to know the place or destination of the vacation better. A good cultural event or exhibition on vacation will not be visited by 38% of respondents, while 28% of those on vacation want to watch a good cultural event or visit an exhibition. In 50% of cases, respondents do not agree that a good night's party is the best way to enjoy themselves, 56% do not like to visit nightclubs and discotheques, while on the other hand, 19% of respondents try to spend time having fun and enjoying themselves. 56% of respondents choose tourist destinations with beautiful nature, while 56% of domestic tourists love to enjoy beautiful natural landscapes. For 41% of respondents, a vacation without contact with true nature is not a real vacation while only 20% disagree with this statement. 56% of respondents confirm that vacationing is the best time to socialize with family members, and 57% of them want and expect that the vacation spot offers opportunities for the whole family. 43% of respondents confirm that vacation is not the only time for family gatherings, while 24% think that vacation is the only opportunity for family reunion.

5. Discussion

Descriptive analysis provided an insight into the preferences of domestic tourists at the level of Croatia as a whole, based on every statement. Relatively balanced responses by topic-like statements allow discussion in the direction of understanding segments of tourists according to their motives and preferences. By observing the motives, actually the content of statements, it is possible to group the statements into six units.

First units is consisted of:

1. For vacation I choose destinations that offer special health programs.
2. Using the wellness treatment is the best part of vacation in my opinion.
3. My ideal vacation is the one spent in a well-equipped spa.

Second set of motives:

1. Vacation is the best opportunity to spend time with family members.
2. I expect my vacation destination to provide entertainment options for the entire family.
3. Vacation is the only opportunity for me to spend time with my family.

Third set of motives:

1. When I go to vacation, I just want to be lying down.
2. The most important thing for me on vacation is to have a good night's sleep.
3. I want to spend my vacation in completely serene surroundings.

Fourth unit is consisted of:

1. Vacation without contact with pristine, true nature is not a real vacation for me.
2. It is important to me to spend my vacation in a place with beautiful nature.
3. While on vacation, I enjoy beautiful natural landscape the most.

Fifth unit combines:

1. I try to use vacation time for fun and enjoyment.
2. I like to visit night clubs or disco clubs while I am on vacation.
3. During my vacation I endeavour to spend my time on unbridled fun and good times.

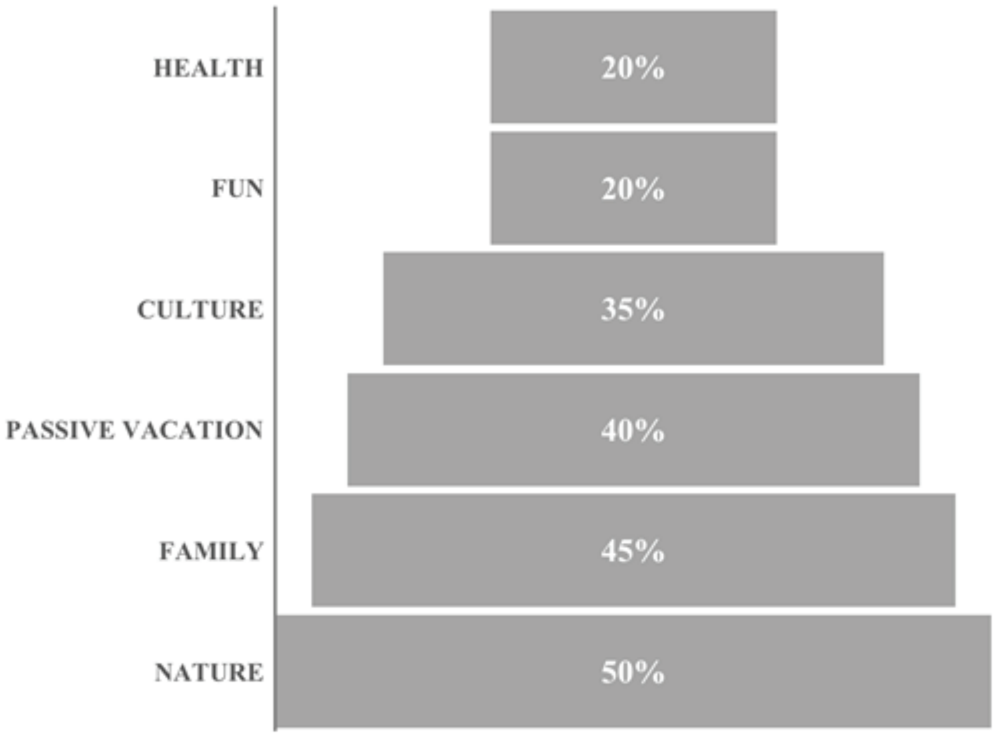
Sixth set of motives:

1. I shall endeavour to visit a good cultural manifestation or exhibition on my vacation.
2. It is important to me to learn more about the history of the place where I'm spending my vacation.
3. While on vacation, I visit cultural landmarks with increased interest.

In order to track data easily, every unit is given a name based on similar content of grouped statements. First unit is called HEALTH, second FAMILY, third PASSIVE VACATION, fourth NATURE, fifth FUN and sixth CULTURE.

As each respondent can have more than one motive, structure of domestic tourist by groped motives is presented in graph 3.

Graph 3: *Structure of grouped motives of domestic tourists (%)*



Source: authors' creation

It is possible to conclude that nature is a very important criterion and motive for as many as 50% of domestic tourists, which means that it is very important to enable respondents from the Adriatic region to get acquainted with the interior of the country and vice versa, and to actively promote diversity and uniqueness of regions. Almost every other domestic tourist (45%) is motivated by the need to spend time with the family, so it is important to build bids, packages, messages, and attach other motives in that direction (it has already been mentioned that a tourist could choose several motives). As many as 40% of respondents have no need for activation on vacation, it is enough for them just to find a clean spot for a passive vacation. Culture is a motivator for 35% of domestic tourists. 20% of respondents are motivated by health (spa, wellness). The analysis showed that the profile of domestic tourists motivated by health (both genders, over 40 years, with better financial status and largely from Adriatic Croatia), means that spa and wellness facilities are an excellent space for mobilizing tourists from the seaside to visit the interior of Croatia. Around 20% of domestic tourists also choose entertainment in terms of a good night out, which is also a much more profiled niche, because it is smaller than the health segment, and primarily relates to the younger target group, predominantly male, which makes it clear that they should be targeted as decision-makers with regard to festivals, music projects, etc.

6. Conclusion

Tourism has proved itself to be an important sector and a crucial source of income in Croatia, as well as the world, and tourist destination development is becoming an omnipresent multidisciplinary question, which is being considered from different perspectives. Although domestic tourists spend significantly less on their share of arrivals and overnight stays compared to foreign tourists, keeping domestic tourists in destinations within the country ensures that funds intended for tourist expenditure are also “kept” within the particular destination. For successful development of tourist destinations identity with regard to the target demographic of domestic tourists, it is exceptionally important to understand the attitudes, motives and expectations of domestic tourists regarding tourist destinations.
With this goal in mind, this paper analyses expectations, motives and travel attitudes as the basis for managing satisfaction of the domestic tourist, on the example of Croatian domestic tourists. For the purposes of this study, data on attitudes of domestic tourists collected by IPSOS agency for 2017, on a representative sample of 4,000 subjects aged 15 to 65 was acquired. Segmentation within the group of domestic tourists was conducted based on an 18-statement scale.

It is possible to conclude that natural environments are the most common criterion and motive for as many as 50% of domestic tourists. The next most common motive is family vacation for 45% of domestic tourists. Passive relaxation is chosen by 40% of them, while 35% choose cultural content. The smallest, but not negligible niches are health and a “good time“.

It should not be forgotten that tourists have different motives in different situations (hence, the sum of motives is larger than 100%, which means that each person has at least two equally important motives for choosing a travel destination).

Limitation of this study is related to the fact that used scale and data are part of the wider study and not focused on tourist themselves, so no additional questions were possible in understanding raised issues. Further development of this paper might proceed in the direction of detailed socio-demographic profiles of every segment which can be derived in order to understand tourist profile better. Also, it might proceed in the direction of “matching” concrete content in Croatia with concrete motives and give operational recommendations for communication and promotion of existing and developing new content according to their needs and desires.

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ECONOMIC IMPACTS OF RECREATIONAL RUNNING POPULARIZATION IN THE REPUBLIC OF CROATIA

ABSTRACT

The aim of this paper is making an effort to determine the proportion of economic impacts of recreational running in the Republic of Croatia. These economic impacts primarily imply an attempt to quantify the expenditure of recreational runners aimed at satisfying their needs related to running activities. Since the public sees recreational running as one of the cheapest physical activities, this paper will try to confirm or deny that popular opinion. Recreational running in the Republic of Croatia has been constantly growing over the past 10 years, and indeed rapidly expanding in recent years, which can be seen in the growth of recreational runners, organized races, group running activities, specialized footwear, clothing, and nutrition shops for runners. An increase of specialized magazines, websites and social network sites, as well as various activities aiming to popularize recreational running is also visible. The fact that many countries have recognized the potential of recreational running, i.e., the economic impacts it brings, is the reason for growing investments in the organization of long-distance races. The potential of recreational running has also been recognized by the entire sports industry, which expands its range of running products on a daily basis, making them now available to ordinary citizens, rather than reserved for professional runners only. The research conducted in this paper itself leads to a conclusion on whether to support investment in recreational sports in general, especially in recreational running. Considering that in the Republic of Croatia more than half of adult citizens and over one third of children are overweight, recreational running has a preventive character. From the point of view of reduced work efficiency, health problems, medical expenses, and even increased mortality of overweight persons, recreational running with its impact on those factors is even more significant for the economy of the Republic of Croatia.

Key words: *recreational running, economic impacts, sports industry, market potential, economic development*

1. Introduction

Sports have an extremely important social and economic role in society. The term "sports" includes all areas of sport as a social activity: sports in education, competitive sports, sports recreation for citizens as well as kinesiotherapy for people whose health has been negatively affected (Bartoluci and Škorić, 2009:39).

This paper covers an area of recreational sports or, more precisely, recreational running. In the Republic of Croatia, recreational running has been growing for the last few years and has been more frequently mentioned by the media. From this it can be concluded that the economic impacts increased due to an increase in recreational running in the Republic of Croatia. How did the economic impacts come into play and what exactly are they, will be clearly defined in the theoretical part of the paper, while the research part of the paper will endeavor to provide quantitative answers. Defining participants in the recreational running market from its economic point of view is a key step to a more systematic approach to the recreational running economic analysis.

Paradigms of a recreational runner as a person who runs in his/her leisure time with no excessive planning and recreational running as an activity where a recreational runner takes care of his/her health have changed over the last few years. Recreational running is currently experiencing its substantial organizational evolution, it is often placed in certain frames, recreational runners are becoming far more educated about the process of running, sports equipment is becoming better developed and more available to a recreational runner. Wearable technology allows a runner to statistically track all parts of his/her activity and therefore allows the runner to bring his/her physical fitness on a completely new level which often creates opportunities for setting new personal goals. All those activities and processes have a certain economic aspect and economic impacts arising from it.

2. Theoretical Part of the Paper

2.1. Recreational Running

Recreational running has really expanded over the last few years all over the world, and in the Republic of Croatia as well. When discussing recreational running, it is important to define what recreational running includes. The fact that the popularity of recreational running has truly increased is reflected in the number of recreational runners who run in organized groups and improve their fitness in organized running schools. Recreational running as a term should be separated from the term jogging, which maybe have not been the case before. According to the 3sporta.com (2018) portal, most experts agree that jogging is slow and occasional running primarily intended for health preservation, and that predefined distances, speed, etc. are not present here. On the other hand, running is an activity which implies involvement of training methodology and training principles, in which progress is inevitable, and the results are set as test values. In addition to the aforementioned, certain authors believe that, if running speed is taken into account as well, jogging is a movement with the speed less than 6 kilometers per hour, and everything above that is considered running.

Recreational runner is a person who runs exclusively for his/her personal needs, most of which regard health, but motives can also be of social character, for example, the need for socialization and meeting new people, but also the achievement of certain personal goals. A recreational runner is a runner who runs continuously for a longer period of time, while the distance one covers in each run is measured in kilometers. Most often, recreational runners run long distances. This running includes running distances longer than 5,000 meters (trcanje.net; 2016).

Recreational runner can engage in running as an individual or as a member of amateur athletic associations. Recreational running specificity is also the fact that both men and women can run together, and that the activity is not tied to any particular age limit. Recreational running is for people of all ages, as long as their health allows them to run, regardless the distance and the tempo of running. During the last few years, running schools with a large number of members have been opening all over the Republic of Croatia. Recreational runners, besides the running schools where they can learn the basics of running properly under professional supervision and about the running philosophy itself, also have recreational races at their disposal, which are also organized by athletic clubs and citizen associations with the aim of making recreational running popular. Shorter-distance recreational races are a good indicator of fitness improvement in all recreational runners and an excellent form of socializing with people participants have shared interests with. That is, it can be said that even though running is an individual sport where an individual runs solely for oneself, recreational running has a certain social component since recreational running, especially in organized groups, encourages socialization among runners. The fact that there is 57,4% of overweight adults and 34,9% overweight children in the Republic of Croatia (Novi list: 2018) says enough and should make public institutions pay attention to this great danger that could have far greater impacts in the future, than it may seem now.

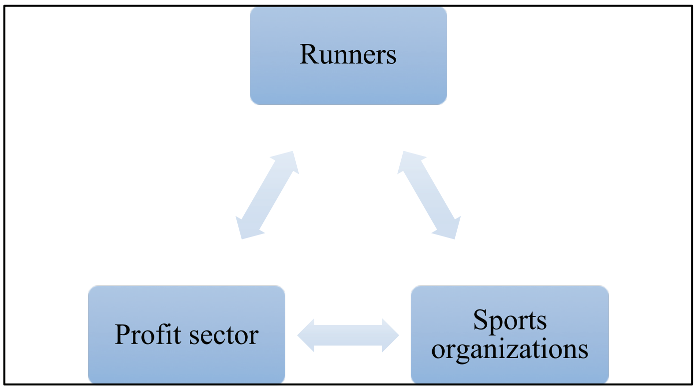
Through running expansion the number of organized races in the Republic of Croatia also increased, and they are, besides marathons and half marathons, organized as various long-distance races between 5,000 and 10,000 meters. Through those kind of races, recreational runners have the opportunity to test their capabilities and fitness while competing with other participants at the same level. The fact that, during the running season, a recreational runner can compete in a different race each week says enough about the number of those races.

2.2. Participants in the Recreational Running Market

If one observes the recreational running market with regards to market participants, then it becomes clear that actors who act in that market can be clearly defined. Those actors can be divided into three categories, depending on primary motives of participating in the market:

- Participants/runners
- Non-profit sports organizations
- Profit sector

Chart 1: Representation of participants in the recreational running market



Source: authors research

When considering the motive of participating in the market, it can be said that the runner is a participant whose primary motives are subjective pleasure and non-material benefits that arise from recreational running only. The runner is, in relation to sports organizations and participants from the profit sector, always in a position of a consumer, i.e., on the demand side. Recreational runner can, in relation to sports organizations, be a consumer of competitions or services organized by a sports organization. Those can be different running schools or organized recreational races for which the runner pays a registration fee. In that relationship, sports organization appear in the role of event providers in which the runners participate. In the runner – profit sector relationship, the runners appear only as consumers of products and services, since recreational running requires, on any level, certain sports equipment or a certain diet which would not be consumed if not for recreational running.

In the recreational running market, sports organizations can participate on the demand side as well, in addition to their role of a supplier. It is extremely important to emphasize that sports organizations in the Republic of Croatia are mostly non-profit, i.e., their primary aim is not generating revenue but popularizing the sport they are engaged in. Considering that sports organizations prepare and organize sports events, they need to look for certain products and services they require to organize such events on the market. Here they appear in the role of consumers, since they need to allocate certain funds to use those products and services. Those can, for example, be various marketing services with the purpose of popularization of the event itself, or different measuring and other devices essential to carry out the competition smoothly.

There are many business entities in the profit sector in the sports industry market. Even though it may not seem so at first sight, the variety of products and services on the market is growing by the day. Primary goal of those business entities is to generate revenue by selling their products or services. All of those entities appear on the supply side, regardless of whether they regard the relationship with the runner or with the sports organizations dealing in recreational running. Those can be different stores with sports equipment, medical services, food products marketing services, etc. Various magazines and online tools for recreational running promotion also act in that market. The following part of the paper discusses impacts in the economic context where the range of products and services in question when discussing recreational running will be presented.

2.3. Economic Aspect of Recreational Running

Apart from social values, sports in the developed countries generate numerous economic impacts as well, thus becoming an important factor in economic growth. Economic impacts of sports are realized on both micro and macro levels (Bartoluci, 2003:51). Sport is a global concept, as are many sports products and services; technological innovations allow sport managers to offer products and services to customers all over the world rather than only to a local market (Beech and Chadwick, 2010:259).

When discussing recreational running, it can also be said that certain economic impacts are realized, on both micro and macro levels. The research part of the paper discusses concrete numbers; therefore, it is important to theoretically clarify which are the economic aspects of recreational running. It has already been stated that participants in the recreational running market are the runner itself, the sports organization and economic entities in the sports industry. Everyone contributes to economic impacts in a certain way. Of course, the runner is at the center since he/she is the generator of all economic impacts; because if a runner does not engage in recreational running, then there would be no need for the existence of sports organizations that would organize training sessions for the recreational runner, nor would they organize races for the recreational runner to participate in. In line with this, if there were no recreational runners, there would be no market group that would have the need for engaging in a sports activity and there would be no need for indispensable products and services with the help of which sports organizations organize activities such as recreational races.

The relationship between the runner and the sports organization is a relationship that realizes microeconomic impacts of the sport, while the mutual relationship between the runner, sports organization and economic entities is a relationship that realizes macroeconomic impacts of the sport. Macroeconomic impacts primarily relate to economic activities through buying of sports clothes and other sports equipment, such as wearable technology which helps the runner to better manage his/her sports activity. The numbers show that more than 124 million of that kind of devices will be sold by the end of 2018 (The Guardian: 2018). The aspect which is greatly neglected is the aspect of sports nutrition and dietary supplements that surely has a certain share in total spending of a recreational runner. Economic impacts that are also not to be neglected, are economic impacts on tourism through an increase in spending and the number of overnight stays for the period when recreational races are organized. All this spending realized by a recreational runner as the central entity in the recreational running market has certain impacts on the national economy by generating revenue and protecting jobs. Furthermore, recreational running has an influence on the national economy by preventing health risks, i.e., by reducing the number of sick leave days and lengthening the working careers of employees if the employee engages in recreational running in his/her spare time.

The fact that a large number of sporting goods stores actively participate in the improvement of recreational running quality as partners, indicates in many ways that the economic aspect and spending in the recreational running market are not to be ignored. Partnerships may be made in many forms, however the most frequent ones are those in which the sporting goods dealers involve themselves in the co-organization of recreational races, together with the sports organizations, to increase their quality and hence the number of participants in the race. An example of such cooperation is organization of the Ferivi Half Marathon in Osijek (HRT RADIO OSIJEK: 2018). Another frequent form of cooperation is the one in which the sporting goods dealers, in partnership with sports associations or clubs, organize and continually implement sports training for runners or educate them on certain vital component in the running process. A great example of such cooperation is the global movement supported by the sports goods manufacturer Adidas, which is active in Croatia as well since 2017 (Vecernji.hr: 2017). The influence of media such as specialized magazines, social networks and runner's web sites that have a strong impact on recreational running by promoting all its activities should not be ignored. The importance of the media is expressed in the fact that sports organizations are not capable of distributing information and products they produce on their own to the end user since they are not qualified to do so, or such activity is not a part of their mission (Tomić; 2007:12).

From all of the above it can be noticed that the economic aspect of recreational running is not to be ignored and that it appears both on micro and macro levels, that recreational running in this context is frequently underrated in economic analyses and plans for the development of recreational sports.

3. Research Part of the Paper

3.1. Paper Methodology

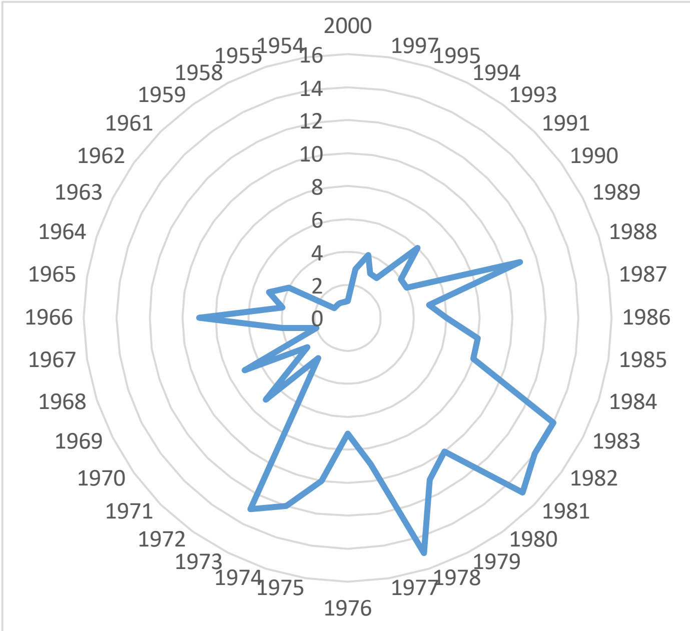
In terms of methodology, two-phase research was used for the purposes of the research part of this paper. The first phase, secondary research involved interviews with recreational runners to gain insight into their spending structure when it comes to satisfying their needs regarding recreational running. After collecting information on the spending structure, the second phase was primary research which involved making of a survey that will aid in quantification of the financial spending structure in a recreational runner. The surveying of recreational runners was done online with clear instructions for completing the survey; the first set of general questions about sex and age contained an elimination question of whether or not the surveyed data subjects consider themselves to be runners. The survey sample consists of 250 data subjects from the area of the Republic of Croatia, and the online survey questionnaire was available in the period of 10 days on the Facebook page of a group intended for recreational runners "TRČIMO! 3sporta.com" (LET'S RUN! 3sporta.com) which has over 4,000 members.

All the acquired results were processed afterwards in order to draw conclusions on the economic impacts of recreational running in the Republic of Croatia. For the purposes of the theoretical part, secondary research of available expert literature associated with economic impacts of sports was done, and publicly available sources of information on websites and Facebook were used.

3.2. Research Results

In the previous section, the manner of collecting responses to the survey questionnaire was elaborated on. Age structure, as seen in both the table and the graphical representation **Chart 2:** Representation of the age group of data subjects (table and chart) primarily refers to those born between 1973 and 1983 since they make more than 50% of the sample. From this it can be concluded that these are the people who completed their education and have income of their own.

Chart 2: *Representation of the age group of data subjects (table and chart)*



year of birth	no. of data subjects for each year
1978, 1981	15
1982, 1983	14
1973	13
1974	12
1979, 1988	11
1975, 1980	10
1966, 1977	9
1984, 1985	8
1969, 1976, 1971	7
1986, 1991	6
1964, 1987	5
1963, 1965, 1967, 1989, 1990, 1995	4
1970, 1972, 1993, 1994, 1997	3
1968	2
1954, 1955, 1958, 1959, 1961, 1962, 2000	1
total number of data subjects	**250**

Source: authors research

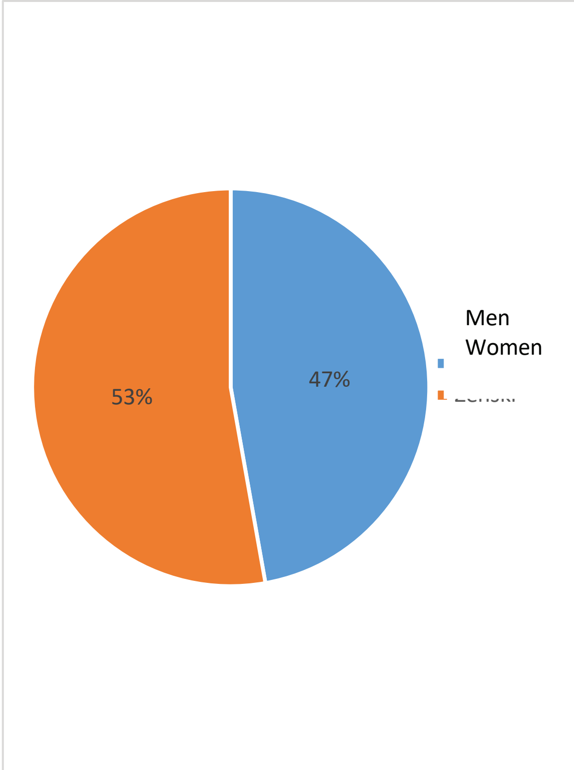
Further analysis of geographic and sex structure of the sample showed that both men and women engage in recreational running, i.e., a slight female preponderance may be noticed with 53% women and 47% men. The geographic structure provided quite interesting data. The largest number of recreational runners may, for the most part, be found in counties with the largest cities in the Republic of Croatia (Zagreb, Rijeka, Osijek, Zadar and Split).

Table 1: Representation of the geographic structure of test subjects

county	number	%
The City of Zagreb and Zagreb County	94	37.60%
Primorje-Gorski Kotar County	33	13.20%
Osijek-Baranja County	25	10.00%
Zadar County	15	6.00%
Istria County	15	6.00%
Split-Dalmatia County	14	5.60%
Varaždin County	13	5.20%
Međimurje County	8	3.20%
Šibenik-Knin County	5	2.00%
Brod-Posavina County	5	2.00%
Sisak-Moslavina County	5	2.00%
Krapina-Zagorje County	4	1.60%
Požega-Slavonia County	3	1.20%
Lika-Senj County	3	1.20%
Dubrovnik-Neretva County	2	0.80%
Bjelovar-Bilogora County	2	0.80%
Karlovac County	2	0.80%
Vukovar-Srijem County	1	0.40%
Koprivnica-Križevci County	1	0.40%
Virovitica-Podravina County	0	0.00%
total	250	100%

Source: authors research

***Chart 3:** Representation of the sex structure of test subjects*

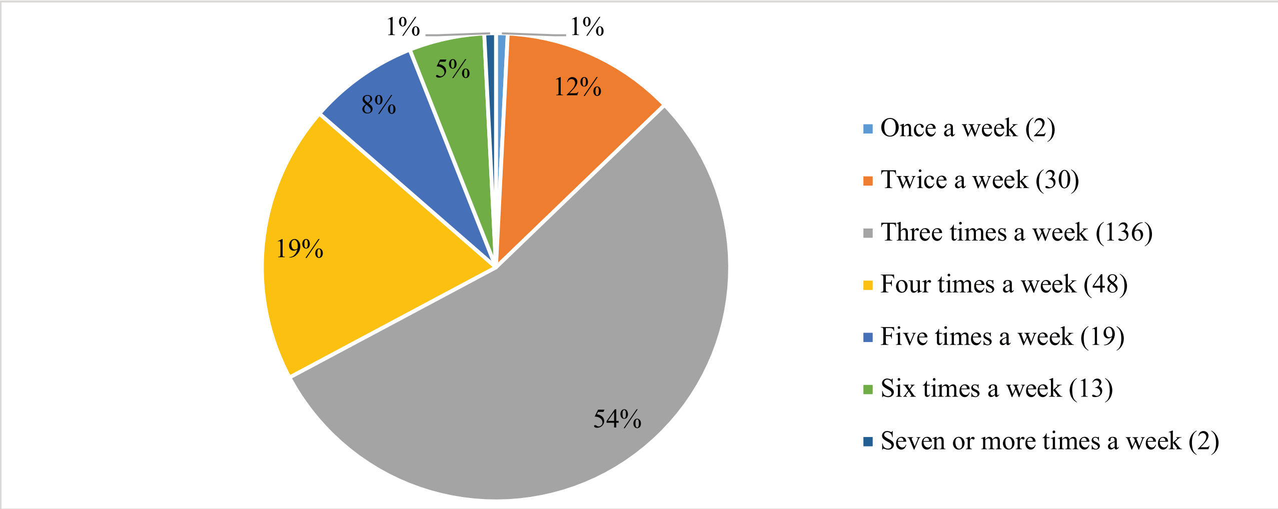


Source: authors research

Data subjects answered the questions of how frequently they run, how many kilometers do the run a week and how many running shoes have they bought in the last 12 months. This data is extremely important when it comes to determining the intensity of practicing recreational running, from which the rate at which equipment is consumed, i.e., how frequent is new equipment bough may be established. Research on the service life of running shoes provided diverse data, it indicates to a covered distance of 500 kilometers (3sporta.com: 2016), 600 kilometers (trcanje.hr: 2017) and even a distance of over 800 kilometers (asics.com: -). After this distance the shoes should be replaced for health reasons, regardless of whether they are displaying signs of physical damage.

The conducted research (**Chart 4:** Representation of weekly runs) showed that, in the survey sample, the data subjects run 3 to 4 times a week on average, it can be noticed that 54% of them runs 3 times a week, 19% of them 4 times a week, and 12% runs 2 times a week.

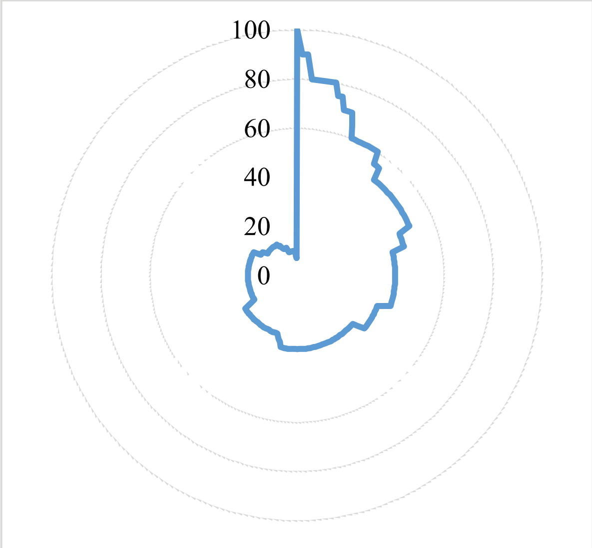
Chart 4: *Representation of weekly runs*



Source: authors research

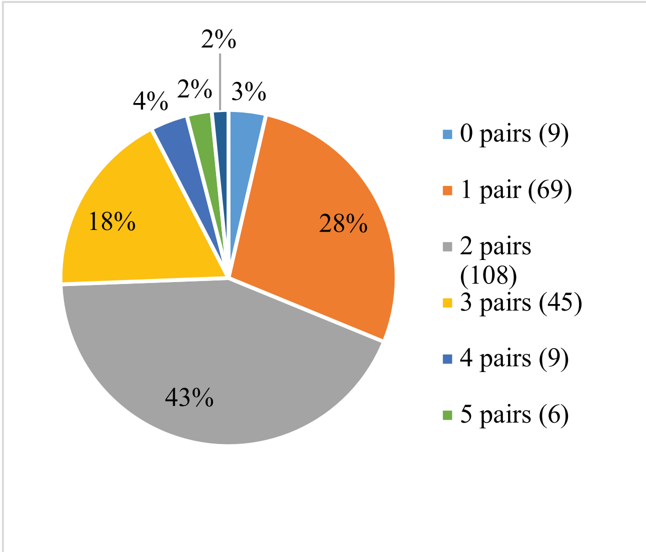
The data subjects in the survey sample run 32.37 kilometers a week which mean that, if they run 10 months a year, i.e., from the beginning of February to the end of November, they run 1,391.91 kilometers in 43 weeks (32.37 x 43 = 1391.91). If we include a number of 2.04 running shoes bought in the past 12 months, then we may conclude that a recreational runner in Croatia runs 682.30 kilometers in single pair of running shoes (1391.91 / 2.04 = 682.30). This number correlates with the aforementioned research.

Chart 6: *Number of kilometers covered in a week*



Source: authors research

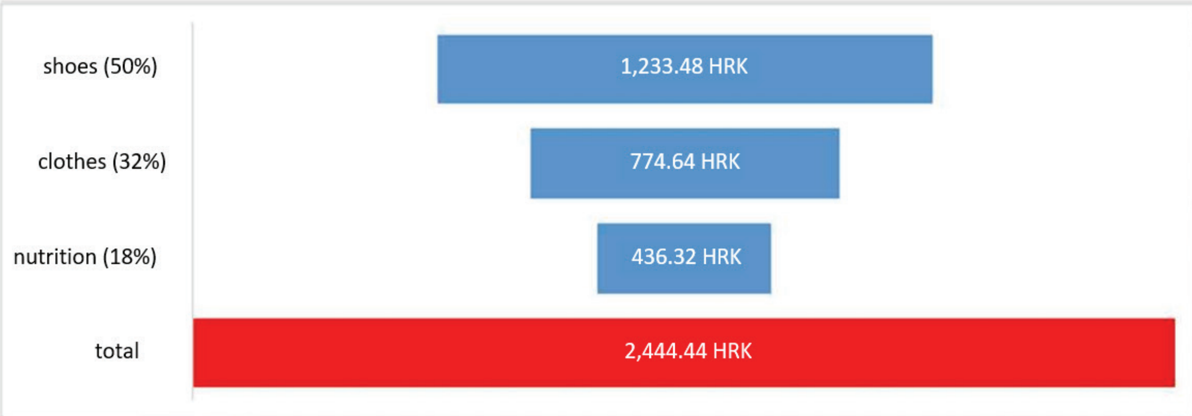
Chart 5*: Representation of the number of bought running shoes in the last 12 months*



Source: authors research

Furthermore, as it may be noticed, the research discovered that a recreational runner spends 2,444.44 HRK a year on running shoes and clothes as well as on dietary supplements. The greatest part, as much as 50%, is spend on buying running shoes which are naturally have the highest price, while 32% is spent on buying running clothes. A significant part of the total spending, i.e., 18% is spent on buying dietary supplements used with higher-intensity sports activities.

Chart 7: *Representation of average spending on shoes, clothes and dietary supplements in 12 months*



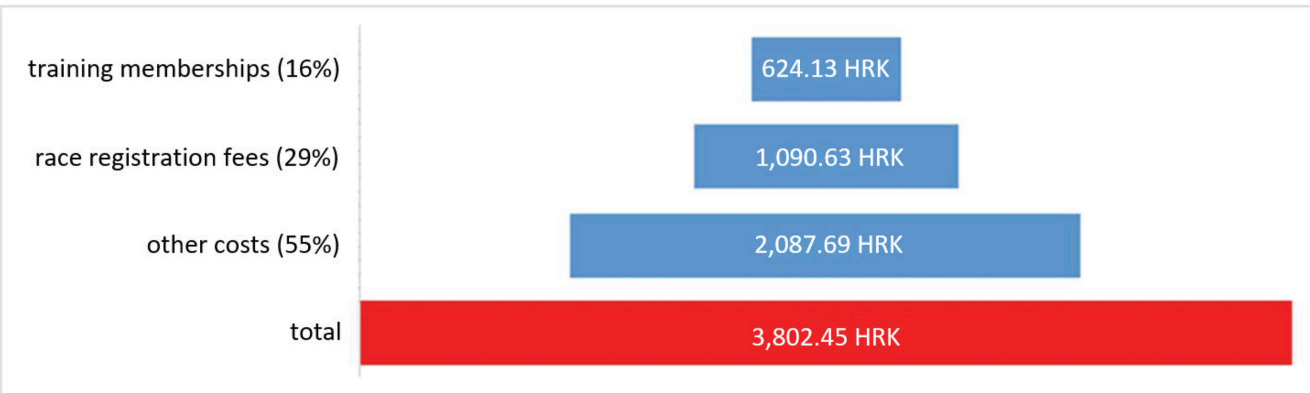
Source: authors research

If spending on services regarding the running activity is to be analyzed, we can define 3 categories:

- Spending on personal trainers or memberships in sports clubs, running schools and similar associations that deal in recreational running
- Spending on race registration fees
- Spending when participating in races (transport, accommodation, food, drinks, etc.)

Chart 8: Representation of the average spending on training services and race participation shows that spending on those three components is even greater than spending on shoes, clothes and nutrition. The greatest part in this spending, i.e., 55% includes spending before and after the races the recreational runner participates in, race registration fees take up 29% while costs of training memberships and personal trainers cover 16% of the spending, which is also not to be ignored.

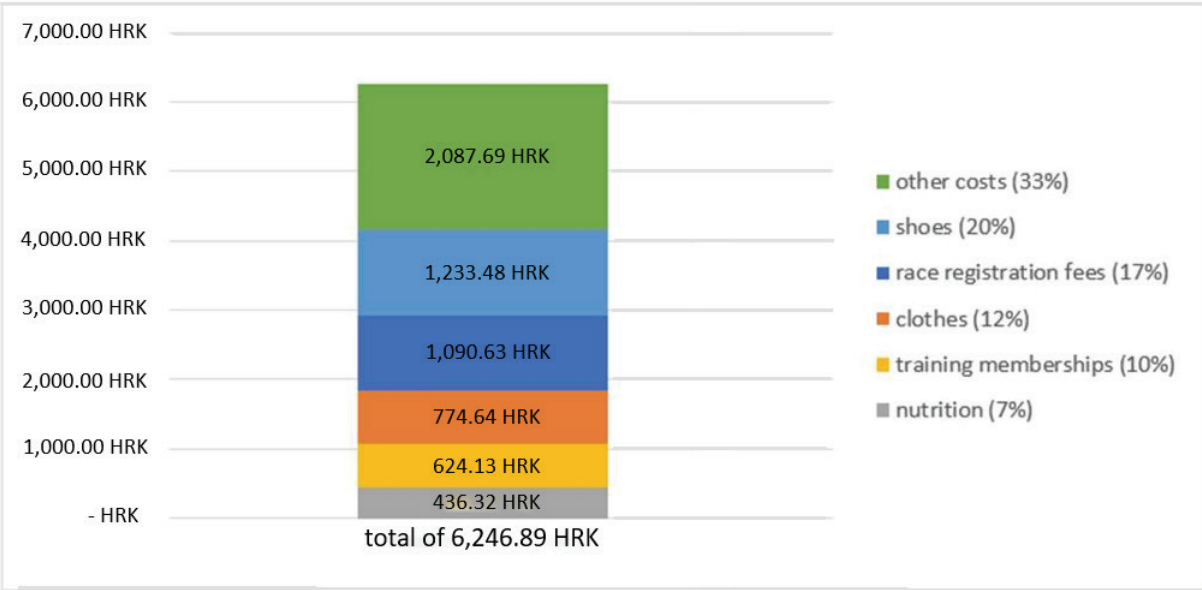
Chart 8: *Representation of the average spending on training services and race participation*



Source: authors research

A recreational runner spends much more on the training process and attending races that he/she does on nutrition. The equipment and nutrition costs are 2,444.44 HRK which makes 39% of runner's total spending, while training and races cost 3,802.45 HRK a year, which makes 61% of runner's total spending. **Chart 9:** Representation of total spending in 12 months shows the structure of total spending and a detailed average spending of a recreational runner for a period of 12 months.

***Chart 9:** Representation of total spending in 12 months*



Source: authors research

The results obtained show, in detail, that a recreational runner spends much more in a year than it may have been believed and that the intensity of engaging in this sports activity is quite high when considering the intensity of weekly activities. Besides the spending on equipment, spending on races and services before and after the race a recreational runner competes in is quite significant as well.

4. Conclusion

The recreational running market in the Republic of Croatia definitely exists, it has its target market group and clearly defined participants in all segments of its activity. The increase in recreational running, which, as already discussed is a more intense, better organized and structured sports activity than jogging, is evident in the Republic of Croatia as well. Besides the health preservation role, the social component characteristic for recreational running mentioned in this paper surely has an important role.

The research conducted for the purposes of this paper showed that annual spending of a recreational runner is not to be ignored, and that it is approximately at the level of an average salary in the Republic of Croatia which amounted to 6,237.00 HRK in the first half of 2018 (Croatian Bureau of Statistics, 2018). The aforementioned spending, in its structure, has impacts at both the macroeconomic and microeconomic level. With the spending on shoes, clothes, nutrition and tourist spending when participating in races, recreational running directly impacts the national economy. On the other hand, by paying membership fees to associations that organize training sessions as well as race registration fees, a recreational runner directly supports the development of sports associations and sports organizations on the microeconomic level. It is very important to mention the relationship among sports clubs that use the collected membership and registration fees to organize recreational races and, through the market forces of supply and demand, impact the macroeconomic level by buying products and services necessary for organization of sports contents.

From all of the above, it may be concluded that recreational running in the Republic of Croatia has positive impacts in the context of economy and that it requires further investments to additionally increase these impacts in the future and, in synergy with social and health impacts, contribute to the development of society as a whole.

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ANALYSIS OF DEVELOPMENT AND POTENTIAL FOR TOURISM IN THE AREA OF MARIJA BISTRICA

ABSTRACT

The subject of the research is based on the tourist offer in the municipality of Marija Bistrica, with an emphasis on religious tourism, the motives of tourist arrivals and the needs for the improvement of tourist offer presented with wishes of tourists. The aim of the work is to find out how many visitors and tourists know about other tourist facilities, offerings, events and similar events in Marija Bistrica, but also the potential for development of the same ones and their attendance. The methods used in this paper are methods of analysis, synthesis, descriptiveness, historical method and qualitative method of primary research. The primary research collected data on the motives of the arrival of tourists, the visited tourist facilities of the Municipality of Marija Bistrica, and the pleasure of the existing contents. The quantitative method of research was conducted through a survey questionnaire instrument. A total of 110 online questionnaires were collected.
The survey results show that visitors are satisfied with the diverse tourist offer of the municipality of Marija Bistrica, but there is also a demand for some additional contents that the respondents indicated in the survey, suggesting the potential development of other forms of tourism in the municipality of Marija Bistrica with the existing religious tourism.

Key words: *Marija Bistrica, potential and development, religious tourism, tourist content, tourist offer*

1. Introduction

Marija Bistrica is a town and municipality in the north-west of Croatia, located in Krapina-Zagorje county. The place of Marija Bistrica was built around the proposition and the sanctuary of the Mother of God Bistrička in Marija Bistrica is the largest Croatian Marian sanctuary. It has a central place in the religious life of the Croatian people, and is therefore officially proclaimed the Croatian National Marian Sanctuary. Hundreds of thousands of pilgrims come to Marija Bistrica Annually to present themselves to the black miraculous Madonna statue. So, all the pilgrims and other tourists who come to visit Marija Bistrica primarily come because of the sanctuary, which still visit the statue of the Mother of God Bistrička, the Calvary, the caramel of the Mother of God Bistrička and the Blessed Alojzije Stepinac, the place of blessing Pope John Paul II Marija Bistrica lives from tourism, so along the main road there are numerous souvenir shops and stands where you can buy various religious souvenirs, wooden toys and popular Licitar hearts, which UNESCO has declared part of the world Intangible heritage, and most often they are purchased during the greatest pilgrimage-13th July on the feast of the Mother of God Bistrička and on 15 August on the feast of the Great Lady. There are also many manifestations in Marija Bistrica, and the most famous is “Summer in Marija Bistrica”. In addition to the manifestations, tourists and visitors can still see other tourist facilities that are offered in the place, such as bicycle routes, sculpture Park, Ethno collection of gingerbread crafts, the Hudek Gallery and the hiking bypass. The routes are based on a preserved natural environment, cultural and historical heritage and a high level of ecological awareness. On average, the routes are from five to nine kilometres, and depending on the route you can see the Sanctuary, Calvary, Sanctuary of Vinvrh, sculpture Park with a breathtaking panoramic landscape. Sculpture Park makes up sculptures in the open air, and they were created during the perennial colonies of woodcarving.

Every year in July, as part of the manifestation “Summer in Marija Bistrica”, colonies and international characteristics are held. Thematic sculptures are based on sacred contents or are created by the free choice of wood carving. Sculpture Park is located on the tourist road “Vinski Vrh” and only 500 meters away from the main square to the chapel of the Mother of God at the “Vinski Vrh” (http://www.marija-bistrica.hr/stranica/park-skulptura, 26.08.2018). Ethno collection of gingerbread crafts leads visitors through the history of gingerbread, learns with tools that have long been used for making licitars, old production techniques and slowly forgotten products (http://www.tz-marija-bistrica.hr/detalji/etno-zbirka-licitarskog-obrta, 26.08.2018). The Gallery was opened by the academic sculptor Pavao Hudek at year 2002. as part of the manifestation “Summer in Marija Bistrica”. With his artistic skills in landscapes, he gave his soul to Marija Bistrica, and in earthy and ceramic figures he gave tribute to the clear country (http://www.marija-bistrica.hr/stranica/galerija-hudek, 26.08.2018). The mountaineering bypass “Za dušu i tijelo” was included in the mountaineering bypass of Croatia and it passes over 1500 hikers and pedestrias of recreational activity annually. The length of the bypass is about 15 km and it takes about 4 hours and 30 minutes for the tour, and the weight of the tour is on a low level. Staying in nature, fresh and clean air fills the man, and mountainery makes life enjoyable, interesting and adventurous (http://www.tz-marija-bistrica.hr/detalji/planinarska-obilaznica, 26.08.2018). The mountaineer's itinerary “Zagrebački romanski put” leads from the Ksaver (Ksaverski Cross Path) and the same route through Medvednica, the former pilgrim paths of Alojzije Stepinac. The route to the road goes through the descent from Medvednica and Skree to the place Sveti Matej, through the Laza and the hamlet of Luči Breg descending to Marija Bistrica. This bypass is 50 km long and lasts about 19 hours (http://www.tz-marija-bistrica.hr/detalji/planinarska-obilaznica, 26.08.2018).

Of the other services that man uses daily in Marija Bistrica there are several ATMs, post office, two gas stations, parking, bakery, Health Center, pharmacy, several private rooms and hotel "Kaj".
Marija Bistrica has achieved, in year 2017., record tourist figures. An increase in the number of overnight stays of 14.75% is a recorded compared to 2016. year, as a result of the quality work of hoteliers, private renters, catering and tourist workers of the municipality of Marija Bistrica. Also in 2017. the total number of nights spent in the area of the municipality of Marija Bistrica has been exceeded since the statistics in the Tourist Board office have been recorded since 1998. year. In the period from 1st January to 31st December 2016. a total of 13,952 arrivals were recorded in the destination, while in the same period in year 2017., 15. 934 arrivals were recorded, which is an increase of 12.44 %. In the mentioned period in year 2017. the highest number of arrivals from foreign markets was achieved by tourists from South Korea (4,782), then Chinese (799), Poles (1957) and tourists from Germany (786). At the same time, the largest number of nights were recorded also by tourists from South Korea (4,769), tourists from China (1,439), tourists from Poland (2,001) and Germans (1,117). Given the fact that Marija Bistrica has 130 hotel beds and 59 beds in private accommodation, in year 2017. extraordinary results have been achieved. (https://www.zagorje-international.hr/index.php/2018/01/05/u-2017-godini-ostvarili-24-021-nocenje-najvise-dolazili-koreanci-i-poljaci-a-samo-je-advent-u-mariji-bistrici-posjetilo-35-000-ljudi, 03.05.2018).

2. The term of tourism supply and demand

The Tourist market operates with the interaction of supply and demand in a particular area in a given time, and the markets differ from each other by the resources on which they are based their own offer, seasonal features, motives of demand and others. Therefore, we can define the market as a place where a certain supply and demand meet, i.e. the place where traders encounter buyers to whom they wish to sell their products and services at a certain price and at a certain time. On the other hand, the tourist market makes a „set of relations of supply and demand in the field of services and goods which serve to settle tourist needs in a certain area, namely the relationship of supply and demand that arise under the influence of tourist movements“ (Čavlek i sur., 2011).

2.1. Tourist Offer

Tourist offer is part of the tourist market where tourists are offered and sold goods and services, to which they meet their tourist needs. It includes all economic and social participants in a country that contributes in a direct and indirect way to the expansion of the overall offer and thus allows the increase of tourist spending as well as economic benefits as it grows the stay of domestic and foreign tourists (http://www.enciklopedija.hr/natuknica.aspx?id=62763, 27.08.2018). The tourist offer can be defined as "a part of the market that appears as a provider of goods and services, i.e. the amount of goods and services offered at certain prices to satisfy tourist needs" (Čavlek i sur., 2011., prema Vukonić i Čavlek, 2001, p. 391).
The Offer of products on the tourist market depends on demand, but this does not diminish the role that the tourist offer has. It is important to emphasize that there is a difference between the general economic principles of supply and credit in the tourist market compared to other markets, because the relations on the tourist market are much more complex. On the tourist

market it is not possible to produce stocks of tourist products which could be re-marketed at a favourable price at some favourable point (Čavlek i sur., 2011).
In recent years, the strengthening of competition has had an impact on the increase in quality and differentiation of its product, it is no longer possible only for individual marketing activities, using the price and promotion to influence the improvement of the market position tourist destinations. It is no longer a basic question of "Where to spend your vacation?", because the standards in terms of accommodation, food and transportation are generally fulfilled everywhere, but the question is "How to spend your vacation?", and it implies a high quality and rich content of staying in the chosen destination (Borković, 1995).

2.2. Tourist Demand

Demand can be defined as "the amount of goods and services that can be placed in a market and at some time at a certain price level. Tourist demand represents a group of potential tourists-consumers who, by their attitudes, habits, desires and possibilities, determines the quantities, quality and price of certain goods and services on the tourist market " (Senečić i Vukonić, 1997).
For rural tourism, the demand is highly heterogeneous, embracing groups of different age structures, occupations and purchasing power. Their motives for travel include the process of exploring the rural lifestyle and traditions, the need to spend free time in a quieter and/or natural environment, but also the possibility of entertainment, education and exploring the tradition of a particular destination. The travel season lasts throughout the whole year but young visitors and families prefer the period of summer and school holidays, while the older spring and/or autumn when the traffic intensity is lower. On average, stays last about 3 days, which is probably the result of a large proportion of domestic demand (Kušen, 2011).
Namely, the tourist demand is not only the people who are actually involved in the tourist movement, but also those who would want it, but for a particular reason they cannot be included. Thus, it can be concluded that there are several types of tourist demand. It is important to emphasize that there are also absolute non-consumers or abstinents from tourist journeys that do not show any interest in participating in tourist flows. "The Tourist demand is divided into an ideal that encompasses all the inhabitants of a country, the potential includes those in which the need and the possibility to satisfy their needs are present, the real ones that have made the decision to spend all or part of the funds and times to satisfy tourist needs and effective demand that is part of the real, which, from the aspect of different levels of tourist offer, is used by services precisely in that destination, i.e. by a specific service provider." (Čavlek i sur., 2011, prema Vukonić i Čavlek, 2001, p. 392)

3. Religious Tourism

"Religious tourism is a specific form of tourism which contributes to the satisfaction of both the religious and the spiritual needs of tourists and visitors. It is often also referred to as pilgrim tourism. The main activities of religious tourism are visits to sacal objects such as churches and temples, and the pilgrims contribute greatly to preserving cultural and historical heritage as well as traditions." (Pirjavec, Kesar, 2002., p. 16)
In the history of tourism, religious journeys are presented as one of the oldest forms of tourism, because people have moved to different places and learned or inherited aspects of another culture, and satisfying their own spiritual and religious needs. All journeys that are motivated by religion and are aimed at religious destination as a destination belong to

religious tourism, and they do not attract only believers but also tourists seeking cultural or adventure experience (Hitrec, 2006.).

3.1. Religious Tourism in Croatia

Religious tourism in the Republic of Croatia was mostly developed around Marian sanctuarys with a long and rich history. This type of tourism meets a number of problems. The tourism Ministry and the Croatian tourist board have failed to build a strategy for the development of religious tourism. Data on the number of visitors are not recorded anywhere or data on earnings from religious tourism. The key problems of the development of religious tourism are inadequate accommodation capacities, poor tourist offer and problems of the grey economy. Despite the problems mentioned above, there is a great potential for development and improvement. It is necessary to improve the existing infrastructure and build a new one, develop a plan of strategy for development of religious tourism, include the offer of religious content in Croatian tourism product and other (Hegeduš, Kosćak, 2013).

4. Research

The paper includes research using which the primary data. From year to year, more tourists and visitors are coming and significant growth contributes to the development and development of the tourist offer of the municipality of Marija Bistrica. It is important to discover the motives of arrival in order to increase the offer even more and adapt to the demands and needs of visitors and tourists. With this research paper there are several goals. One of the goals is to explore how visitors and tourists visit tourist facilities offered in Marija Bistrica, and that these are not the primary religious facilities. Also with all the existing facilities that additional facilities could be introduced and greatly contributed to the satisfaction and needs of visitors and tourists.

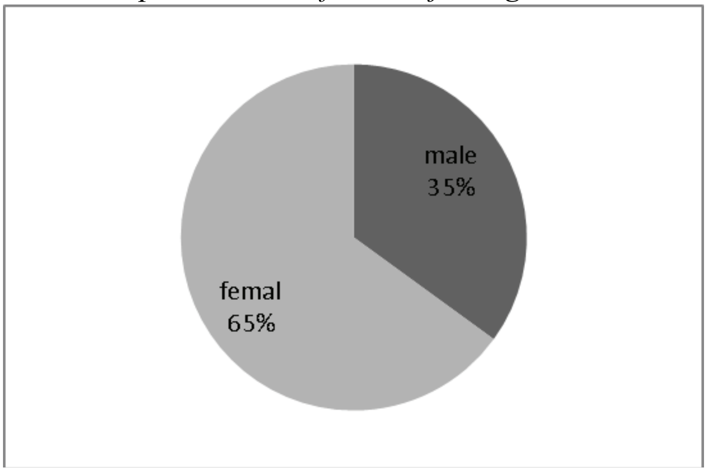
After the secondary data was collected, reconnaissance research was conducted. A survey questionnaire (Google form tool, i.e. surveys) was used to collect information about the research subject. The subject of research work is the motivation of the arrival of tourists, the visit of tourist facilities of the municipality of Marija Bistrica and satisfaction with existing facilities. The questionnaire mentioned above consists of an open type question that respondents could answer with a short answer, one multiple choice issue for measuring attitudes and nine multiple choice issues. Overall the poll makes eleven questions. The poll is anonymous so that the respondents are provided with security and freedom to answer the questions truthfully without their own identity being revealed. The questionnaire was completed by 110 respondents, who responded to demographic issues at the beginning of the questionnaire. In the second part of the questionnaire there are questions related to segments of stay in the destination and their satisfaction. Below all questions will be graphically presented because of the easier interpretation of the research.

4.1. Results of Quantitative research

Demographics and research results are presented and explained as follows:

Chart 1. shows the proportion of male and female respondents who participated in solving the questionnaire. Of the total 110 respondents, female respondents were 68% and 72 women, respectively, while male subjects participated In 32% and 38 males respectively.

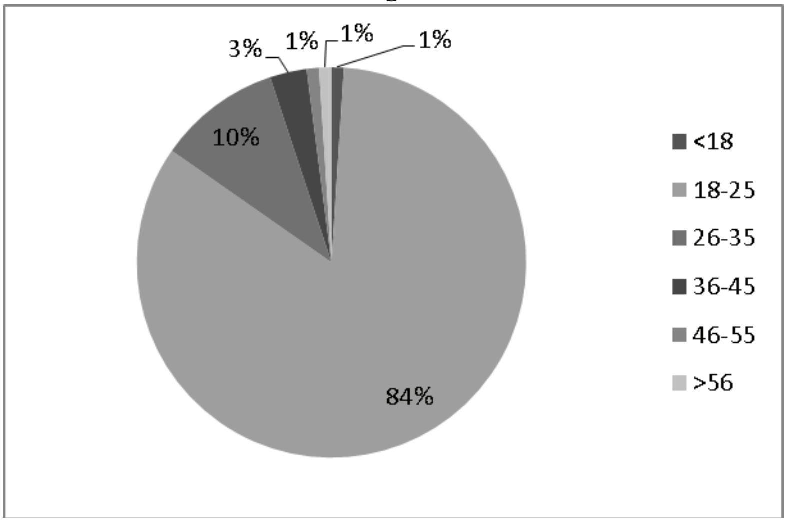
Chart 1: *Representation of the subject's gender structure*



Source: Author's own processing

The following chart shows how individual age groups are represented. The questionnaire was intended for all age groups. Thus, the most represented are those belonging to the age group 18-25 years, 82%, and the age group of 18 years old makes only 1% of respondents.

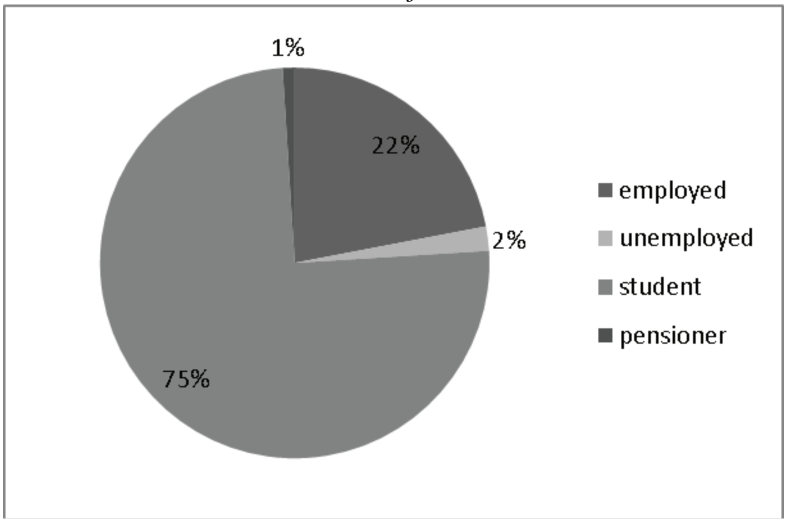
Chart 2: *Age structure*



Source: Author's own processing

Shart number 3. refers to the status of the data subject. From the enclosed, it is seen that the highest number of respondents are students with 75%, followed by employees with 22%. At least pensioners with 1% of respondents.

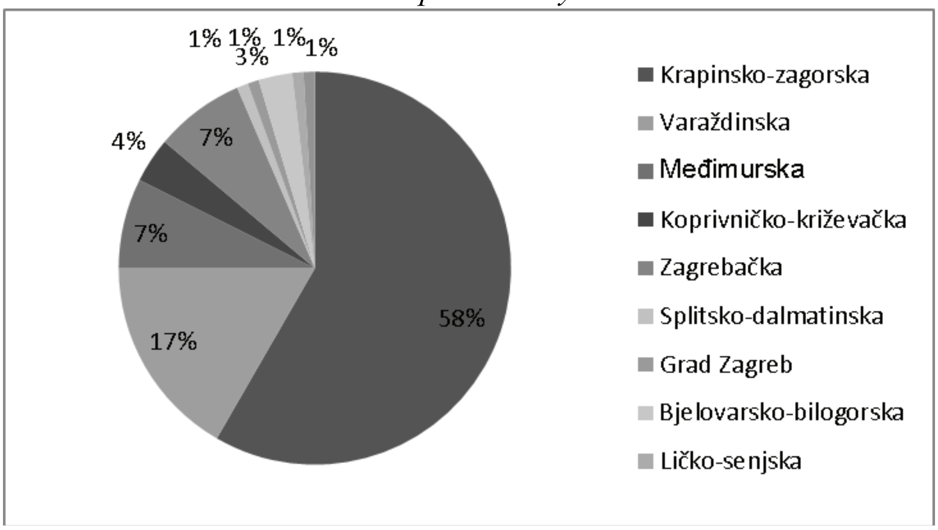
Chart 3: *Subject status*



Source: Author's own processing

Then the following chart shows the county of the Republic of Croatia from which the respondents come from. Respondents who have dealt with the survey come from 10 different counties of the Republic of Croatia. Most of them come from Krapinsko-Zagorje County, 58%.

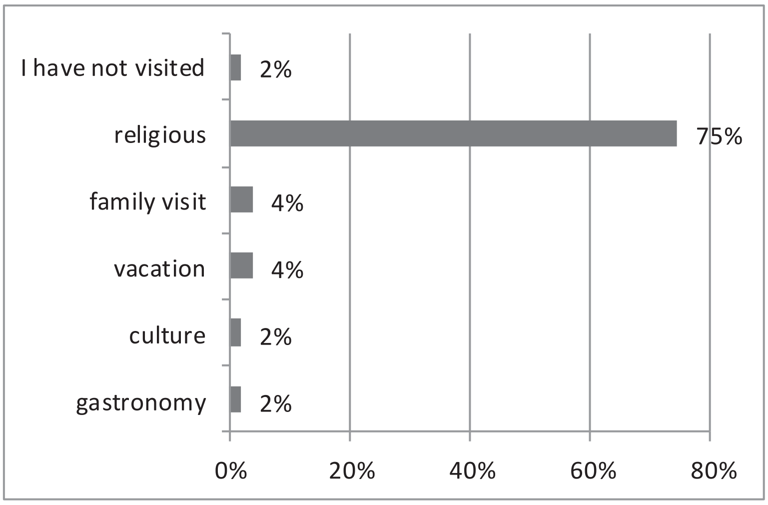
Chart 4: *Respondents by cantons*



Source: Author's own processing

Chart number 5 shows which was the motive of the respondents to visit Marija Bistrica. Since Marija Bistrica is the Croatian National Sanctuary, 74.51% of respondents stated that their motive for coming to Marija Bistrica was religious.

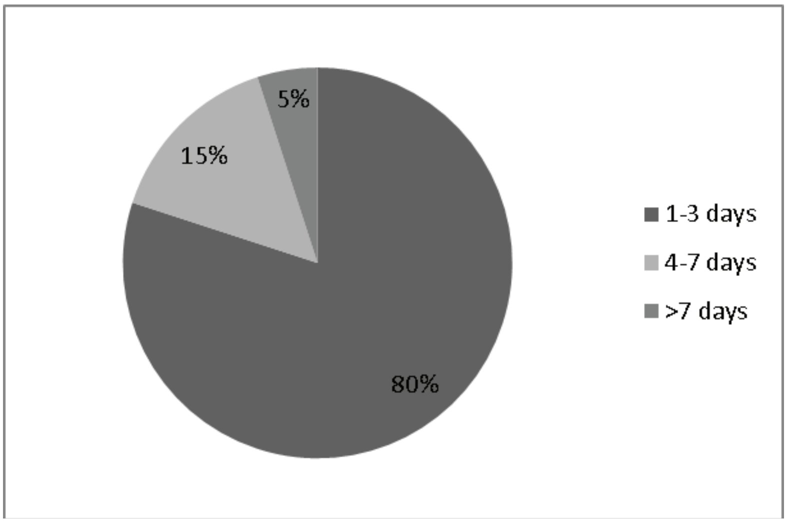
Chart 5: *The Motive of coming to Marija Bistrica*



Source: Author's own processing

Chart 6 shows how long respondents stayed in Marija Bistrica. Respondents stayed for a period of 1-3 days, 80% of the total number of respondends, then more than 7 days, 15% and 5% were between 4-7 days.

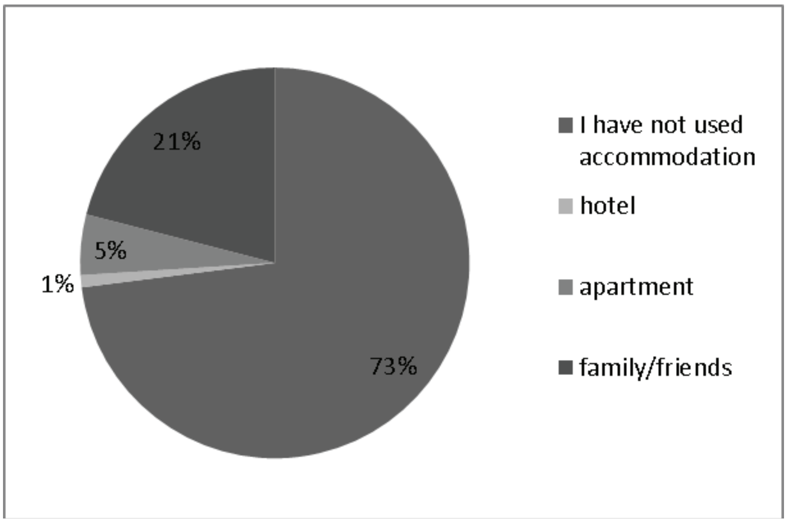
Chart 6: *The length of stay of the subjects in Marija Bistrica*



Source: Author's own processing

Chart 7 shows which form of accommodation the respondents used if they stayed longer than one day in Marija Bistrica. 73% of respondents responded that they did not use the accommodation when visiting Marija Bistrice and 21% of them were staying with family or friends. Only 1% of respondents stayed at the hotel.

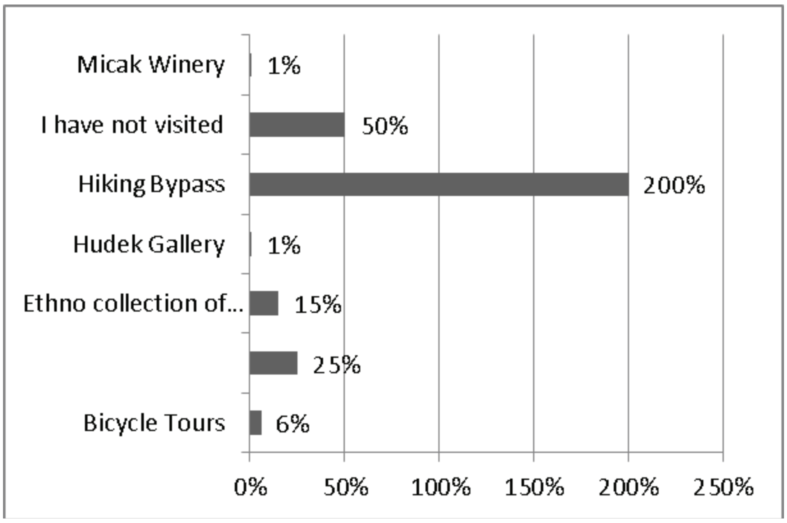
Chart 7: *The format of the accommodation used by respondents*



Source: Author's own processing

Chart 8 shows whether respondents visited some of the tourist content in Marija Bistrica, and that these were not religious facilities. The chart shows that 50% of respondents did not visit any other tourist content, but only those that are religious. Year 2017 was opened to the Visitors centre in Sculpture Park and it was visited by 25% of respondents.

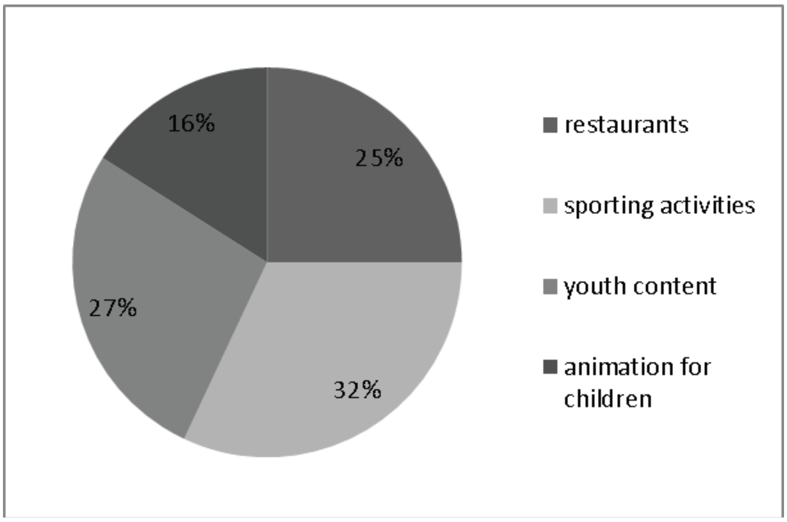
Chart 8: *Tourist Attractions in Marija Bistrica*



Source: Author's own processing

The following chart 9 shows what respondents would have introduced as additional content or activities in the tourist offer of Marija Bistrice. Respondents were most often cited in order to introduce more sporting activities, 32%, then more youth content, 27%, 25% of respondents think that more restaurants should be opened and 16% of respondents said they would introduce animation for children.

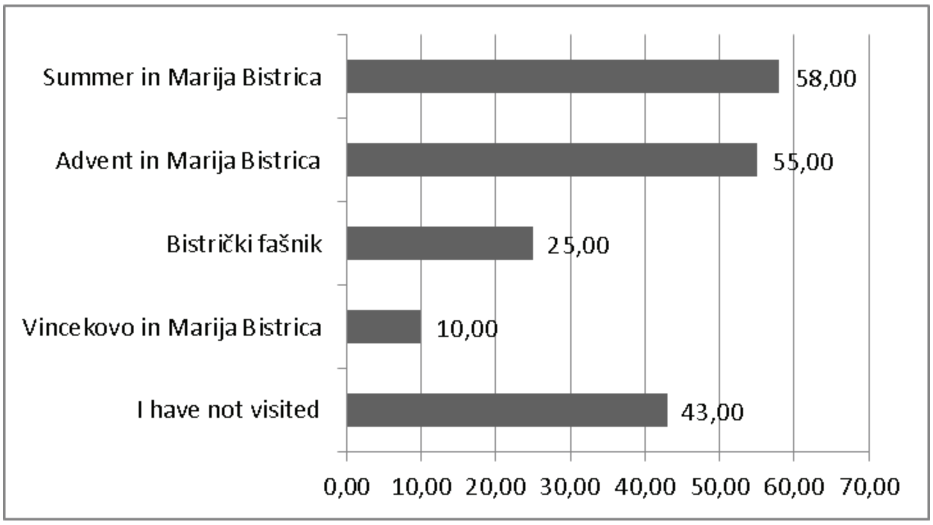
Chart 9: *Additional facilities or activities that respondents would have introduce to Marija Bistrice's tourist offer*



Source: Author's own processing

Chart 10 shows the attendance of events held in Marija Bistrica. The most famous manifestation of "Summer in Marija Bistrica" was visited by 58 of 110 respondents and "Advent in Marija Bistrica", which was visited by 55 of 110 respondents, but also 43 respondents did not visit a single manifestation of Mary Bistrica.

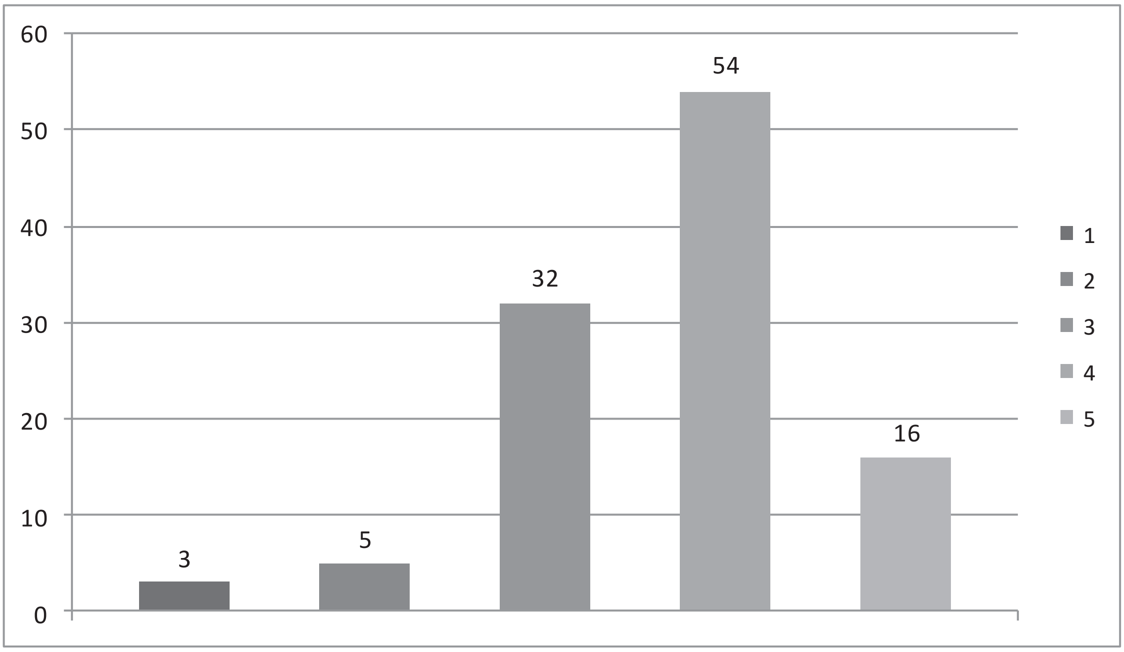
Chart 10. *Attendance at the event in Marija Bistrica*



Source: Author's own processing

Chart 11 shows how satisfied the respondents are to the tourist offer of Marija Bistrice. The chart shows that respondents are very satisfied with the tourist offer of Marija Bistrice, 49.1% rated them with a score of 4, while 2.7% were not satisfied, evaluating Marija Bistrica's tourist offer with a score of 1.

Chart 11: *Satisfaction of respondents with the tourist offer of Marija Bistrice*



Source: Author's own processing

The survey shows that respondents are very satisfied with the tourist offer of the municipality of Marija Bistrica. 54 of them were evaluated by the tourist offer of the municipality of Marija Bistrica, with a rating of 4 out of 110 respondents, and only 3 of them assessed with grade 1. In the study, more women than males, age groups between 18-25 years, or respondents who have student status, participated in the survey.
Most respondents are from the area of Krapina-Zagorje County, Varaždin, Međimurje, Zagreb and other counties of the Republic of Croatia. As a motif of arrival to Marija Bistrica, the respondents were expected to have marked religious, 83 of the 110 respondents and mostly retained for only one day. Since The majority remained for one day they did not use any form of accommodation, except 22 of 110 respondents, and stayed with family or friends. Only One respondent stayed at the hotel "Kaj".
Along with religious content, visitors visited the Visitor centre, which is located within the Sculpture Park, an Ethno collection of gingerbread hearts, a bicycle route and a hiking bypass. Namely, 54 respondents said they had not visited any of the previously listed tourist facilities. With various tourist facilities in Marija Bistrica are organized various attractive and interesting manifestations such as "Summer in Marija Bistrica" and "Advent in Marija Bistrica" which respondents mostly visited.
In the survey respondents had the opportunity to state what else in their opinion with the existing tourist facilities and events should be introduced into the tourist offer of the municipality of Marija Bistrica and the most proposals were for the introduction of more sporting activities, youth entertainment, animation for children and restaurants.
The Research concludes that visitors are satisfied with the diverse tourist offer of the municipality of Marija Bistrica, but also expressed the demand for some additional content that respondents have cited in the survey conducted, indicating potential development of other forms of tourism in the municipality of Marija Bistrica with existing religious tourism.

5. Conclusion

Marija Bistrica is a tourist place full of potential for the development of tourist offer. By the fact that it has already been recognized as the Croatian National Sanctuary of the Mother of God Bistrička, it has the possibility to develop other forms of tourism along with religious tourism. The tourist season in Marija Bistrica lasts for an entire year thanks to numerous manifestations and accompanying tourist attractions that attract not only domestic but also foreign tourists. From the secondary data collected, it can be concluded that the tourist numbers are growing more every year. After the reconnaissance survey, the tourist offer of Marija Bistrice municipality was evaluated with a score of 4 which is a very good indicator of the satisfaction of tourists and visitors, but also a good incentive for development and improvement. According to collected data, the most common motives of arrival are religious while others are less represented. The primary goal of the study was to find out how many tourists and visitors had ever visited Marija Bistrica at the time of reflecting some event or whether they visited some other tourist facilities in the place other than religious ones, and the results of the research that the number of these tourists and visitors is relatively small percentages. As for the manifestation, I think that a better promotion would greatly contribute to the attendance. In addition to religious content, events and events respondents mostly suggested that they would like to maintain some sporting activities, youth activities, animation for children, but also to open up new catering establishments. Therefore, these are all the items and segments of tourist demand that could be introduced into the tourist offer of Marija Bistrica, which would certainly greatly contribute to an even greater attendance, but also longer stay of one day or one-time excursion of tourists and visitors.

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TOURISM CHALLENGES OF PROTECTED AREAS IN CROATIA

ABSTRACT

Increased ecological consciousness, health care, as well as increased demand and interest in outdoor recreation are great opportunities, but also challenges for each protected areas (PA) to attract more visitors, meet their needs and expectations. In addition to their main purpose of existence (protection and preservation), they strive to justify their existence as more as possible through the social context and above all through the tourism development. However, tourism development and level of visit of each one greatly depend on the category, resource attractiveness, accessibility and traffic connectivity, as well as additional supply and other unique features of the PA.
Although Croatia is one of the best-ranked countries in Europe in terms of abundant natural resources and nature conservation, tourism in PAs are poorly developed, besides few of those (e.g. Plitvice Lakes National Park, Krka National Park). It is important to note that within the tourism in PAs in Croatia, the most active are national parks and nature parks. The core differences are that nature parks have a lower level of resources attractiveness and they are under lower rank of protection. Consequently, there are greater economic opportunities in using resources opposed to national parks, but the main question is the exploitation of these opportunities and other specific challenges of both PAs.
In accordance with previous circumstances, the main aim of the paper is to provide an overview of current research in the field of tourism in PAs, with a focus on the current challenges of protected areas and tourism sustainability, separately in nature parks and national parks. It is to expect that paper will assure better understanding of the necessity of tourism adjustment in PAs in Croatia, especially tourism in nature parks, in order to achieve better position on tourism market and achieve sustainable and more competitive tourism development.

Key words: *tourism in protected areas, national parks, nature parks, challenges of sustainable tourism of protected areas*

1. Introduction

Although the establishment of PAs represents one of the most effective ways of protecting resources, society expects more and more benefit from them, especially in economic terms. In such circumstances, tourism development represents one of the preferred form of their economic use. Accordingly, the relationship between tourism and PAs lasts from the very beginnings of the establishment, where tourism is a key component in their establishment and management. The economic impact of tourism in PAs particularly emphasizes their community, regional, as well as national importance. It is to expect that better understanding of the economic impact and the opportunity of tourism in PAs will lead to a more systematic treatment of tourism in such area (Eagles et al., 2002). It is necessary to emphasize that economic impacts and opportunities of tourism development in PAs greatly depend on the category, resource attractiveness, accessibility and traffic connectivity, as well as on the breadth of possibilities of creating additional supply and other unique features of the PA. Above all, the most important thing is whether PAs can generate sufficient visitation to make efforts of all involved participants valuable (i.e. profitable). In accordance with the distinctions of certain categories of PAs (and therefore the opportunities), they are separately considered for national and nature parks.

Protected areas, especially national parks all over the world, represent a unique, highly ranked tourist attraction (Mayer, 2014), which will continue to attract even more and more visitors. While some globally famous national parks are sought after and visited, other less known PAs (e.g. nature parks, regional parks and some national parks) seek to increase the interest and number of visitors in the park itself in order to be more economic sustainable and to reimburse benefits to the local community as well (Jaković, Golub, 2018). One of the main reasons for the strong focus on tourism revenues is the lower inflow of government funds into the functioning of public institutions due to the state's intensions to reduce the number of beneficiaries from the state budget.

Other reason of such behaviours is the result of ever-increasing pressure on parks to show direct economic benefits in order to justify their existence[1], which is completely risky for sustainability in general (Som et al, 2006). Given the growing focus of many national parks and other PAs on profitability (under previous pressure), the question arises whether they are aware or have forgotten their primary purpose of being? Are they really more concerned with economic issues?

In addition, the question arises whether they can, as well as others which are not yet concerned with economic issue, resist the ever-present trend of "capitalism“ and slow down with the interests of the „society of economics“? Are they able to establish a balance between primary purpose (protection, education, increasing ecological consciousness) and the growing expectations of society in terms of increasing economic benefits? In the end, will the problems of endangering nature and the environment in some overcrowded PAs escalate (e.g. National Park Plitvice Lakes) and cause irreparable damage to these areas? As Nagle (1999) states, nowadays there are many problems in the PAs of Europe including overcrowding, changes in the habitats of native animals, introduction of exotic species, footpath erosion and conflict between competing users, which at the same time represent great challenges they are

[1] According to the Strategy and action plan for nature protection of the Republic of Croatia for the period 2017 to 2025 (NN 72/2017), increasing the financial sustainability of the nature protection system is one of the priorities within third strategic objective - Strengthening the capacities of the nature protection system, available at: https://mint.gov.hr/UserDocsImages//AA_2018_c-dokumenti//180703_i_kreitmeyer_konf.pdf (20.3.2019.)

facing. Responses to previous and other similar issues can help address the challenges and problems faced by PAs. Furthermore, given that the relationship between tourism and the PA lasts from the very beginnings of the establishment (Eagles, 2002), in solving the crucial issues and challenges, the proposed solutions for the further development of PAs should not exclude tourism development.

In accordance to the previous mentioned, this paper discusses challenges and issues of PAs, which are the consequence of expectations and pressures of society and current tourism development as a whole. One of the reasons for this paper is to define priority research of tourism in PAs in Croatia and to encourage further discussion of academic community and other researchers with the aim of improving tourism sustainability in PAs. An additional motive is insignificant research and monitoring the movement of tourism, as well as the lack of management efficiency in tourism and PAs themselves and still insufficient and inadequate tourist exploitation of many PAs in Croatia. The purpose of the paper is to present the challenges and issues that will influence further sustainable tourism development in PAs, which should be the priority of the work of public institutions of PAs. The paper is focused on the situation in national parks and nature parks in Croatia. The main aim of the paper is to provide an overview of current tourism challenges and issues of PAs in Croatia, separately in nature parks and national parks. Emphasis is on the issues of ecological sustainability of tourism in overcrowded PAs, due to the continuous increase in the number of visitors (e.g. Plitvice Lakes National Park, Krka National Park, Medvednica Nature Park) and on the issues of economic sustainability of tourism in less visited PAs (e.g. National Park Risnjak, Nature Park Papuk, Nature Park Žumberak-Samoborsko gorje). It is to be expected that the paper will assure better understanding of the necessity of tourism adjustment in PAs in Croatia, especially tourism in nature parks, in order to achieve their main objectives (protection and preservation) and sustainable and more competitive tourism development.

2. Main challenges of protected areas: review of tourism

During the twentieth century, a large number of PAs were designed all over the world. Many countries (Australia, Canada, Brazil, Chile, Sweden, and Russia) have announced expansion in their protected area networks, supported by IUCN and WWF (Dudley et al., 1999). As protected areas were set up in one country after another, each nation developed its own approach and there were initially no common standards or terminology. Considering that PAs terminology and criteria of establishment were not equal in all countries, at the International Conference for the Protection of the Fauna and Flora in 1933, four standardized categories of PAs were set up: national park, strict nature reserve, flora and fauna reserve and reserve with prohibition for hunting and collecting (Phillips, 2008). The last change in the international categorization of PAs occurred in 2008 at World Conservation Congress by the International Union for Conservation of Nature (IUCN), which adopted and defined seven categories of PAs (Table 1.) (Dudley, 2008). IUCN recommended that each country adjusts the categorization according to the defined categories. It can be said that the initial global challenge is to equalize the categorization of PAs in all countries in order to protect the same natural resources in the same way all over the world.

Further, as Dharmarante et al. (2000) stated, it is necessary to demonstrate that the benefits of PAs are higher than the cost of establishing. As it is already known, tourism and recreation in PAs have a number of impacts. Tourism provides a crucial and unique way of fostering visitors' connection with PA values, making it a potentially positive force for conservation.

Visitor experiences can be transformative for an individual's personal growth and well-being, while instilling an increased sense of stewardship and support to the value of PAs, thus affect on raising the level of ecological consciousness. PA tourism's economic benefits, which depend on beautiful natural areas, healthy wildlife and nature, and authentic culture, can also be a powerful argument for conservation (Leung et al., 2018). Additionally, tourism can provide a key means for park agencies to realize their objectives (and the other needs of society), but it can bring damages to PAs from the ecological, economic and sociocultural aspect (Bushell, Eagles, 2006; Scheppard, 2006).

In order to show linkage between tourism and the importance of applying the proposed IUCN categorization of PAs, example of Croatian categorization is listed below. Certain PAs in Croatia (e.g. Nature park, Regional park etc.) have insufficient international interest in visiting (therefore the lower income, shorter stay of visitors, etc.), because the lack of recognition of the value of a particular category of protection (consequence of incomplete alignment with the IUCN categories). The correlation between the proposed PAs categories of IUCN and categories in Croatia is shown in Table 1.

Table 1: *The correlation between the PAs categories of IUCN and PAs categories in Croatia*

IUCN categories	**Categories in Croatia**
Ia Strict Nature Reserve	Strict Reserve
Ib Wilderness Area	Special Reserve
II National Park	National Park
III Natural Monument or Feature	Nature Monument Park-forest Park Architecture Monument
IV Habitat/Species Management Area	N/A *(i.e. EU network Natura 2000)*
V Protected Landscape/ Seascape	Significant Landscape
VI Protected area with sustainable use of natural resources	*Nature Park* *Regional Park*

Source: authors

It can be concluded that PAs which are not categorized as such by the IUCN are not nearly recognizable, neither valuable as globally known and uniquely categorized national parks. Generally, the main challenge of park agencies is to maximize the benefits for all involved participants and at the same time to minimize the costs of tourism development and recreation in PAs. Nowadays, national and nature parks are under extreme pressure from the demand for outdoor activities, especially during the peak season (e.g. litter problems, traffic congestion and air pollution, intake of weeds and invasive plant species, disturbing of animals etc.) and the development of tourism facilities, such as large hotels or hospitality venues (Nagle, 1999).

There are many different issues and challenges of PAs related to tourism that need to be addressed in order to manage with PAs in sustainable manner. Some of the most important challenges of PAs (grouped by key principles of sustainable development) are summarized in Table 2.

Table 2: Challenges of sustainability of PAs

Element of sustainability	Main challenges
ECOLOGICAL SUSTAINABILITY	maintain a satisfactory level of resources protection and preservation (e.g. biological diversity, quality of air, water etc.) under conditions of insufficient investment in biodiversity conservation and increasing pressure on natural resources through tourism development and other activities, promote nature protection by educating visitors in order to increase ecological consciousness (many visitors are not involved in education; visitors are not primarily motivated for ecotourism, etc.), threats from illegal incursions, poaching and fire, etc.
SOCIOCULTURAL SUSTAINABILITY	matching protection priorities more closely with human needs, especially locals (benefits from tourism, agriculture and forestry, fishing, etc.), confrontation with the phenomenon of "paper parks" (protected areas are designated, but never implemented), collaboration and networking with public and private stakeholders in order to achieve and sustain long-term benefits, etc.
ECONOMIC SUSTAINABILITY	reducing state revenues (more and more focus on the market - it is difficult to balance with protection), insufficient funds for better organisation of tourism development (for creating acceptable infrastructure and superstructure and other necessary facilities), improving financial administration and effectiveness, creating an enabling financial and economic framework, etc.

Source: authors using part of data from Emerton, L., Bishop, J., Thomas, L. (2006): Sustainable Financing of Protected Areas: A global review of challenges and options. No. 13. IUCN, Gland, pp. 12-16. and 1.; Dudley, N. et al., (1999): Challenge for protected areas in the 21st century. In: Stolton, S., Dudley, N., ed.: Partnerships for protection: new strategies for planning and management for protected areas, Earthscan, London pp. 4-5.

In order to overcome the previous mentioned and other challenges from the surroundings, it is necessary that PAs develop incentive measures, which will motivate government, local people and international organisations to conserve biological and cultural diversity. Further, existing legislation and economic policies need to be reviewed in order to identify and promote incentives for conservation and sustainable use of the resources, and to remove or modify those that threaten biological diversity and cultural integrity. In conclusion, as they achieve recognition, appreciation and enhanced protection when sufficient number of people visit those (Eagles, et al., 2002), it is important to create a framework that enables long-term harmony between PAs and tourism development and accordingly provide the basis for dealing with the challenges that tourism faces. In managing visitors, park management should be careful not to attract the wrong groups of visitors and the provision of inappropriate activities. There is also a tendency to develop inappropriate facilities or attractions to attract visitors to maximise economic benefits. Such development will eventually lead to mass tourism and exceed carrying capacity, which are in conflict with the primary objectives of conservation and ecotourism development. While the number of visitors has increased, the types of visitors were 'diluted' (becoming softer) by less serious visitors with regard to ecological consciousness (Som et al, 2006).

A similar situation regard to mass tourism and the type of visitor has happened in some national parks in Croatia, which will be discussed more detailed in the next chapter. In addition, there are even more PAs that could be used in a fully sustainable way, with the aim of gaining greater benefit for all involved participants. The challenges of tourism in PAs in Croatia generally derive from the raised key issues and are multiplied by economic, socio-cultural and environmental impacts.

3. Tourism challenges of PAs in Croatia

The beginning of tourism in PAs is linked to the establishment of the first national parks in America and Europe. Given that ecologically valuable and naturally more attractive areas, parts or phenomena of nature are under protection, it is clear that they make highly required tourist attractions (Krapina, 2015). However, in some countries, the PAs did not understand their tourism potential at first and it was developing slowly (e.g. tourism in PAs in Croatia). As McCool and Spancely (2014) stated, there are three significant trends of understanding and managing the nexus of tourism and PAs. Firstly, never more people wanting to visit, learn and appreciate their natural and cultural heritage. Secondly, international conservation efforts are increasingly dependent on PAs serving as the cornerstone of stopping the loss of biological diversity and thirdly, demands from society on protected areas are not only increasing, they are diversifying as well. These three trends accelerate the need for not only greater institutional capability to manage visitors and tourism development, but also more knowledge about visitor preferences, their behaviour, needs, spending patterns and social and environmental impacts, which poses new challenges and opportunities for the conservation movement and civil society as well.

Although Croatia has great tourism potential considering the wealth of natural heritage, it is very poorly used. There are several reasons for this, but one of the most prominent is over-orientation of tourism policy on mass tourism in the maritime areas. Other forms of tourism in the rest of the country, especially those in continental Croatia that are away from receptive mass tourism destinations, have been developing sporadically by the initiative of individuals or interest groups (e.g. tourism in PAs).

Apart from the fact that most of them are less valorised in tourism, there are certain differences between each PA in terms of level of visit, degree of tourism development, economic and ecological sustainability, possibilities and limitations for further investment according to the legal regulation, etc. In the foreground, differences are evident between national and nature parks, which are the most active in tourism sense and occupy the majority of the total area of PAs in Croatia. Additionally, only these two categories are managed by the State (through public institutions of each national and nature parks) and the county public institutions for PAs manage the rest.

While some of them still do not use enough their tourist potentials, others are facing with the problems and challenges that tourism brings (i.e. economic, ecological and social sustainability). For example, according to data of the Ministry of Environment and Energy of Croatia, Plitvice Lakes National Park and Krka National Park visit about 75% of the total number of visitors in protected areas in Croatia,[2] which seems to be economically acceptable for them. Marušić et al., (2007) already stated in their research that the aspiration of the parks

[2] According to data of the Ministry of Environment and Energy of Croatia, available at: https://mint.gov.hr/UserDocsImages//AA_2018_c-dokumenti//180703_i_kreitmeyer_konf.pdf , (25.3.2019.)

are to maximize self-financing of their activities (to be as far as possible economically self-sustainable), which means that revenue from visitors becomes more and more important in park management. Because of this, such PAs are increasingly faced with the problems of high environmental pollution risk. Some PAs are already facing the consequences of the previous market behaviour and approach (e.g. Plitvice Lakes National Park).

Potential benefits show that tourism development in PAs can be very useful, such as increasing jobs for the locals, increasing income, stimulates and diversifies local economy, encourages local manufacture of goods, contributes to protection of natural and cultural heritage, supports research and development of good environmental practices, supports environmental education for visitors and locals etc. (Petrić, 2008). In addition to the potential positive, tourism can bring negative effects that can be result of excessive visitation. The first challenge of tourism of PAs is to maximise benefits for the society, but the main challenge of public institutions are to be able to competently manage and alleviate negative effects. It is obvious that the efficiency of public institutions can be seen as the ability to deal with the challenges that arise from the costs of tourism in PAs (summarized in Figure 1.). An additional challenge is to raise the level of knowledge, understanding and public support for nature protection[3], in conditions where many public institutions fail to have direct contact with visitors, due to a large fluctuation of visitors during the summer months. The question is whether they can fully fulfil this one and other defined tasks in accordance with legal regulations and strategic documents.

Figure 1: *Three kinds of tourism development costs*

Financial and economic costs	→	Increased costs in terms of safety, additional personnel and facilities needed by tourists etc.
Socio-cultural costs	→	Different conflicts between tourists, tourism development objectives and resident population, etc.
Environmental costs	→	Degradation of environment, loss of biodiversity etc.

Source: according to Petrić, L. (2008): How to develop tourism sustainably in the coastal protected areas? The case of" Biokovo Park of Nature", Croatia. Acta turistica nova, Vol. 2, No. 1, pp. 7.

Therefore, it is necessary to establish a balance between explicit focus on revenue that tourism generates in PAs (to the local, regional and national economy) and on the other side the negative outcomes that may arise through the interaction with the local population and the environment, as Leung et al. (2014) stated in the paper. Certainly, there are challenges for each park agency ahead to maximize the benefits and at the same time to minimize costs, in accordance with their specifics arising from the legal regulation and other features.

Further challenges of national and nature parks are different possibilities and the framework in which the tourism development takes place. The core differences in sense of tourism development are that nature parks have a lower level of resources attractiveness and according to the Nature Protection Act (NN, 80/13; 15/18) they are under lower rank of protection opposed to national parks. However, it does not mean that tourism in nature parks can develop

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[3] Raise the level of knowledge, understanding and public support for nature protection is a one of the five strategic objectives of the Strategy and action plan for nature protection of the Republic of Croatia for the period 2017 to 2025 (NN 72/2017), available at: https://narodne-novine.nn.hr/clanci/sluzbeni/2017_07_72_1712.html (18.3.2019.)

freely and without any control, but it should be developed in a framework in which they will not destroy their main phenomenon. Consequently, there are greater economic opportunities in using resources opposed to national parks, but the main question is how to exploit these opportunities and how to deal with other specific challenges of tourism development? For example, according to data of the Ministry of Environment Protection and Energy of Croatia, presented at conference "Croatian parks and tourism" in 2017 there were about 4.100.000 visitors (of which only about 365,000-visited nature parks). National parks can be the holders of high quality tourist offer of a wider area, but not the zone of concentration of accommodation capacities, which is a problem in some national parks (Plitvice Lakes National Park, Brijuni National Park). On the other hand, the main function of the nature parks is to protect the natural areas from a greater concentration of economic activity or overbuilding. It is important to note that there were certain forms of economic activity and housing construction, even before the proclamation, opposed to national parks. For this reason, tourism or other economic activity does not necessarily have to be excluded from the nature parks, but should be reduced to a framework in which it will not destroy the main phenomenon for which they are protected (e.g. conflict of the extension of the ski resort and forest area in the Medvednica Nature park).[4]

Table 3: *Identified major disadvantage of tourism and low rated activities of PAs*

Major disadvantages of tourism in PAs	Low rated activities of PAs
inadequate visual identity	promotional / marketing activities
insufficient visitors infrastructure	knowledge / skills for tourism management
insufficiently utilized tourist potential in most parks	knowledge of the structure and needs of target groups of visitors
low environmental performance	monitoring the impact of tourist use on the PAs

Source: Ministry of Environment and Energy of Croatia, Tourism in the parks of Croatia, data presented at the conference "Croatian parks and tourism", 2018, Igor Kreitmeyer, Assistant Minister of Environment Protection and Energy[5]

Additionally, as it was stated in introduction, there were only a few research in field of tourism development in PAs in Croatia. There are missing studies, which will show the relevant qualitative and quantitative characteristics of tourism in PAs.

3.1. Tourism challenges of national parks

National parks in Croatia are mostly located in the coastal area (six of a total eight). Although Plitvice Lakes National Park and Risnjak National Park are out of coastal zone, they are close to and are mostly visited by the mass tourists from the coast. Plitvice Lakes National Park is the most visited PA in Croatia, with 1.7 million visitors (out of which 700,000 are overnight stay). In addition to the Plitvice Lakes National Park, the area of the Krka National Park is second most visited and valued protected area in Croatia. Beside wide range of their attractiveness (i.e. beautiful landscape, the wealth of natural heritage, cultural and historical monuments), additional strength of tourism development is the tourist-geographic position, i.e. close proximity of a strong outbound area – coastal mass tourism destinations, from which holidaymakers mostly come as one-day visitors (Radeljak, Pejnović, 2008).

[4] PAs in Croatia - shapes and problems, available at: www.geografija.hr/hrvatska/zasticena-podrucja-u-hrvatskoj-oblici-i-problemi/ (21.3.2019.)

[5] Available at: https://mint.gov.hr/UserDocsImages//AA_2018_c-dokumenti//180703_i_kreitmeyer_konf.pdf (20.3.2019.)

Previous mentioned circumstances are facing almost all national parks with the fact of their excessive visitations, mostly during the summer months (July and August). Given that it is mostly day-trips (where visitors are consecrated to one or two points), it can be concluded that the pressures are enormous and the social benefits are too small (e.g., spatial constraint of supply conditioned by demand within the park - incomes are too low). Marušić et al. (2007) has presented in the research that the average of daily expenditure ranges from 17 to 26 euros.

Furthermore, Petrić (2008) highlighted in his paper that the incomes are still low due to lack of appropriate supply. The challenge that many parks are facing, is linked to the strategy of relieving key visitor points, which should focus on better tourist utilization of the remaining parts and resources (suitable for visitors), such as individual buildings with a long tradition and architectural significance. As stated by Ivanuš (2010), on the example of Plitvice many of the buildings are neglected, not maintained and their values have not been utilized nor are tourism valorised and presented. Although they are enrolled in the Register of Cultural Property of the Republic of Croatia and in fact already have a peculiar meaning, they are poorly maintained and devastated (e.g., the Villa Source, the Kozjak Restaurant and the forest huts are neglected and out of function). In addition to this, it is necessary to establish system of carrying capacity assessment, which are linked to the monitoring systems, to ensure strict visitor flow management (State Audit Office of Croatia, 2014).

Furthermore, locals are poorly involved in supply at key locations of visitations (through providing indigenous food, souvenirs and other products). Apart from participating in the production and sale of their own products (outside the narrower zone of the park), they provide food and accommodation services close to park.

As far as environmental protection and sustainability are concerned, many areas are faced with various problems. Apart from the commonly known problems facing Plitvice Lakes and Krka (inadequate public infrastructure and illegal construction, pressure on key visitor points, etc.), Šulc and Valjak (2012) point out an example of insufficient sustainability of Mljet National Park. The major challenges it faces are inappropriate extension of buildings, usurpation of the coast, unresolved problem of wastewater drainage and pollution of the sea related to nautical tourism, for which there is no needed infrastructure. On Kornati and Mljet there are additional problems of illegal construction, uncontrolled access and illegal fishing of visitors and locals (Mackelworth, Jovanović, 2011). Finally, the inadequate number of employees in national parks and the lack of co-operation among the institutions are the main reasons why the state audit has assessed that the protection of nature and biodiversity in national parks is only partially effective.[6]

In 2016, UNESCO has seriously warned the Plitvice Lakes National Park because of the overwhelming number of visitors and problems of over-construction and space management. In response to the current UNESCO requirements for more effective management, the design of a new management plan emphasizes the management of visitors.[7] With regard to the problems of national parks (primarily Plitvice Lakes), they have begun to develop new management plans that should respond to the challenges of managing the number of visitors

[6] Official web page of Business Diary, available at: http://www.poslovni.hr/hrvatska/drzavni-revizori-upozoravaju-nacionalnim-parkovima-treba-vise-radnika-i-bolja-protupozarna-zastita-272921 (14.3.2019.)
[7] Information and communication portal of the Croatian Telecom (T-portal), available at: https://www.tportal.hr/vijesti/clanak/priprema-se-novi-plan-upravljanja-plitvickim-jezerima-20170131 (15.3.2019.)

but also the preservation of nature and the environment and to define the measure between to preserve the area as it is today and its further development.[8]

Therefore, as already mentioned in the previous chapter, the main issue of national parks is to maintain the desired level of protection and to deal with the challenges of providing a satisfactory level of benefits to all involved participants (through sustainable tourism development).

3.2. Tourism challenges of nature parks

There are eleven nature parks in Croatia (six are in coastal part and rest in continental Croatia). Since the most of nature parks do not have a large number of visitors (such as Plitvice Lakes National Park), none of them are faced with serious problems of environmental sustainability, due to the increased visitor presence. However, some nature parks over a decade have a continuous increase in the number of visitors (nature parks in the coastal part and near big cities, e.g. Medvednica and Telašćica), which are currently facing with visitor management issues and it is to expect that tourism in these parks will have greater pressures on the environment.

The motivation for visiting national parks is to overcome the pull factors because national parks are farther away from cities, leading outbound tourist areas, and because of the special attractiveness of the original wilderness, while visiting nature parks is motivated above all by push factors (motivation for tourist-recreational activities). Lower degree of nature parks protection is the result of already existing use of the area for various purposes (forestry, agriculture, hunting, mining, etc.), which in this tourism and recreational evaluation offers a broader range of recreational activities (Opačić, et al, 2014).

Given the current state of tourism development, but also the growing lack of financial resources, public institution of nature parks are mostly focused on increasing tourism revenues and benefits for the local population too. The main challenge of nature parks is to increase economic sustainability through the tourism development. The fact that nature parks have a significant potential to invest in the development of tourism supply, such as additional accommodation facilities, adrenaline parks and others facilities (versus national parks) is noteworthy challenge, but the investments are still weak, as well as the number of visitors.

A question arises why nature parks have not yet taken advantage of the potential for significant investment in tourism development. In addition to own investments, nature parks versus national parks can rely more on external sources of investment (investments by local and other entrepreneurs). According to the data contained from the Report of the annual program implementation for the protection, maintenance, conservation, promotion and use of nature parks, it is clear that public institutions do not issue any significant concessions affecting the development of tourism (e.g. authentic events). Additional efforts by public institutions of nature parks should go in the direction of animating the local community (entrepreneurs, households and others) for inclusion in the tourism of nature parks and above all through various workshops, education and training for tourism in protected areas.

In order to help tackle this challenge, it is necessary to explore the main reasons for insufficient cooperation and private sector investment in the development of tourism in nature

[8] Official web page of Ministry of Environment and Energy of Croatia, available at: https://www.mzoip.hr/hr/ministarstvo/vijesti/novi-plan-upravljanja-np-plitvicka-jezera.html (18.3.2019.)

parks. The presupposition of inadequate investment is closely related to the return on investment, given the poorer visitations and willingness to spend. Additionally, according to Lonjsko Polje Nature Park Bulletin (2010) existing providers of accommodation and gastronomic supply (i.e. Family farm owners or artisans) are not professionally trained or trained for carrying out tourism activities (accommodation and accompanying services and facilities, gastronomy, internet communication, interior decoration and cultural heritage, etc.). It is also necessary to investigate the reasons for insufficient cooperation of public institutions with local and regional government and the possibility of establishing formal programs to encourage investment in nature parks (tax relief, soft loans, grants, etc.).

According to the management plans of certain nature parks, the result of defined goals related to tourism and visits should be equal distribution of visitors to different locations (destinations) in nature parks (i.e. Lonjsko Polje Management Plan, Papuk Management Plan, Telašćica Management Plan). An example of overcrowded locations (partly due to avoiding of carrying capacity) are the mountain top of Sljeme in the Medvednica Nature Park, the Peace Bay in Telašćica Nature Park, the Park-forest Jankovac in Papuk Nature Park and others. This is one of the most accomplished tasks (with respect to the mission of protected areas), as despite the smaller number of visitors (opposed to the most visited national parks), certain ecological problems can be expected, given the excessive spatial and temporal concentration of visitors to certain points. Therefore, the challenge is to define carrying capacities for particular locations, i.e. the limit of acceptable changes, to establish monitoring measures and to manage and control the movement of visitors. On the other hand, most nature parks are faced with the problem of impossibility of tracking the exact number of visitors due to the numerous access routes that enable access to nature parks (land and sea routes), which further affects the previously highlighted challenge.

As stated in the Kopački Rit Nature Park Management Plan (2011), maximizing the economic benefits of park visitors as well as minimizing the negative impact of these visits does not depend so much on the number of visitors as on how it is managed by visiting the parks. Optimizing the visit, both from the point of view of visitors who are looking forward to experience and satisfaction, as well as from the point of view of managing the movements of visitors, requires understanding the characteristics of visitors, their wishes and needs and how they use the infrastructure and services of the park and the degree of their satisfaction. In order to improve the existing situation and to plan tourism better in parks , it is necessary to refine the process of collecting information about visitors, on the basis of which a certain and adequate offer will be created in line with the fundamental objectives set by the principles of management in protected areas.

None Nature Park is involved in the activities of a regular, permanent research of visitors. This is great disadvantage for nature parks because, due to the lack of knowledge of the visitors' profile, the effectiveness of the marketing activities undertaken is questionable (from product creation to concrete communication activities to target demand). As Vučemilović and Vištica (2017) stated, in designing nature parks supply, it is necessary to take into account the visitors structure and their motives for arrival, given that the habits and expectations of visitors are constantly changing and providers of tourist services must be in line with these changes, continually redesigning tourism supply. Needless to consider whether public institutions of nature parks are ready and able to deal with tourism challenges, given the capacity and the number of employees, the knowledge, skills and behaviours needed for the tourism development (managerial, economic, marketing, etc.)?

4. Conclusion

It is important to emphasize that many PAs in Croatia are suitable for tourism and recreational activities. In addition to their main purpose of existence (protection and preservation), PAs strive to justify their existence as more as possible through the tourism. In the focus of tourism development in protected areas are definitely national parks and nature parks that abound in natural attractions and attractiveness. While most national parks are highly internationally valued and visited (most are foreign visitors), domestic visitors mostly visit nature parks. The core differences are that nature parks have a lower level of resources attractiveness and they are under lower rank of protection. Consequently, there are greater economic opportunities in using resources opposed to national parks.

The main challenge of PAs is to demonstrate that their benefits are higher than the cost, (e.g. they influence on the raising of ecological awareness within tourism, conserve and protect all entrusted resources, generate sufficient economic and social benefits for all involved participants). In such circumstances, the question arises whether PAs can go ahead with this challenge and achieve the desired ecological, social and economic goals. Further, these challenges (ecological, economic and social issues) between national parks and nature parks in Croatia differ, but also between individual national or nature parks. Generally, most national parks should find adequate strategy of temporal and spatial relieving park visits, because of the large inflow of visitors within one location. Unlike national parks, nature parks are superficially larger, but with a lower number of visitors. Given that PAs have measured their success, inter alia, with the number of visitors, nature parks want to be able to show their numbers as well. In order to show their social usefulness, they have to take advantage of significant investment possibilities in tourism development (investments in infrastructure, supra-structure, the inclusion of the private sector in the supply of additional services and the provision of tourist activities, etc.).

In order to deal with all challenges and problems that arise due to the complexity of the relationship between duties involved, PAs should be guided by the principles set out in the Guidelines for Management of Protected Areas and/or Ecological Networks (2018). According to the Guidelines, the long-standing worldwide practice in managing protected areas and monitoring their effectiveness in nature conservation has shown that principles of adaptability and participatory management are important for success. As far as the actual situation is concerned in Croatia, the PAs in planning and management are fully governed by the principle of adaptability, but the principle of participatory management is not present in the implementation of particular important activities. In order to deal better with current and future challenges and problems, PAs need to strengthen co-operation with all relevant stakeholders (local and regional government, civil society, entrepreneurs, family farm owners, public organizations that manage resources in nature parks, locals, etc.). The lack of co-operation among the institutions, together with the inadequate number of employees are the main reasons why the National audit report of conservation of nature, protection biodiversity and management in national parks has assessed that the protection of nature and biodiversity in national parks is only partially effective. Additional efforts by public institutions of nature parks should be done in the direction of animating the local community (entrepreneurs, households and others) for inclusion in the tourism of nature parks and above all through various workshops, education and training for tourism in protected areas.

Future research should investigate the main reason for insufficient cooperation among the public institutions, private and public sector (individually nature parks and national parks).

Further, it will be useful to investigate the reasons for insufficient investment of private sector in the tourism development in nature parks, for example through concessions for authentic events, etc. It is also necessary to investigate the reasons for insufficient cooperation of public institutions with local and regional government and the possibility of establishing formal programs to encourage investment in nature parks (tax relief, soft loans, grants, etc.). It is also valuable to investigate whether existing providers of accommodation and gastronomic supply (i.e. Family farm owners or artisans) are professionally trained or trained for carrying out tourism activities (accommodation and accompanying services and facilities, gastronomy, internet communication, interior decoration and cultural heritage, etc.). The main limitations of further research in the field of tourism in PAs in Croatia are outdated and insufficient researches of tourism development, non-existing of adequate tourism statistics and statistical monitoring.

Finally, it can be concluded that PAs need to be better prepared to deal with even more challenges expected by the continuous increase in the number of visitor arrivals, because of today's busy lifestyle, where PAs are seen as the stress free destinations. On the other hand, environmental pressures will increase, by increasing the economic interests of particular interest groups. In the end, the question is whether they will continue to be protected areas in the future and what they will keep for the present and future generations.

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DEVELOPMENT OF CROATIAN CULTURAL TOURISM: WHERE IS EASTERN CROATIA?

ABSTRACT

In a country with a rich cultural, natural and historical diversity, such as the Republic of Croatia, the cultural tourism is certainly one of the most important economic branches. The proof of this is the adoption of the state strategy for the development of (cultural) tourism, as well as numerous papers covering the topic from the scientific and professional point of view. The present paper aims to determine not only the extent to which scientific and professional literature on cultural tourism reflect the general level of interest in this topic, but also to what extent Eastern Croatia has been recognized as an important cultural destination. The research, based on a comparative analysis of works by Croatian authors on Croatian cultural tourism cited in the three relevant national databases (Hrčak, CROSBI and the database of the Croatian National and University Library in Zagreb) was conducted according to the following parameters: number of works published since 1990s, regional representation, and scientific fields and areas. The first formed hypothesis that the number of works on cultural tourism is increasing, which should indicate a growing interest in the use of Croatian cultural resources in the development of Croatian tourism, is only partially confirmed. Despite the fact that the number of works began to grow more or less continuously since the beginning of the new millennium, their number has been declining in recent years. The second hypothesis that the number of works on cultural tourism in Eastern Croatia is lower compared to works on other regions is fully confirmed because it is obvious that there is a greater scientific and professional interest in Dalmatia, a region where tourism is traditionally the most important economic branch. This suggests the need for greater affirmation of continental (cultural) tourism. The third hypothesis that works on Croatian cultural tourism come from different scientific fields and areas, which points to the importance of a multidisciplinary approach, is also confirmed. Based on the results of the research, the authors conclude that the placement of Eastern Croatia on the Croatian touristic map is still not satisfactory, suggesting that it should be an important direction in which Croatian cultural tourism needs to be further developed.

Keywords: *Eastern Croatia, continental tourism, cultural tourism*

1. Introduction

In a country with rich cultural, historical and natural diversity, such as the Republic of Croatia, cultural tourism is certainly one of the most important economic branches that can contribute in different ways not only to the overall economic, but also to the socio-cultural development. Cultural tourism can be considered as the driver of economic growth and employment, encouraging the cooperation of the state with the private sector, and also extending the tourist season. This way the income could be re-invested in culture, enriching the life of both urban, as well as the rural environments. Not only touristic places but also those that are not originally oriented towards development of tourism can this way use their own local cultural, historical and natural resources, and become interesting for tourists, contributing this way immensely to the protection of cultural traditions and the national cultural identity (Dukić-Dojčinović, 2005, 7, Jelinčić, 2010, 33, 66). In short, cultural tourism "gives a long-term competitive advantage to tourism as one of the most important economic branches in Croatia" (Demonja and Gredičak, 2014, 115). According to the national strategy of tourism development, cultural tourism is one of the ten key production groups on which the system of touristic products of the Republic of Croatia should be built upon (*Strategija razvoja turizma Republike Hrvatske do 2020. godine* [Tourism Development Strategy of the Republic of Croatia until 2020], 2013).[1]

Croatia is among a few countries in Europe that constructed independent documents on the development of the cultural sector, tourism and the strategy for the development of cultural tourism. One of the first documents was the state strategy for cultural development in 2001 (*Hrvatska u 21. stoljeću: Strategija kulturnog razvitka* [Croatia in the 21st Century: Strategy of Cultural Development]) that included the chapter on cultural tourism, which also started the strategic consideration on cultural tourism at the state level, resulting with the adoption of the *Strategija razvoja hrvatskog turizma do 2010. godine* [Strategy of the Development of Croatian Tourism by the year 2010]. This Strategy states that tourism significantly contributes to the economic growth of the Republic of Croatia and the well-being of its citizens, and is based on the sustainable use of natural and cultural-historical potentials by actively participating in their preservation and development, as well as creating an environment which will be attractive to investors (*Strategija razvoja hrvatskog turizma do 2010. godine*, 2003, 3). The first independent strategic document that seeks to connect the cultural and the tourist sector was the *Strategija razvoja kulturnog turizma* [Strategy of the Development of Cultural Tourism] from the year 2003. Thereafter, other important strategic documents and action plans for the development of cultural tourism on the national level were also published, such as the *Strategija razvoja turizma Republike Hrvatske do 2020. godine* [Tourism Development Strategy of the Republic of Croatia until 2020] (2013) and *Akcijski plan razvoja kulturnog turizma* [Action Plan for the Development of Cultural Tourism] (2015); among those at the local level, we can find for instance *Strategija razvoja kulture Grada Dubrovnika 2015.-2025.* [Development Strategy of the City of Dubrovnik 2015-2025] (2014), *Strategija kulturnog razvitka grada Osijeka (2014.-2020.)* [Strategy of the Cultural Development of the City of Osijek](2014.), *Strategija razvoja kulturnog turizma grada Rijeke 2015.-2020.* [Strategy of the Development of Cultural Tourism in the City of Rijeka 2015-2020] (2015.), *Strategija razvoja turizma s planom upravljanja „Etnološkim centrom baranjske baštine“ u Belom Manastiru* (2015.) [Tourism Development Strategy with the Management Plan of the "Ethnological Center of the Baranja Heritage" in Beli Manastir] (2015), etc.

[1] *Strategija razvoja turizma Republike Hrvatske do 2020.* godine states, along with cultural tourism, the following key production branches: "sun and sea", nautical tourism, health tourism, business tourism, golf tourism, cyclotourism, wine- and gastronomic tourism, rural and mountain tourism, adventure and sports tourism as well as other important products like youth and social tourism.

According to Jelinčić, the development of cultural tourism in Croatia is possible to conduct in two ways: as a supplement to mass tourism in the coastal regions making the stay of tourists at a certain destination enriched by a quality program (by which cultural tourism actually started its development) and in a basic way, primarily referring to enriching the continental regions and the coastal (Dalmatian) hinterland (Jelinčić, 2009, 22-23). Culture, as well as the cultural and traditional heritage certainly contribute to the attractiveness of a particular tourist destination (Paušak, 2018, 56-62).

By considering the mentioned possibilities there have been various projects, events and festivals launched, both at the local and the regional level,[2] with the aim to raise the level of satisfaction of tourists, a great number of cultural heritage objects have been restored, and the event *National Days of Cultural Tourism* has been held from 2007. Furthermore, as stated in the Action Plan for the Development of Cultural Tourism, more and more cultural institutions have become aware of the importance of tourism for their business, which can be observed in the emergence of different entrepreneurial projects in culture and cultural tourism (Tomljenović and Bojanić Živoder, 2015, 18-19). Many higher educational institutions have also introduced different cultural tourism courses, even independent university studies have been established.[3] In addition, numerous professional and scientific papers have been published.

The aim of the present paper therefore is to determine to what extent scientific and professional production reflect the level of interest of the scientific and professional public for this issue, both from the theoretical, scientific, and the practical, professional aspect. Another, but not less important goal is to determine, on the basis of the number of works related to the continental cultural tourism, the extent to which Eastern Croatia has been recognized as an important tourist destination.

2. Methods, methodological restrictions and hypotheses

The main method used in the course of the present paper was the search using Internet with the aim of gathering scientific and professional works on the topic of cultural tourism. The search consisted of two steps. In the first step, the goal was to find all the works of Croatian authors on the topic of cultural tourism, and the aim of the second search step was to find all the works of Croatian authors on the topic of cultural tourism with respect to different Croatian regions. After these, there was a chronological distribution of works, distribution of works by regions, and distribution of works by scientific fields and areas conducted.

Although it was initially planned to search the Internet by using the Google Search Engine and gather all the works on cultural tourism, and thereafter by deploying different search strategies to separate and arrange works on cultural tourism related to different Croatian regions, the plan had to be abandoned for several reasons. The main reason was definitely different definitions

[2] Some of the most important project and events are: *Hrvatske povijesne ceste kao panoramsko –turistički koridori*, *CRAFTATTRACT: tradicijski obrti – nove atrakcije za kulturni turizam, Drivenik – čuvar kroz povijest, Kuća Baranjske baštine, U posjetu starim vremenima – U doba Petra Preradovića, Špancirfest, Jesen u Baranji, Đakovački vezovi,* etc.

[3] Without the intention to include all the higher educational institutions in the field of cultural tourism, we will list only some for the sake of the exemplification: Cultural Tourism course [*Kulturni turizam*] at the Graduate Study of the Department of Information and Communication Science, Faculty of Philosophy, University of Zagreb, Cultural Tourism course [*Kulturni turizam*] at the University study program of the Tourism Management at the Faculty of Tourism and Hospitality Management in Opatija, University of Rijeka, university course Touristic Evaluation of Cultural Heritage [*Turističko vrednovanje kulturne baštine*] at the Special Studies of Hospitality at Karlovac College, etc.

of cultural tourism that are being used, more precisely, the scope of the definition itself. In his work, Demonja defines cultural tourism as one of the selective forms of tourist movement motivated by cultural and artistic resources, values and contents, and discusses the complexity and the different understandings of the notion. The author states that for the understanding of the concept of cultural tourism one should approach it from the economic, organizational, tourist, cultural, educational, marketing, as well as from the point of view of public relations (Demonja, 2011, 182). In addition to local authors, definitions are given by numerous foreign authors (Hughes, 1996, 707-709; Richards, 1999, 29), who also mention that cultural tourism is a term often used but not sufficiently defined; moreover, those who use it do not know exactly where to place it and how to call it. Apart from the definition itself, the scope of the concept of cultural tourism, or the type of tourism underlying it, is more problematic. Specifically, when defining cultural tourism different authors mention different types of tourism as a kind of branch of cultural tourism. For example, in the book *Selektivni oblici turizma* [Selective Forms of Tourism] (Geić, 2011, 327) there are different forms of cultural tourism listed, for instance *urban (city) tourism, business (congress) tourism, wine and gastronomic tourism, tourism of unnatural attractions, religious tourism*, and others forms of selective tourism. It is important to emphasize that the *Strategija razvoja turizma Republike Hrvatske do 2020* [Tourism Development Strategy of the Republic of Croatia until 2020] defines the relevant products of cultural tourism which include *city tourism, heritage tourism, events tourism, creative tourism* and *religious tourism*.

From the above we can conclude that the number of search strategies that can be used for the present topic considering the different terms covered by the concept of cultural tourism would be extremely high. This is confirmed by the fact that only the use of the "cultural tourism" strategy in the Google search engine (Google Scholar Database) returned 1750 results, while the Internet search by individual strategies for certain regions of Croatia increased that figure.[4] Therefore, different search strategies were used to increase the search response and reduce precision.[5] The goal was namely to get all the available papers on the given topic of research. This also implies the use of all possible variants of the term "cultural tourism", therefore, singular, plural, abbreviations, narrow, wider, related terms as well as the above combinations of terms "cultural tourism" together with the names of Croatian regions. It is therefore important to note that one the greatest methodological limitations in the course of the present research was actually the inability to try out all the possible search strategies and, consequently, the inability not to bypass all available papers on the topic of cultural tourism.

After giving up on the search of the (entire) Internet through the Google search engine, the bases that have been chosen to conduct the search on are the *Hrčak* database, the Croatian scientific bibliography database *CROSBI*[6] and the catalog database of the National and University Library in Zagreb (*NSK)*.[7] The criteria for selecting the listed databases are the following: Hrčak is a central portal that brings together Croatian scientific and professional journals with open access (Hrčak, [2019]), the Croatian scientific bibliography - CROSBI in one place gathers the comprehensive scientific published works of Croatian researchers and organizes the information relevant to the Croatian science (CROSBI: Croatian Scientific

[4] For example, some possible search strategies for individual regions of Croatia such as Slavonia and Baranja would be: “cultural tourism” "Slavonia and B," “cultural tourism” "Slavonia", “cultural tourism" Baranja,". For the region of Moslavina and Turopolje these would be: "cultural tourism" “Moslavina, "cultural tourism" “Turopolje, "cultural tourism" "Moslavina and Turopolje”

[5] 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)

[6] Further in text CROSBI.

[7] Further in text NSK.

Bibliography, 2019), while the main bibliographic activity of NSK is the compiling of the Croatian National Bibliography, the basis of which is a compulsory copy of every work that the NSK receives as a national bibliographic center according to the *Zakon o knjižnicama* [Libraries Act] dating from 1997 (NSK: Historical Review, 2019).

Apart from the selection of databases, we also have to mention the second methodological restriction when searching and using search strategies, such as the search capabilities of the system or the databases selected. This involves the use of all available techniques that the database offers, for example, Boolean operators, the use of quotation marks for indicating phrases, search by subject, advanced searching options etc. Although a large number of bibliographical units have resulted in the performed search, it cannot be said that the goal of this paper was to produce a comprehensive bibliography on Croatian cultural tourism, since the research did not go into a detailed substantive analysis of the works, due to the aforementioned methodological limitations. In order to reach the search goals, each selected database was searched separately, lists of entries obtained by selected search strategies were compiled, and the results were displayed individually. Only the distribution of works by scientific fields and areas in Hrčak and CROSBI will be presented in a summarized form.

From the lists containing all works on cultural tourism, there were works on cultural tourism related to particular Croatian regions selected.[8] The criteria for the selection of works, as already mentioned, were: works with the topic of cultural tourism in general, works on cultural tourism of certain Croatian regions and works belonging to the category "undefined". The category "undefined" had to be included because in some works there are the Croatian coast and islands mentioned that could actually refer to several regions - Istria and the Croatian Littoral or Dalmatia. Such scientific works were therefore separated and put into the category undefined. It should also be noted that the topic of the works concerning the different regions respects the geographical division of Croatia,[9] which is not always completely identical to the administrative division according to counties.

Regarding the processing of the lists in order to obtain a chronological distribution of works, in the CROSBI and the NSK catalog databases, the same editions of work published on different media[10] were not accounted for; the database Hrčak had no such issues. The chronological period that was included in the search was the period from 1991 to the present, and all the works that did not correspond to this and other criteria, such as works that do not speak about the Croatian cultural tourism, were excluded from the search and the final lists.

One of the most demanding tasks was the distribution according to scientific fields and areas. The distribution of the works was namely done on the basis of *Pravilnik o znanstvenim i umjetničkim područjima, poljima i granama* [Rule on scientific and artistic areas, fields and branches] from 2009. In addition, the CROSBI database has a division of scientific fields organized in such a way that a researcher who enters their work into a database can select the scientific field (or more fields) that correspond to its subject. Due to that, when it came to counting the works, it happened that the same work was added or numbered in several different scientific fields. The databases Hrčak and NSK contain no information on the scientific area and / or the field to which the work belongs to. However, both databases contain the UDC

[8] A particular work was selected in a way that the abstract and keywords were read through. For example, if the abstract of the work or keywords in the paper mentioned the river Bosut, the work was selected and put into the Croatian region where the river Bosut is situated.
[9] As already mentioned, the division by regions is available at: http://cromedicalnetwork.com/croatia/regije.
[10] For example, the work by Fulvio Šuran, *Turizam i teritorij*, found at the CROSBI database, was published as a monograph and as an e-book. This also caused the differences in the final number of found works – instead of a total of 442 works found, there were basically only 438.

notation, which can be resolved by using the UDC tables and, depending on the notation, the work can be manually added to a particular scientific area / field. The methodological limitation in manually resolving the UDC notations was that for each work in the Hrčak database it was necessary to consult a few UDC labels (usually two to four). This is due to the fact that almost every work belongs to several scientific fields, that is, each subject of the paper can be viewed from several aspects, or subject areas. Concerning the total of 45 works found in Hrčak, the UDC notations were analyzed for each work separately, which was thereafter put into as many scientific fields as directed by the UDC notation. In the NSK catalog there was a large amount of UDC notations for each work (four or more) found. Concerning this and generally a large number of papers, it was decided that UDC notations for these works will not be resolved. Therefore, the analysis of NSK contains representation of works that speak about cultural tourism in general, the representation of works related to certain regions of Croatia and the chronological distribution of works. Representations of works from other two databases include also their distribution according to the Croatian scientific fields and areas.

Therefore, the hypotheses of the present research are:

1. The number of papers by Croatian authors on cultural tourism is on the rise, which points to the growing interest in using Croatian cultural resources in the development of the Croatian tourism in general.
2. The number of works on cultural tourism in Eastern Croatia is smaller compared to works on cultural tourism in other regions, which points to the need for greater affirmation of continental (cultural) tourism.
3. Works on Croatian cultural tourism come from different scientific fields and areas, which points to the importance of a multidisciplinary approach to the problem.

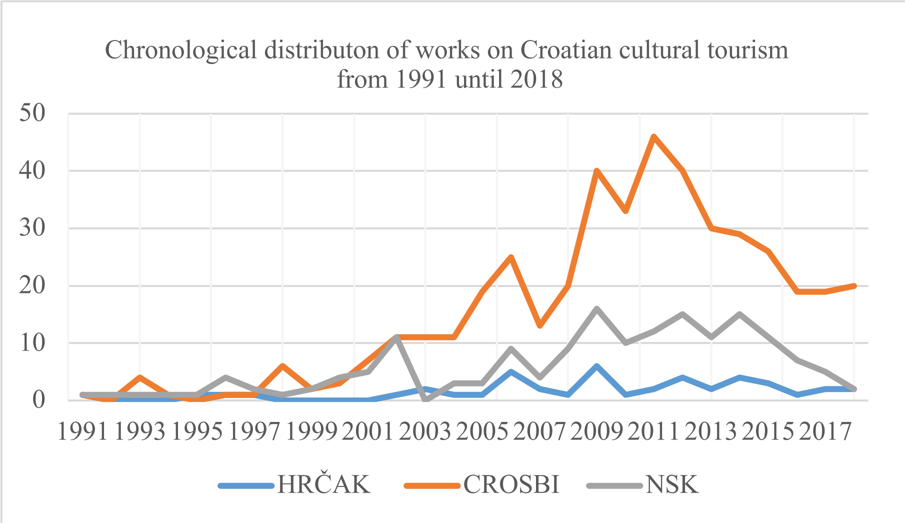
3. Results

3.1. Quantitative Analysis and Chronological Distribution of Works on Croatian Cultural Tourism from 1991 until 2018

As already mentioned, the search for works in Hrčak database resulted in 45 scientific and professional papers, after having excluded those that did not have the topic of cultural tourism in Croatia; the search of CROSBI database resulted in 442 works, or more precisely 438, since we indicated all the works only once, whereas the NSK catalog search gave 166 works, after also excluding those that did not have the topic of the Croatian cultural tourism.

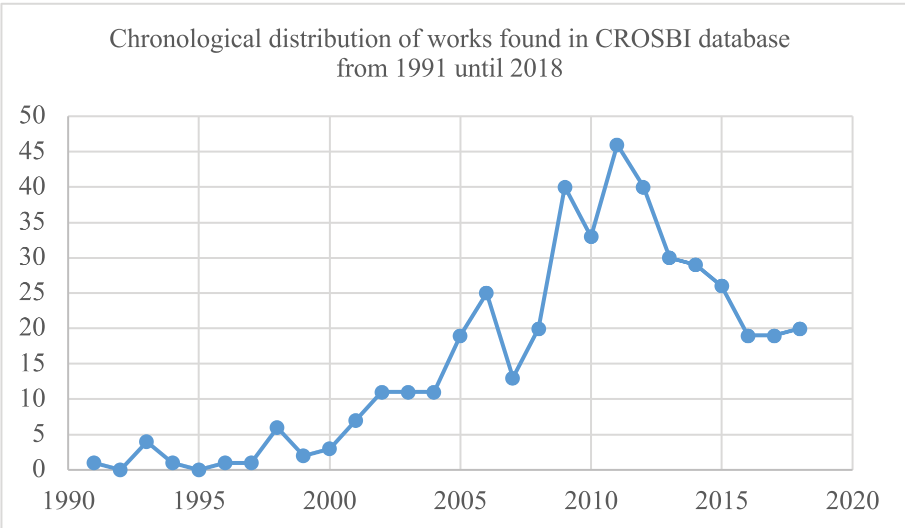
The analysis of the chronological distribution of works published in almost three decades covered by the research showed that in the first decade (1991-2001) there were very few works published with this topic. In Hrčak, we found only 4, which makes about 9% of all the works on Croatian cultural tourism that we came across by searching this central portal of Croatian scientific journals. In CROSBI, we found 26, or only about 6% of all the works on cultural tourism recorded in this database. Finally, in the NSK catalog there were 23 works published in the period mentioned, which is actually 14% of all the works on cultural tourism that can be found in the catalog. Thus, from 1991 to 2001, only about 10% of the papers published had the topic of Croatian cultural tourism (Chart 1).

Chart 1: *Chronological distribution of works in all the three databases searched from 1991 until 2018*



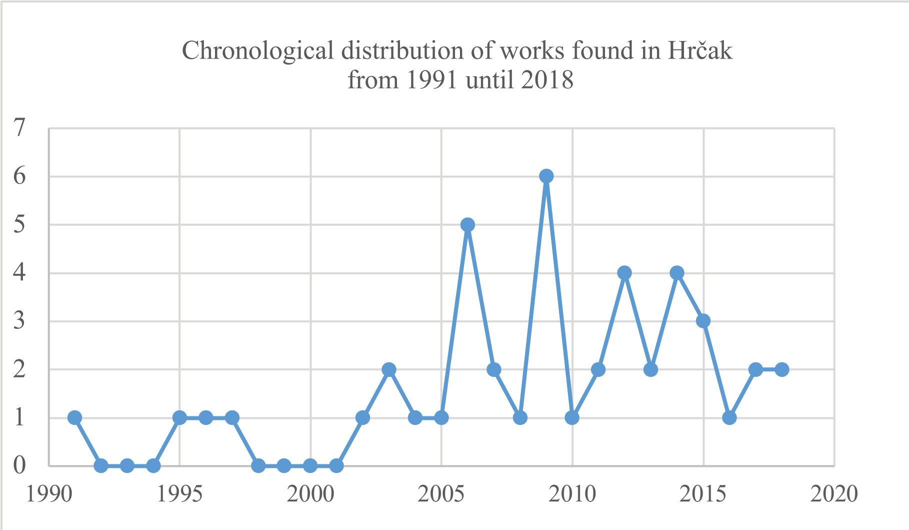
The new millennium brings a larger number of works. This fact refers primarily to papers that we came across while searching in CROSBI, which already listed 11 papers in 2002, while in certain years the number of published works reached the number of 20, 30, or even more than 40 (Chart 2).[11] An exception to this tendency is Hrčak database in which in the first few years we found only one or two works related to the search topic (Chart 3). It is very likely that this is due to the fact that Hrčak, as the central portal of Croatian scientific journals, was founded in 2004 (Tóth, 2006, 143), and that the older issues of many journals were still not digitalized and placed online.

Chart 2: *Chronological distribution of works found in CROSBI database from 1991 until 2018*



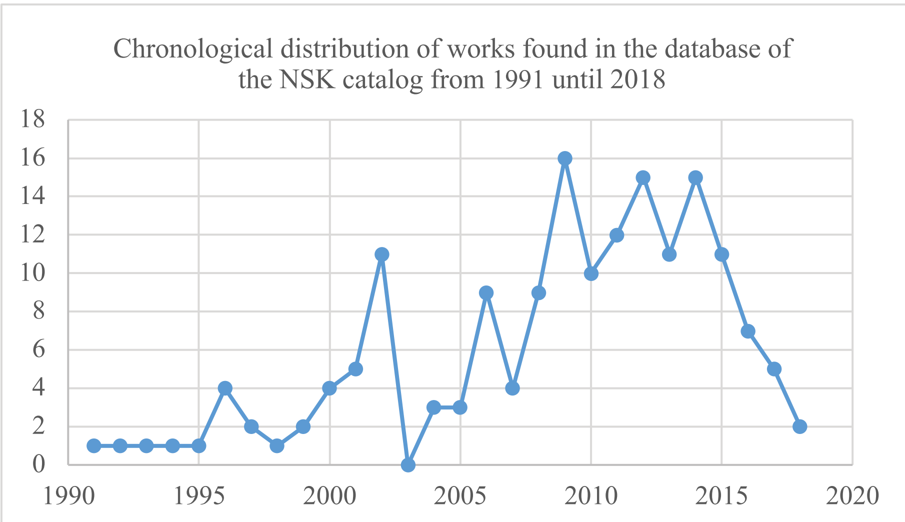
[11] In CROSBI, where the mentioned tendency of growth is particularly noticeable, there were 25 papers recorded for the year 2006. The following few years also show, with the exception of 2007, a more or less continuous increase in the number of works: 20 works in 2008, 40 works in 2009, 33 works in 2010, 46 works in 2011, 40 works in 2012, 30 works in 2013, 29 works in 2014 and 26 works in 2015.

Chart 3: *Chronological distribution of works found in Hrčak database from 1991 until 2018*



Interesting, however, is the tendency that has been going on for the last few years. Namely, in 2016, we notice a significant decrease in the number of works in all analyzed databases. In CROSBI, for instance, this number falls to 19 works in 2016 and 2017, or 20 works in 2018, which is half of the works published in previous years. We also note the continuous decline in the number of works listed in the NSK catalog, thus, unlike previous years when the number of papers per year ranged from 10 to 15, in 2016 it fell to 7, in 2017 to 5, and in 2018 there were only 2 works found (Chart 4). Hrčak also corroborates this fact by listing only one work published in 2016, and 2 works published in 2017 and 2018.

Chart 4: *Chronological distribution of works found in the database of the NSK catalog database from 1991 until 2018*



3.2. Regional Dispersion of Works on Croatian Cultural Tourism from 1991 until 2018

As explained in the section 2 of the present paper, the identified works, for the purpose of analyzing their regional dispersion, have first been sorted into two categories - works related to cultural tourism in general and those related to a geographical area (regarding the place, city, and region),[12] being at the end sorted according to the region they are dealing with.

As can be seen from Table 1, among the papers identified in the Hrčak database, the largest number of papers refer to Dalmatia and Dalmatian Hinterland (12 papers), which makes 40% of the total number of works found in this database. Next is Northwestern Croatia with half the number of works found in Hrčak (6 papers), Istria and the Croatian Littoral with 5 works, followed by Zagreb and Central Croatia, and Lika and the Highlands with only two papers. Only 1 work is related to Eastern Croatia.[13]

The number of papers pertaining to Dalmatia and the Dalmatian Hinterland is also the largest in the other two bases. In CROSBI, where most of the works were found and it is perhaps the most representative database, they make up 37% (63 works) of all the works listed, followed by Istria and the Croatian Littoral with 43 papers. Eastern Croatia, Zagreb and Central Croatia are represented by almost the same number of works - 18 papers regarding Eastern Croatia and 17 papers dealing with the topics related to Central Croatia. Northwestern Croatia is represented with 14 works and Lika and the Highlands with 11 papers.[14]

The database of the NSK catalog also records the highest number of works dealing with the topic of cultural tourism of Dalmatia and the Dalmatian Hinterland, i.e. 26% (8 works). Papers dealing with the topic of cultural tourism in Eastern Croatia are also almost equally represented (7 works). Northwestern Croatia is represented with 6 works, Istria and the Croatian Littoral with 4 papers, Lika and Highlands with 2 and Central Croatia with only 1 work.[15]

Table 1: *Regional dispersion of works on Croatian cultural tourism from 1991 until 2018*

CROATIAN REGIONS	Hrčak	%	CROSBI	%	NSK	%
Zagreb and Central Croatia	2	6.66	17	10.00	1	3.22
Eastern Croatia	1	3.33	18	10.58	7	22.58
Northwestern Croatia	6	20.00	14	8.23	6	19.35
Istria and the Croatian Littoral	5	16.60	43	25.29	4	12.90
Dalmatia and the Dalmatian Hinterland	12	40.00	63	37.05	8	25.80
Lika and the Highlands	2	6.66	11	6.47	2	6.45
Undefined	2	6.66	4	2.35	3	9.67
Total	30	99.91	170	100	31	99.97

[12] In the Hrčak database, 16 works were identified that deal with the issue of cultural tourism in general, and 29 works related to certain geographical area, one of which is connected to two towns - Varaždin and Dubrovnik. Therefore, one work is being classified as belonging to two regions - Northwestern Croatia and Dalmatia and Dalmatian Hinterland. Given this, the total number of works is 30. In CROSBI we found 268 works dealing with cultural tourism in general, the remaining 170 works are sorted by regions. Finally, in the NSK database, there are mostly works dealing with cultural tourism from a general point of view (135), while there were only 31 found that are related to a particular geographic area.
[13] Two papers were listed under the category *undefined.*
[14] Four papers were listed under the category *undefined.*
[15] Three works were listed under the category *undefined.*

3.3. Works on Croatian Cultural Tourism According to Scientific Fields and Areas Published from 1991 until 2018

As mentioned in the section 2 of the present paper, the works obtained by searching the databases Hrčak and CROSBI have been sorted according to the scientific areas, and within that, according to the scientific fields. Unique results for both databases are presented below. Considering the fact that papers often belong not to only than one, but to two and more scientific fields and areas, they have been sorted accordingly. For this reason, the number that is located within each scientific area / field is not the number of published works in that field, but the number of occurrences of works in a particular area or field.

Table 2 presents the analysis of works according to scientific areas. The greatest number of papers belongs to the area of social sciences (345), which is more than 50% of all the published works (52.35%). Humanities are followed with 193 papers, which make up about 30% (precisely 29.28%) of all papers. Next in line are the technical sciences (with the greatest number of works in the field of architecture and urbanism), interdisciplinary areas of science (geography and educational sciences), biotechnical sciences (with the highest number of papers in the field of agriculture / agronomy), natural sciences (geology and biology), and biomedicine and health.

Table 2: *Representation of works on cultural tourism according to scientific areas from 1991 until 2018*

SCIENTIFIC AREAS	Number	%
Natural sciences	8	1.21%
Technical sciences	33	5.00%
Biomedicine and health	6	0.91%
Biotechnical sciences	16	2.42%
Social sciences	345	52.35%
Humanities	193	29.28%
Interdisciplinary areas of sciences	22	3.33%
No scientific field/UDC notation	36	5.46%
Total	659	99.99%

Based on the results from Table 2 we decided it would be interesting to examine closely the area of social sciences, since it is the area with the largest number of scientific works related to cultural tourism, which are sorted according to scientific fields in that area, as displayed in Table 3. With 180 papers (52.17%) belonging to the field of economics, this would be the most productive field in given topic regarding the area of social sciences. Almost 20% of the papers (19.71%) belong to the field of information and communication sciences while almost 16% (15.36%) belong to the field of sociology. Other scientific fields within the field of social sciences (for example, demography, pedagogy, etc.) are represented with less than 3% of papers.

__Table 3:__ Representation of works on cultural tourism in the scientific field of social sciences from 1991 until 2018

SOCIAL SCIENCES	Number	%
Economics	180	52,17
Political sciences	3	0,86
Information and communication sciences	68	19,71
Sociology	53	15,36
Psychology	4	1,15
Demography	12	3,47
Pedagogy	10	2,89
Interdisciplinary social sciences	14	4,05
Social questions	1	0,28
Total	345	99,94

In the field of humanities, which also has a relatively large number of papers (193 or 29.28%), the largest number of papers (123 or 63.73%) comes from the field of ethnology and anthropology. Next to that, we can observe the field of history with 19 papers or 9.84%, followed by art history with 16 papers or 8.29%, then the field of philology and archeology with 11 papers or 5.69%. The scientific field of philosophy and literature is represented with only 2 papers or 1.03% (Table 4).

__Table 4:__ Representation of works on cultural tourism in the scientific field of humanities from 1991 until 2018

HUMANITIES	Number	%
Philosophy	2	1,03
Philology	11	5,69
History	19	9,84
Art history	16	8,29
Art science	9	4,66
Archeology	11	5,69
Ethnology and anthropology	123	63,73
Literature	2	1,03
Total	193	99,96

4. Discussion

The conducted research has shown interesting results. The analysis of the chronological distribution of works published in the covered period (1991-2018) suggests more or less continuous increase in the number of works on Croatian cultural tourism, particularly from 2006, which certainly points to the growing interest in the use of Croatian cultural, historical and natural resources for the development of Croatian tourism. This increase has to be probably attributed to the adoption of the national strategy for cultural development in 2001 and the development strategy of Croatian tourism in 2003, which certainly encouraged scientists and experts not only to reflect on the importance of cultural tourism, but also to implement measures that will stimulate its development, and take concrete actions. There were, however, two periods that do not fit into this trend for which reason we can only partly confirm our first hypothesis - the number of papers by Croatian authors on cultural tourism is on the rise. The first period is the first decade (1991-2001) in which there were very few works on the topic of Croatian cultural tourism, only about 10% of all the papers published in the period covered by the research. This period was the time of the Croatian civil war and the period of peaceful reintegration of the Croatian Danube area when, supposedly, the newly created state, as well as its scientific and professional staff, were not largely focused either on the development of tourism in general, or on the development of cultural tourism. The second period is the period of the last three years in which the number of works has been reduced by half. This reduction could be indicator of changes in the level of interest of the scientific and professional community for the issue of Croatian cultural tourism. However, it is more probable that this is a result of already mentioned methodological limitations meaning that applying some other research strategies may give different results.

As far as the regional distribution of the works on Croatian cultural tourism is concerned, we could also see that the largest number of papers (26% of the number found in the NSK catalog, 37% in CROSBI, and up to 40% found in Hrčak) belongs to those connected to Dalmatia and the Dalmatian Hinterland. The greater interest of the scientific and professional community in this region is not surprising considering the traditional orientation of its largest part (Dalmatia) to tourism. At the same time, works related to Eastern Croatia are being represented with a relatively small percentage: there are only 3% of them found in Hrčak, and 11% in CROSBI. Although their percentage in the NSK catalog is higher (around 23%), their absolute number is still very small (only 7 works). Therefore, our second hypothesis that states that the number of works on cultural tourism in Eastern Croatia is smaller compared to works on cultural tourism in other regions is confirmed. Although the data presented in this paper, without an insight into some other parameters, such as the number and nature of the projects launched in the area of Eastern Croatia, should be taken with considerable doubt when speaking about the position of Eastern Croatia on the map of the Croatian cultural tourism, we can nevertheless conclude that this is an indicator of the direction in which the development of Croatian cultural tourism would have to set course in due time.

The analysis of works on Croatian cultural tourism according to scientific fields and areas shows that they come from different scientific fields and areas, the most prominent ones being the social sciences (more than 50% of all the papers published on the topic), followed by humanities (around 30% of all the papers). A close look at the area of social sciences shows that the field of economics with 52% of the papers published in that area is the most productive one. This is expected considering the fact that tourism in general (so also cultural tourism) is "a complex economic activity which can contribute to the economic development of many countries as well as the Republic of Croatia" (Gredičak, 2009, 196). It also does not come as a surprise that almost 20% of the papers in the area of social sciences belong to the field of information and communication sciences. Heritage institutions (libraries, for example) can satisfy the information needs of tourists, and function as cultural centers of the local community or even as tourist attractions (Jelinčić and Zović, 2012, 37-47; Tokić 2015, 80-91). By their activity, which is revealed through their educational, information and cultural functions, libraries can significantly contribute to the economic development of society (Tokić and Tokić, 2017, 123-132). Museums also hold "the unique potential of Croatian tourism, the inevitable part of the cultural offer, and thus the cultural tourism component as an important orientation of the tourist development of Croatia" (Gajski et al., 2011, 4).The socio-cultural dimension of tourism, which also exists with its highly emphasized economic aspect, is visible from an almost equal percentage of papers (around 16%) belonging to the field of sociology. Cultural tourism "includes tourist travel during which tourists are active participants in the cultural life of the social community they visit" (Dujmović and Vitasović, 2016, 407). In addition, the travelling of tourists became an integral part of contemporary person's culture (Štifanić, 2002, 860). Furthermore, the research has also shown that the large majority of papers in the field of humanities (almost 64%) comes from the field of ethnology and anthropology. This could be the evidence of the importance of the anthropological perspectives of cultural tourism and the inclusion of ethnographic heritage and traditional cultural heritage in cultural and tourist projects (Petrović Leš and Pletenac, 2006). Finally, the fact that many of the papers can be classified into different areas and fields at the same time speaks of the importance of a multidisciplinary approach to the research of the topic of cultural tourism (Štifanić, 2002, 872). This approach is also visible from the curriculum of the undergraduate and graduate studies *Kultura i turizam* [Culture and Tourism] available at the Faculty of Interdisciplinary, Italian and Cultural Studies of the University of Juraj Dobrila in Pula, Croatia, which also offers a variety of courses, such as *Cultural and Historical Monuments*, *Introduction to Economics*, *Introduction to Art History*, *History of Civilizations*, *Tourism Geography of the World*, etc. (Preddiplomski i diplomski sveučilišni studij Kultura i turizam, 2019). This confirms our third hypothesis.

5. Conclusion

According to the research *TOMAS Ljeto 2017* conducted by the Institute for Tourism for the tenth time since 1987, passive holiday and relaxation is still the main motive for going on vacation for more than half of all guests in Croatia (54.9%).[16] Nevertheless, culture and cultural content become more and more interesting for tourists. Tourists are trying to actively spend their vacation and are interested in products connected with cultural and historical heritage as well as natural heritage. This is indicated by the fact that the percentage of those who have cited culture as one of the three main motives of their vacation has grown from only 7% in 2014, when the last such survey was conducted, to 12.3% in 2017 (Marušić, 2018, 32-33)[17]. This is also corroborated by the fact that alongside swimming and bathing (78.3%), a relatively large percentage of favorite tourist activities are sightseeing (25.7%), excursions to national parks / protected natural areas (21.1%) and visits to museums and exhibitions (14.1%) (Marušić, 2018, 41). Assessing the thirty elements of the destination where they were spending their vacation, the tourists gave the medium level of satisfaction (on a scale of very high, high, medium, low and very low) to the quality of sights and cultural heritage, the diversity of cultural events got a low level of satisfaction, and the program in case of bad weather was graded with a very low level of satisfaction grade (Marušić, 2018, 45-46). It is therefore unquestionable that there is a huge need for cultural content in the course of touristic offers.

Croatia, having a great wealth of natural, historical and cultural attractions, has also great potential for tourism.[18] The importance of using our natural, cultural and historical resources for the purposes of tourism is evident not only from the national tourism development strategy, but also from the fact that an increasing number of cultural institutions recognize the importance of tourism for their business and strive to attract tourists by launching different projects and events. The need is evident from the existence of undergraduate and graduate university programs where students can acquire basic practical competencies for working in various

[16] *TOMAS Ljeto 2017* is a longitudinal quantitative survey of the characteristics, attitudes and consumption of tourists in Croatia during the summer months. The survey, however, did not include tourists who visited continental Croatia

[17] After passive relaxation, the arrivals of tourists are motivated by new experiences (31.1%), gastronomy (29%), natural beauties (26.2%), entertainment (24.2%), sport and recreation (19, 8%), followed by getting to know cultural sites and events (12.3%). Other motives, such as visit to relatives and friends, health or religious reasons are represented by less than 10%.

[18] The existence of this potential is also emphasized in the *Strategija razvoja turizma Republike Hrvatske do 2020. godine*. It also points out that only a small number of our natural and cultural-historical resources are valorized and included in the general offer of destinations (*Strategija razvoja turizma Republike Hrvatske*, 2013).

domains that combine culture and tourism, but also in the intercultural environment of cultural and touristic organizations (Preddiplomski i diplomski sveučilišni studij Kultura i turizam, 2019). The result of these reflections on cultural tourism and its deliberate development in the direction of its progress are numerous scientific and practical works analyzed in the course of the present paper from three aspects: chronological distribution of works, their regional dispersions and representation according to scientific fields and areas.

As already stated, there have been three hypotheses formed at the beginning of the paper. The first hypothesis was that the number of works by Croatian authors on cultural tourism was on the rise. The second one was that the number of works on cultural tourism in Eastern Croatia was significantly lower compared to works on cultural tourism regarding other regions. The third hypothesis was that works on Croatian cultural tourism came from different scientific fields and areas. The first hypothesis is only partially confirmed because despite the fact that the number of works on Croatian cultural tourism began to grow more or less continuously since the beginning of the new millennium, their number has been declining in recent years. The second hypothesis is fully confirmed because it is obvious that there is a greater scientific and professional interest in Dalmatia, a region where tourism is traditionally the most important economic branch. The third hypothesis is also confirmed because there is a multidisciplinary approach highlighted regarding the issue of cultural tourism.

The research thus showed that cultural tourism is an economic branch that occupies an important place on the scientific and professional agenda. A multidisciplinary approach, that is present in almost all works, is the direction in which cultural tourism can and must be further developed. Finally, the conducted research in the course of this paper enabled us to position Eastern Croatia, a region full of cultural and historical heritage and, accordingly, a plenty of insufficiently used tourist potentials (Bartoluci and Starešinić, 2018, 711), on the map of Croatian cultural tourism. The placement of this region on the Croatian touristic map is still not satisfactory, given the modest number of works dealing with the issue of cultural tourism in Eastern Croatia. Therefore, it can be concluded that this is an important direction in which Croatian cultural tourism needs to be further developed.

The authors' suggestions for future research are related to creating a controlled dictionary for the field of "cultural tourism" within the field of economics. It would clearly limit the field and all possible terms within it (the types and subtypes of cultural tourism) would be controlled and connected with all other fields and areas with which this field is linked. Henceforth, the goal of creating a complete bibliography for cultural tourism would this way be greatly facilitated. The practical and also the theoretical examples from the entire corpus of literature could this way be used for the future strategy of tourism development in Croatia.

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COOPERATION OF TOURIST DESTINATIONS OF THE REGION SLAVONIA SITUATED BY THE RIVER SAVA IN MARKETING AREA

ABSTRACT

The tourist destination "My beautiful Slavonia near Sava" was established in May 2015 within the framework of the project of the Croatian Tourist Board "365 Croatia", with the aim of creating authentic and attractive value-added tourism products that can be placed on the market throughout the year. The agreement on cooperation was then signed by 20 units of local self-government from the Brodsko-Posavska and Vukovarsko-Srijemska counties which gravitate to the river Sava, and within the same, cultural and gastronomic area defined as key product groups, and Munich and Vienna as two key geo-zones. The mentioned marketing concept of promotion of the period before and after the tourist season expired in June 2018, but the cities and municipalities in the Destination renewed the cooperation agreement in September 2018 for the next three years, this time under the name Tourist destination "My beautiful Slavonia near Sava", and with a reduced number of bodies and a simpler decision-making process. Under the conditions in which the Croatian Tourist Board allocates funds to improve activities of the tourist communities in the tourist underdeveloped areas exclusively to the tourist communities of individual counties, also in the case of the implementation of a particular program/project in several tourist areas, we conducted a primary research in the form of a questionnaire to determine if the cities and municipalities, as well as tourist entities from the area of the Destination, had interest to cooperate, regardless of the adverse effect of the mentioned external factors (threats). The results of the research will serve tourism communities and units of local self-government networked in the Destination, although belonging to the different administrative units, to plan and implement the joint activities on tourism development.

Keywords*: tourist destination; cooperation; My beautiful Slavonia near Sava; marketing activities*

1. Introduction

The tourist destination may be a smaller but also a larger spatial unit, depending on how the space is perceived by tourist demand (Lončarić, B., 2012, 139). Such space is not necessarily observed by visitors in the manner established by the administrative division (Pike, S., 2008, 26,33), so it can be part of a particular administrative area, can cover the entire administrative area or exceed its limits. A destination is primarily defined by a complete tourist product, so the concept of destination varies from case to case.

Taking into consideration that quality and successful management of tourist destinations greatly implies the intensive cooperation of all subjects involved in creating of tourism products, primarily the public and private sector, only through synchronized and coordinated activities, tourist destinations will be able to strengthen their position and increase their share on tourism markets (Lončarić, B., 2017, 145). Therefore, the management of tourist destinations should be viewed as a tourist activity that engages local interests within appropriate cooperation with the holders of a tourist offer because today decentralization and fragmentation of tourism offer often limit competitiveness of tourist destination (Magaš, D., 2008, 2,10).

2. Networking on a geographic basis

Geographic connectivity brings a number of benefits, such as enriching own resource base, greater efficiency in marketing activities on the domestic and international markets, stronger image, greater number of customers and greater revenue, more efficient distribution and product sales. The geographic group of closely related enterprises and related institutions in a particular area (cluster) is associated by similarities and complementarities (Porter, ME, 2008) and today there are enough empirical evidences indicating that innovations and competitiveness growth are mostly geographically concentrated (Dragičević, M. , Obadić, A., 2013, 10).

The geographic cluster can include economic entities within a particular economic sector and relatively loose relationships or similar entities that form an association (MacGregor, RC, 20,31). Geographic concentration is one of the essential elements of cluster understanding, considering that firms are geographically located due to hard factors, such as volume economics and soft factors such as social capital and learning processes (Andersson et al., 2004, 13).

3. Networking in tourism on a geographic basis

Under the conditions of globalization and ever-increasing competition, cooperation and connectivity in the tourist sector of less developed tourism areas is a necessity for survival in the tourist market (Christensen, P., Mclntyre, N., Pikholz, H., 2002, 19-21). The networking practice in this sector dates back to fifteen years (Morrison, A.M. et al., 2004, 198), and is primarily conditioned by heterogenity of various activities related to accommodation, catering, transportation etc.; the need for transfer of knowledge and structural unifications in the function of the tourist development and raising strategic competitiveness of the destination (Scott et al., 2008, 90).

In the tourism sector, networked small and medium-sized businesses entities are competing globally, and cooperating locally, with evident benefits for business in terms of greater flexibility, better marketing informing, innovation, better opportunities for joining other associations or clusters at the national level (Novelli et al., 2006, 1143). The need for co-operation is particularly evident where dependence on successful tourism marketing requires a more cooperative approach of the local community, small business entities and individual entrepreneurs without much experience in the tourist economy compared to what is needed in commercialized areas (Scott et al., 2008, 27).

4. Networking in tourism on a geographic basis - Croatian practice

The most frequent initiators of co-operation in Croatian tourism are touristic communities, which from the county level "informally" cooperate within certain regions, where Istria has achieved the most. The tourism development of Istria is based on the Master Plan of Tourism of the Istrian Region 2015-2025, whose starting points are primarily unique geographical features and similar climatic features.

Considering that Slavonia is the most undeveloped tourist region in Croatia (Lončarić., B., 2012, 33) and that partial tourist products of certain Slavonian counties can not lead to the region's recognition in the wider context or to better positioning on tourist markets, carrying out networking at the regional level would be advisable for this region, regardless of the administrative structure, what should be preceded by the adoption of the unique tourist master plan, which is being drawed up at the moment.

In the meantime, through the Pilot Project "365 Croatia" started in 2014 (Lončarić, 2016, 167), the Ministry of Tourism of the Republic of Croatia has identified the activities to be undertaken in order to make better use of resources at the pre- and post-time (Lončaric, B., Ružic, 2015, 282), which also includes the joint activities of entities networked in tourist destinations. Although the project did not survive in practice (Lončarić, 2017, 854), it became a starting point for connecting entities engaged in tourism, and belonging to areas with similar geographic features, climate, historical heritage etc., regardless of the administrative structure in the sense of territorial affiliation to the same county.

5. Tourist destination "My beautiful Slavonia near Sava"

The activities and organization of local self-government units and units of regional self-government are regulated in the Republic of Croatia by the provisions of the Act on Local and Regional Self-Government. According to these provisions, units of local self-government are municipalities and cities, and these places with more than 10,000 inhabitants and representing urban, historical, natural, economic and social units are pronounced cities (Article 5, paragraph 1 of the Act), while municipalities represent natural, economic and social entities linked because of the common interests of the population (Article 4, paragraph 1 of the Act).

After the initial meeting held in March 2015, at the suggestion of the mayor of the city of Slavonski Brod in the function of the president of the Tourist Board Slavonski Brod, realization of the project of networking of three cities and seventeen municipalities gravitating the Sava River, from the Brodsko-Posavska and Vukovarsko-Srijemska County, have started. They founded the joint tourist destination "My beautiful Slavonia near Sava", all within the before

mentioned project of the Ministry of Tourism. During the same month, the contract on cooperation was signed; cultural and eno-gastronomic tourism was identified as key tourism product; the Austrian and German markets were defined as key geo markets, and the Tourist Board Slavonski Brod was designated as a legal entity authorized to represent the tourist destination. In May 2015, the Croatian Tourist Board awarded the Destination „My beautiful Slavonia by the river Sava“ the code for Destinations valid by the end of June 2018
(Tourist Bord Slavonski Brod, 2019, 11,12).

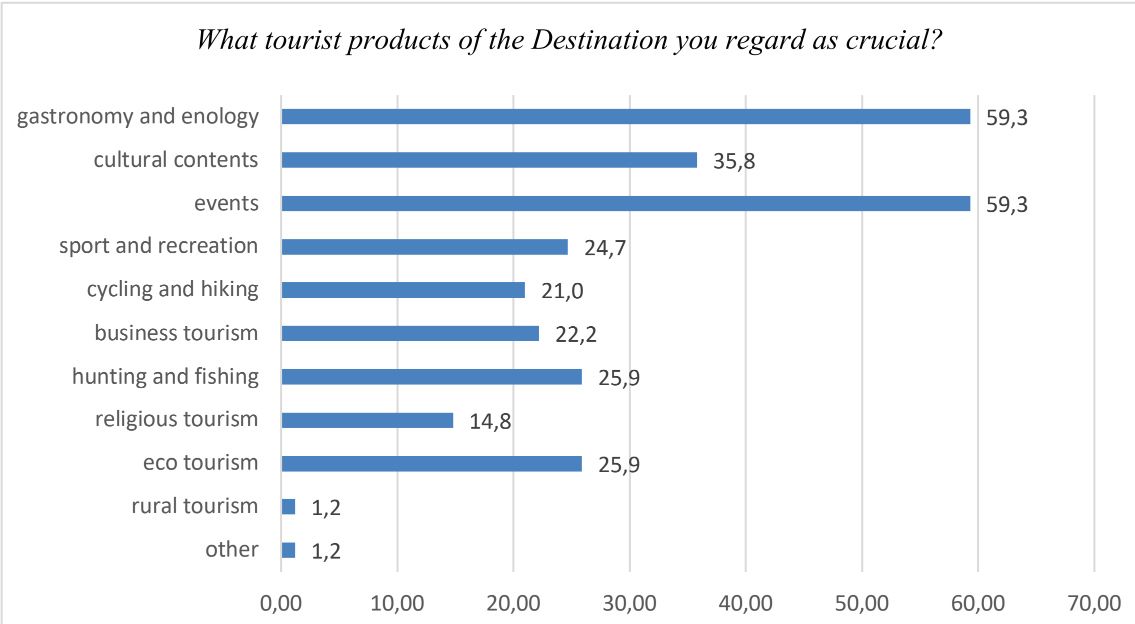
After the expiry of the PPS period in June 2018, co-operation between the cities and municipalities of the Destination continued, and in September the signing of a new cooperation agreement for a further three years have been done. The objective of this was to realize the joint projects of the tourist destination of Slavonian Posavina as a unique tourist area, considering the geographical features and cultural and historical heritage, and the Destination continued to operate under the name The Tourist Destination "My beautiful Slavonia near Sava" (Idem, 2019, 12) and by the end of 2018 realized several joint projects, focusing on products and promoting as a component of the joint marketing program (Meler, M., 1999, 28).

6. The results of the primary research conducted in February 2019

In February 2019, a primary research in the form of an online questionnaire was conducted to examine the views of representatives of cities and municipalities, tourist communities and tourism sector of the Destination regarding their interest in participating in joint projects of the Destination and benefits arising from it. The questionnaires were sent to all 20 local self government units networked in the Destination; 4 tourist boards; 70 subjects from the sector of accomoodation and catering services; 10 from the trade sector; 15 from the sector of culture; 7 owners of travel agencies and rest from other sectors. 81 examinees responded, 74,1% from the Brodsko-Posavska county and 25,9% from the Vukovrsko-Srijemska County, accounting for 54,0% of the total number of potential respondents on whose e-mail addresses questionnaires had been sent. Looking at the activity of respondents, 49,4% of them were from the sector of accommodation and catering services (34,6% of potential respondents from that sector); 14,8% were representatives of local self-government units, meaning that 60,0% of mayors answered the questionnaire; 11,1% were representatives of culture sector (60% of potential respondents); 8.6% owners of travel agencies engaged in receptive activities (all of them who got the questionnaire participated in the research), while the remaining 16,1% of examinees belonged to other sectors, with the largest share of trade.

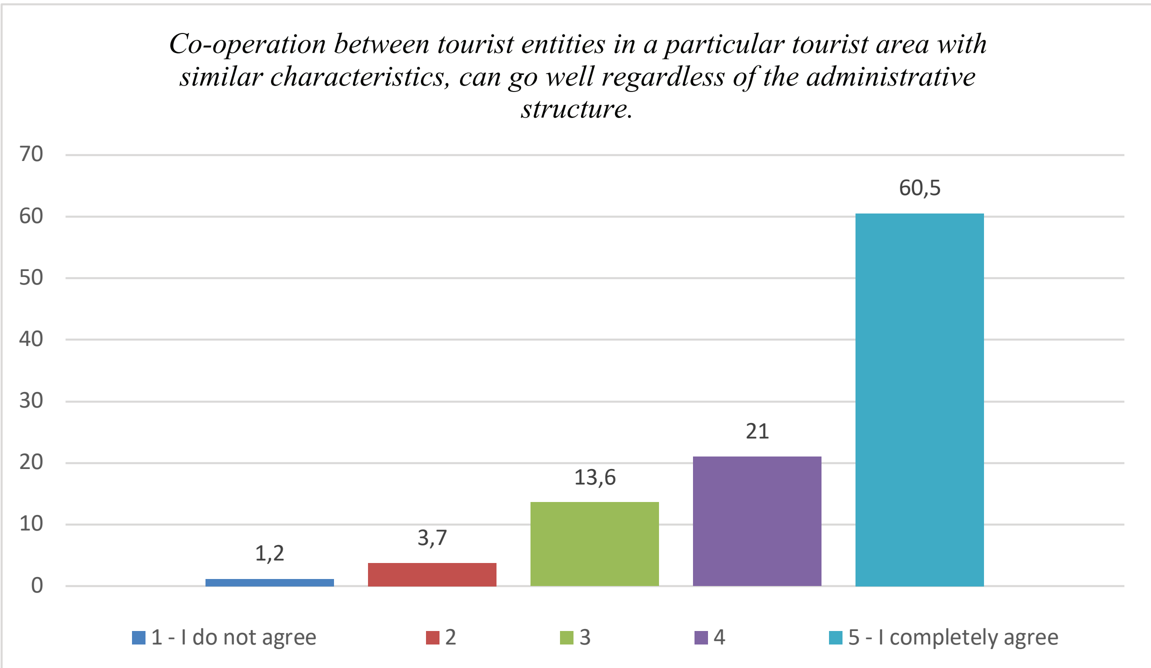
The results of the research are presented in the figures and explained in the following.

Figure 1: *Key tourist products, question and answers, in %*



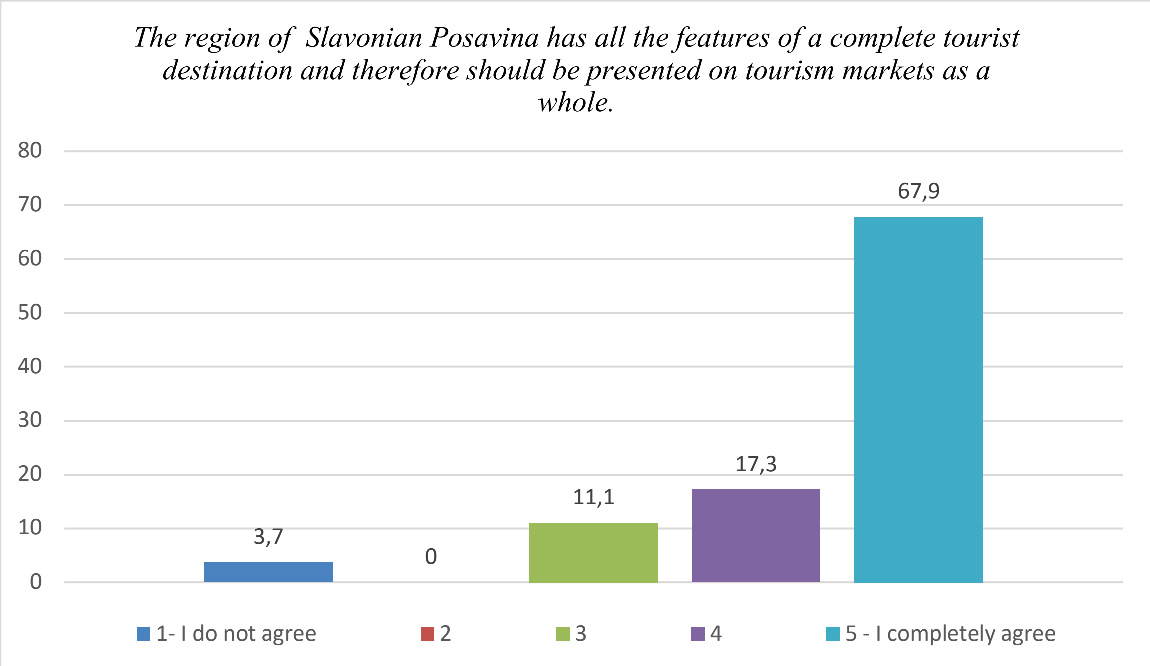
Source: Self-conducted research, February, 2019

Figure 2: *Co-operation of Tourist Entities, question and answers, in %*



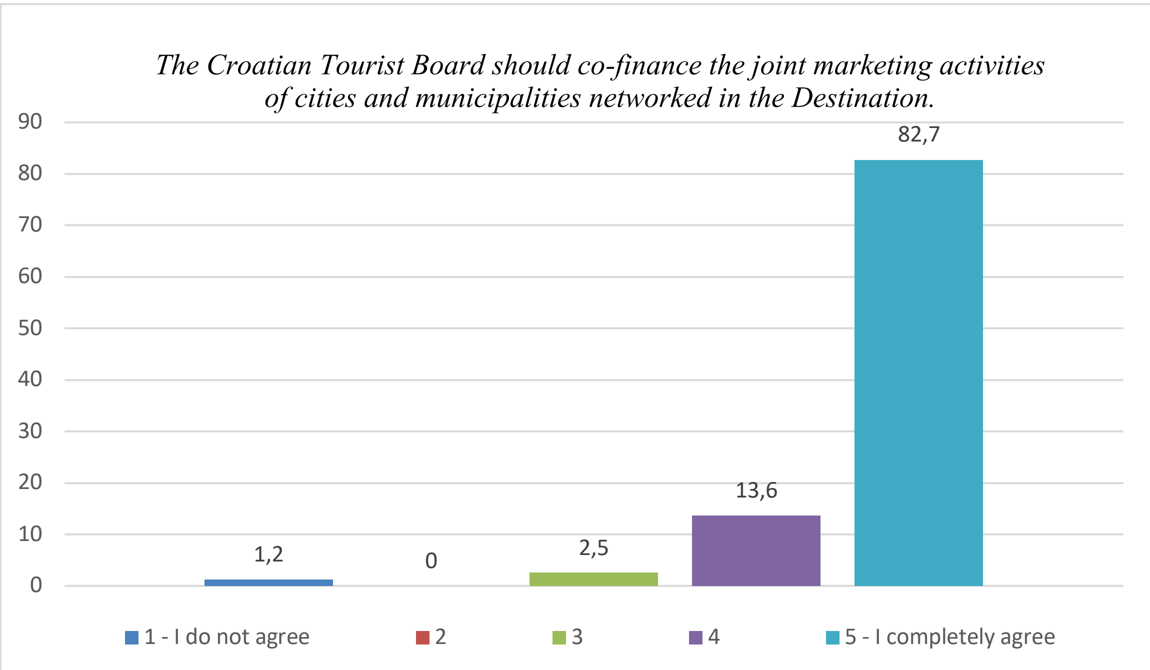
Source: Self-conducted research, February, 2019

Figure 3: *Slavonian Posavina as a complete tourist destination, question and answers, in %*



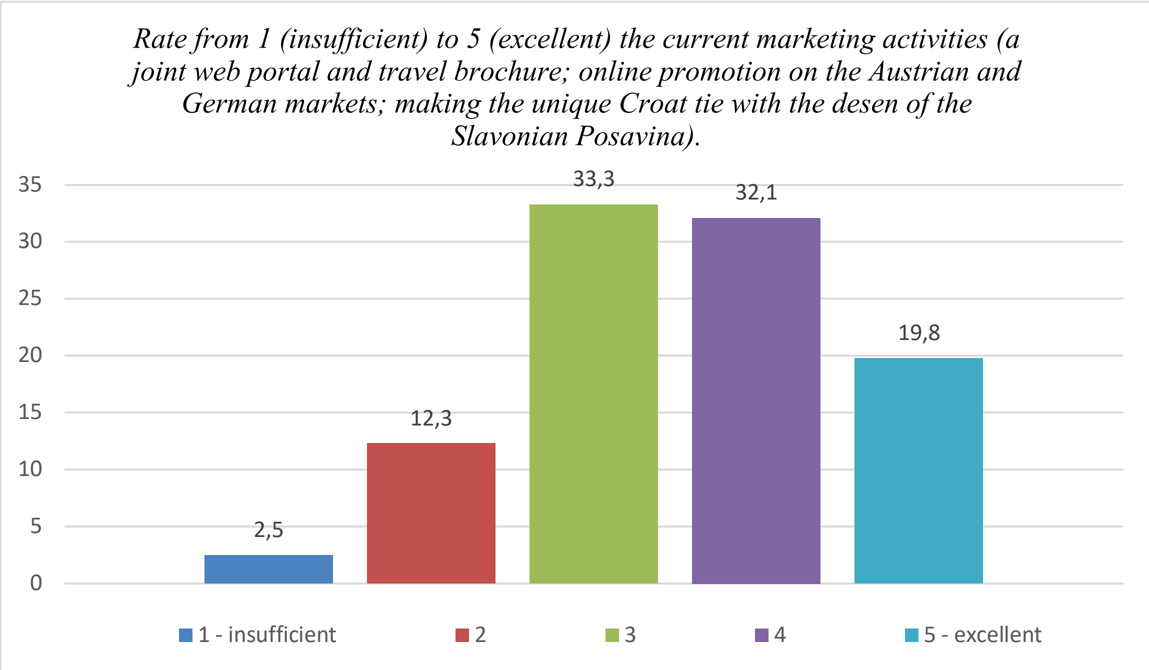
Source: Self-conducted research, February, 2019

Figure 4: *Support of the Croatian Tourist Bord, question and answers, in %*



Source: Self-conducted research, February, 2019

Figure 5: *Marketing activities at the Destination, question and answers, in %*



Source: Self-conducted research, February, 2019

As shown in the figures, when it comes to tourist products (Figure 1), 59,3% of respondents point out the gastronomy and enology as a key tourist offer, which could attract the largest number of visitors to come, while 35,8% of them consider that culture should be the main motive for the arrival of tourists. Considering that in the contract singed among the local self-government units in May, 2015, cultural and eno-gastronomic tourism was identified as the key tourism product, it is not unexpected, but what unexpected is that even 59,3% of examinees think that the events held in the Destination could become reason why tourists visit the Destination. Additionally, it has to be pointed out that, under the conditions in which the Ministry of Tourism of the Republic of Croatia assigns to the counties of the continetal part of Croatia support based on the Cyclotourism Development Program on the Continent in 2019, only one fifth of the respondents distinguishes cyclotourism as the key tourist product of the Destination.

Regarding the need for co-operation of tourist entities of the Destination, regardless of the administrative structure (Figure 2), and the need for unique representation in tourism markets (Figure 3), 60,5% of respondents fully support collaboration regardless of administrative structure, and 67,9 % of them fully agree with the statement that the Slavonian Posavina has all the features of a complete tourist destination and that as such should be uniquely represented on tourism markets. In this regard, 82,7% of respondents are committed to co-financing the joint marketing activities of the Destination by the Croatian Tourist Board (Figure 4). Current marketing activities at the Destination level 19,8% of respondents rate "excellent", 32,1% "very good" and 33,3% "good" (Figure 5).

7. Conclusion

Most of the scientific studies do not give a strict definition of a tourist destination, but they opserve it as a place where tourism is taking place or could be carried out (Hitrec, T., 1995, 43). The area of destination must have a supply that will meet the visitor's requirements of different categories in terms of age, ethnic and social origin, occupation etc. (Travis, AS, 1989), so there is a clear need for strategic and comprehensive planning on the destination level, which should be strongly based on cooperation and communication between stakeholders (Shtonova, I., 123).

Regardless of the conditions under which the Croatian National Tourist Board allocates funds to improve the activities of tourist communities in the tourism underdeveloped areas exclusively to the tourism communities of individual counties, even in the case of implementing a specific program/project in several administrative areas (Croatian National Tourist Board, 2019, 2), the results of the primary research show that tourist entities, but also representatives of local government and self-government units and tourist communities from the Destination "My beautiful Slavonia near Sava", want to cooperate in order to position themselves better on tourist markets and to place their own key tourist products. The reason for the same lies in the fact that this area is unique in terms of geographical, historical and cultural characteristics and by tourists perceived as a unique tourist destination.

The results of the research also show that the signatories of the agreement in the Destination expect the co-financing of joint activities by the Croatian Tourist Board, for which the preconditions will be fulfilled by the entry into force of the new Law on Tourist communities an the Promotion of Croatian tourism while the Article 5 of the Draft of the mentioned law predicts initiating of co-operation based on mutually signed agreements, regardless of administrative structure. Although through the signing of these agreements legal entities will not be established (Article 53, paragraph 3 of the Draft Law), according to the Article 54 of the mentioned draft law, the Croatian Tourist Board will provide co-financing of the joint activities of the networked tourist boards or units of local self-government, this in accordance with special regulations related to tourist fees and membership fees in tourist communities.

The limitations of the research may be due to the fact that the call for participation in the research was not accepted by all the stakeholders of the tourist development of the Destination, but 59.3% of them. On the other hand, it can be concluded that the results of the research are based on the practical experience of the creators, ie the holders of the tourist offer in the Destination and can be used in practice and as a basis for future researches which will be carried out in the Destination and in which respondents' responsiveness will be higher.

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THE EFFECTS OF EVENT ATMOSPHERICS ATTRIBUTES ON VISITOR SATISFACTION: A MULTIVARIATE STATISTICAL ANALYSIS

ABSTRACT

The purpose of research presented in this paper is to determine how selected characteristics of a city event affect the satisfaction of visitors. In particular, the aim is to identify factors related to event atmospherics that determine visitor satisfaction in the city destination in continental part of Croatia.
For this purpose, questionnaire was created based on previously conducted research by Bitner (1992), Oliver (1980, 1997), Baker and Crompton (2000), and Lee et al. (2008). It comprised measures for assessing event atmospherics, visitor satisfaction, and demographic characteristics of the respondents. The research was conducted among visitors of a city event that takes place every year during December. A total of 107 questionnaires were obtained during the two-month period. Principal component analysis was utilized to determine the factor structure of city event atmospherics. In addition, multiple regression analysis was conducted to determine which factors may serve as predictors of visitor satisfaction in city event context.
As a result, the analyses revealed four factors related to city event atmospherics. In addition, these factors positively and significantly affected visitor satisfaction, indicating that they have important role in determining visitor satisfaction in a city event context.
These findings can contribute to the knowledge advancement of the city events, their influence on tourist satisfaction, and consequently, to development of city as tourist destination.

Key words: *event atmospherics, satisfaction, multivariate statistical analysis, event tourism, city tourism*

1. Introduction

Events have become important elements in tourism development of city and rural destinations. According to Getz (1991), festivals and events can play an important role in enhancing the attractiveness of a destination for nonlocal visitors, as well as in offering social, cultural, and economic benefits to local residents.

For a city as tourist destination, event tourism may represent a market segment and one of the key drivers of tourism development. Wat is more, Bowdin et al. (2012) stated that organized events can affect tourist's perceptions of the city where event took place. In addition to increase in tourist visits, the event itself may attract media attention, enhancing the reputation (image) of the host city.

Having in mind all the positive impacts of event tourism on the destination, as well as the potential competition between different cities wishing to organize events that attract local and nonlocal visitors, event managers should be aware of the major factors that affect visitors' satisfaction, and consequently, visitors' loyalty.

Therefore, this research has two objectives. Firstly, it explores how visitors perceive particular city event. Specifically, it examines factors that best explain event atmospherics. Secondly, it aims to identify which factors related to event atmospherics determine visitor satisfaction in the context of city destination in continental part of Croatia.

The paper is divided into five sections. After the introduction, the main findings from literature review regarding main concepts of interest are presented. The third section describes research methodology, including the research objectives and hypothesis, research instrument, data collection, and data analysis. Results of empirical research are provided in fourth section, followed by main research conclusions.

2. Theoretical overview of the main research concepts

According to Jago and Shaw (1998), events are special happenings that are held infrequently and have a fixed term, providing participants with opportunities for social interaction beyond the everyday life. Goldblatt (2007) defined events as exclusive celebrations held at a particular location at one particular moment in time in order to meet specific needs.

Tourism events are short time periods full of attractive and interesting activities, commonly concentrated in a limited geographic area to celebrate a current or a historical fact (Janiskee, 1980). One of the most commonly cited definition of event tourism was postulated by Getz (1997) who stated that event tourism is a systematic planning, development, and marketing of festivals and special events as tourist attractions, image-makers, catalysts of infrastructure and economic growth, and animators of build attractions.

Several authors listed basic characteristics of the events. Hence, Getz (1989) named the need to be open to the public, having as a main objective the celebration of a fact that occurs only once a year or less frequently, be held on predetermined dates, possess an organized programme of activities, and being held in a tourist area. In addition, Jago and Shaw (1998) argued that events are characterized by their ability to attract tourists, the ability to promote the local development, have limited duration, held infrequently, increase the awareness of the citizens and the image of the destination, offer a social experience, and being considered extraordinary and unusual.

Basically, events comprise services and tangible products, which emphasise their unique atmosphere and social interactions that provide the opportunity for an experience.

In terms of event atmospherics, Bitner (1992) proposed three dimensions: ambience conditions, spatial layout and functionality, and signs, symbols and artifacts. Lee et al. (2008) introduced the term "festivalscape" that represents general atmosphere experienced by festival visitors. It includes various environmental elements that may affect visitors' experience: programme content, staff service, quality and availability of facilities, food quality, souvenirs, convenience and accessibility, and information availability. As discussed by De Geus et al. (2015), the holistic festival environment comprises social, physical, and service elements.

Customer satisfaction has usually been defined as a postconsumption evaluative judgement (Fornell, 1992; Oliver, 1997). In addition, Oliver (1997) defined customer satisfaction as judgement that product or service provide a pleasurable level of consumption related fulfilment (Oliver 1997). McDowall (2011) defined festival satisfaction as a sum of the experiences that attendees had at the festival. According to Yoon et al. (2010), festival satisfaction is overall festival value evaluated by the composite of quality dimensions.

A review of literature implies that several researchers investigated the effect of event/festival atmospherics on visitor satisfaction and/or behavioural intentions in event/festival context (Yoon et al., 2010; Grappi and Montanari, 2011; Yang et al., 2011; Mason and Paggiaro, 2012; Anil, 2012; Čižmić and Čaušević, 2017). Although researchers used different number and nature of attributes, the results of these studies have empirically confirmed that proposed attributes significantly affected visitor satisfaction and/or behavioural intentions in different event/festival contexts.

3. Research methodology

The purpose of the research was to determine how selected attributes of a city event affect the satisfaction of its' visitors. In particular, the objectives were to identify factors related to event atmospherics, and to assess their effects on visitor satisfaction at the city destination in continental part of Croatia.

In order to meet research objectives, following hypothesis is proposed:
H1: Event atmospherics attributes have positive and significant effect on visitor satisfaction.

An empirical research was based on primary data, collected with on-site questionnaire. The questionnaire was divided into three main parts.

The first part was designed to measure event atmospherics, using multiple-item scale with 22 items. Measures were adopted from the literature on service environment (Bitner, 1992; Lee et al., 2008) and the literature relating to festivals (Baker and Crompton, 2000). A 7-point scale with anchors "very poor" (as 1) and "excellent" (as 7) was utilized to measure these items.

Secondly, visitors' satisfaction was assessed by adopting measures suggested by Oliver (1980, 1997). The construct consisted of eight items. These measures encompass cognitive and affective aspects of overall satisfaction. The level of agreement with these items was rated using a 7-point Likert scale ranging from "strongly disagree" (as 1) to "strongly agree" (as 7).

The third part of the questionnaire was designed to measure demographic characteristics of the respondents, which included: gender, age, number of previous visits, level of education, country of residence, marital status, number of people in group, and length of stay.

The research was conducted among visitors of a city event in continental part of Croatia that takes place every year during December. A total of 107 questionnaires were obtained during the two-month period.

Descriptive statistics was used to describe respondents' characteristics, as well as to evaluate event atmospherics and visitor satisfaction. Principal component analysis was utilized to determine the factor structure of city event atmospherics. The reliability of the event atmospherics scale was tested with Cronbach alpha coefficients. In addition, multiple regression analysis was conducted to determine which event atmospherics factors may serve as predictors of visitor satisfaction in city event context.

4. Research results

The results are reported in several sections. Firstly, characteristics of the respondents are presented. Next, event atmospherics attributes are described. Finally, relationship between event atmospherics factors and visitors' satisfaction with the event is examined.

4.1. Characteristics of respondents

The sample consisted of 107 respondents. Overall, respondents were predominantly domestic visitors (86 per cent). There were more females (64.5 per cent) than males (35.5 per cent). An average age of the respondents was approximately 32. In terms of level of education, most of the respondents indicated that they had completed secondary school (41.1 per cent) or had graduated from university (32.7 per cent). Most respondents in the sample were married (38.3 per cent) or single (37.4 per cent). In terms of personal income, nearly half of the respondents (47.7 per cent) reported middle, and about 25 per cent indicated their personal income as upper middle or high.

In regard to respondents' visit characteristics, more than half of them (52.3 per cent) were repeat visitors, that have visited the event three or more times. The most popular information source regarding the event was word-of-mouth recommendation from friends and relatives (58.9 per cent), followed by TV/radio commercials (55.1 per cent), and the Internet and social media (50.5 per cent). Primary purpose of visiting the location was attending the event (60.7 per cent). Some of the respondents indicated business (9.3 per cent), and visiting friends and relatives (5.6 per cent) as purpose of visit, while 14 per cent of them reported that they were just passing through. Most respondents were accompanied, visiting the event in a group of 3 to 5 people (43.9 per cent), and stayed more than three days at the location (43.9 per cent). Finally, many visitors were accompanied with 1 or more children younger than 18 (56.1 per cent), indicating that this is a family friendly event.

4.2. Event atmospherics attributes

The results of descriptive statistics, factor and reliability analyses for event atmospherics attributes are presented in Table 1.

***Table 1:** Event atmospherics attributes analyses*

Factor/Items	Mean (SD)	Factor loadings	Eigen values	% of Variance	Cronbach alpha
Factor 1			*5.161*	*23.460*	*0.907*
Availability of types of food/refreshments	5.33 (1.540)	0.789			
Quality of food/refreshments	5.13 (1.505)	0.738			
Uniqueness of themed activities/programs	5.13 (1.353)	0.735			
Quality of entertainment	5.43 (1.333)	0.699			
Availability of activities/programmes for all ages	5.48 (1.205)	0.670			
Availability of various souvenirs/products	4.93 (1.600)	0.646			
Visually appealing decorations	5.79 (1.484)	0.575			
Enough available information (e.g. event programmes, food venues, etc.)	4.99 (1.593)	0.554			
Affordable	4.57 (1.408)	0.507			
Factor 2			*4.710*	*21.409*	*0.945*
Staff's willingness to help visitors	5.78 (1.373)	0.906			
Friendly and courteous staff	5.81 (1.374)	0.853			
Knowledgeable staff in response to my requests	5.63 (1.362)	0.851			
Availability of prompt services	5.28 (1.472)	0.820			
Attentive staff who willingly respond to my requests	5.59 (1.379)	0.788			
Factor 3			*3.167*	*14.396*	*0.848*
Cleanliness of the site	5.43 (1.289)	0.748			
Safe and well-maintained equipment and facilities	5.51 (1.127)	0.647			
Convenient access to food/event venues	5.73 (1.285)	0.626			
Feeling of safety on site	6.06 (1.131)	0.592			
Acceptable crowd level	5.23 (1.483)	0.544			
Factor 4			*2.512*	*11.417*	*0.753*
Availability of restrooms	3.93 (1.811)	0.891			
Easy access to parking lots	3.73 (1.888)	0.754			

Factor/Items	Mean (SD)	Factor loadings	Eigen values	% of Variance	Cronbach alpha
Availability of proper signs for site directions	4.78 (1.568)	0.532			
Total				*70.683*	*0.947*
Kaiser-Meyer-Olkin (KMO)	0.911				
Bartlett's Test of Sphericity	1723.510 ($p < 0.01$)				

Note: mean scores range from 1 to 7; values in parentheses are standard deviations

Source: Authors

Mean scores for event atmospherics scale ranged from 3.73 to 6.06. The lowest score was appointed to the item "easy access to parking lots", while the highest score was given to the item "feeling of safety on site". Overall, respondents positively evaluated most event atmospherics items (mean scores greater than 5). Two items, namely, "easy access to parking lots" and "availability of restrooms" were evaluated negatively (mean scores lower than 4). On the other hand, respondents were neutral regarding the following items: "affordable", "availability of proper signs for site directions", "availability of various souvenirs/products", "enough available information (e.g. event programmes, food venues, etc.)".

Furthermore, data were factor analyzed using the principal component method with varimax rotation. The objective was to identify the main factors for event atmospherics scale. The appropriateness for conducting the analysis was evaluated with KMO Test and Bartlett's Test. KMO value was high, and Bartlett's test was significant, thus the data was suitable to identify factor structure for event atmospherics scale.

As reported in Table 1, the 22 items were reduced to four factor solution that explained 70.7 per cent of the total variance in the data. In addition, eigenvalues ranged from 2.512 to 5.161, factor loadings were high (from 0.507 to 0.906), and all extracted factors contained at least three items. Hence, the rule of thumb for satisfactory factor solution, as suggested by Hair et al. (2010) was met. The four factors were labelled as "event offerings and programmes" (factor 1), "staff service quality" (factor 2), "event area" (factor 3), and "convenience and accessibility of facilities" (factor 4).

Next, Cronbach's alpha coefficients were calculated for all factors, and showed adequate internal consistency of the factors (values ranged from 0.753 to 0.945). In addition, Cronbach's alpha coefficient for the overall event atmospherics scale was 0.947, and according to Hair et al. (2010) indicates its high reliability.

4.3. Visitor satisfaction

The items in the construct of visitor satisfaction are divided in cognitive satisfaction items (items 1 to 5) and in affective satisfaction items (items 6 to 8). The results of descriptive statistics for visitor satisfaction items are presented in Table 2.

__Table 2:__ Descriptive statistics for visitor satisfaction items

Item	Mean	Standard deviation
1. My choice to visit this Christmas market was a wise one.	5.86	1.355
2. I am sure it was the right decision to visit this Christmas market.	6.00	1.295
3. My experience at this Christmas market was what I expected.	5.94	1.162
4. This was one of the best Christmas markets I have ever visited.	5.26	1.686
5. My experience at this Christmas market was exactly what I needed.	5.03	1.644
6. I am satisfied with my decision to visit this Christmas market.	5.99	1.254
7. This Christmas market made me feel happy.	5.39	1.522
8. I really enjoyed myself at this Christmas market.	5.72	1.442
Overall mean	*5.65*	

Note: mean scores range from 1 to 7.
Source: Authors

Mean scores for visitor satisfaction scale ranged from 5.03 to 6.00, indicating respondents' high levels of satisfaction. Comparing the mean scores for cognitive and affective satisfaction items, results revealed that affective evaluation of the event was slightly higher than cognitive evaluation of the event (mean values were 5.70 and 5.62, respectively). Overall mean score for satisfaction scale showed that respondents were fairly satisfied with their visit of the event.

4.4. Multiple regression analysis

The main research hypothesis was tested with multiple regression analysis. For this purpose, factors extracted in factor analysis deemed as independent variables, while overall visitor satisfaction was applied as dependent variable.

Firstly, correlation was run to determine direction of relationship between the individual event atmospherics factors and overall visitor satisfaction, as well as to examine possible multicollinarity of variables in the model.

__Table 3:__ Descriptive statistics and correlation matrix

Variables	Mean	SD	1	2	3	4
1. Factor 1	5.19	1.099	1.000			
2. Factor 2	5.60	1.257	0.601	1.000		
3. Factor 3	5.59	1.005	0.766	0.601	1.000	
4. Factor 4	4.14	1.459	0.584	0.766	0.555	1.000
5. Overall customer satisfaction	5.65	1.196	0.782	0.465	0.683	0.526

Note: mean ranges from 1 to 7; SD – standard deviation; all correlation coefficients are significant at 0.01 level.
Source: Authors

Correlation matrix reviled positive, moderate to strong, and statistically significant intercorrelations in the model. The strongest correlation with overall visitor satisfaction variable had factor 1 "event offerings and programmes" ($r = 0.782$, $p < 0.01$), followed by factor 3 "event area", factor 4 "convenience and accessibility of facilities", and factor 2 "staff service quality" ($r = 0.683$, $r = 0.526$, and r 0 0.465, $p < 0.01$, respectively).

Since correlation coefficients (Table 3) did not exceed cut-off value of 0.80, as recommended by Bryman and Cramer (2009), multicollinearity problem did not occur in this research, so it was appropriate to continue with multiple regression analysis.

According to the results presented in Table 4, the relationship between the combination of independent variables in the model and dependent variable is strong (R = 0.797). I addition, the R^2 value indicates that four independent variables explained 63.6 per cent of variance in the dependent variable. Significant F-ratio (F = 44.040, p < 0.01) suggested that the model statistically significantly predicted dependent variable.

Table 4: *A multiple regression analysis*

Model fit				
Multiple R	0.797			
R^2	0.636			
Adjusted R^2	0.621			
Standard error	0.736			
F ratio	44.040			
Significance	0.000			
Independent variable	***b***	***Beta***	***t***	***Sig.***
Constant	0.862		2.069	0.041**
Factor 1	0.674	0.619	6.179	0.000*
Factor 2	0.071	0.075	0.928	0.356
Factor 3	0.259	0.217	2.117	0.037**
Factor 4	0.059	0.072	0.953	0.343

Note: Dependent variable: overall customer satisfaction; * - significant at 0.01 level; **- significant at 0.05 level
Source: Authors

To evaluate the impact of each independent variable on dependent variable, unstandardized (b) and standardized (beta) coefficients are provided. As seen in table 4, factor 1 "event offerings and programmes" and factor 3 "event area" individually have significant relationships with overall visitor satisfaction. Having unstandardized coefficients of 0.674 and 0.259, respectively, it means that every one-unit increase in "event offerings and programmes", there will be increase by 0.674 in overall visitor satisfaction. Accordingly, in every one-unit increase in "event area", there will be increase by 0.259 in overall visitor satisfaction. On the other hand, factors "staff service quality" and "convenience and accessibility of facilities" individually have no significant impact on overall visitor satisfaction (p > 0.05).

According to standardized (beta) coefficients, the most important independent variable with the highest statistically significant impact on overall visitor satisfaction was factor 1 "event offerings and programmes" ($\beta = 0.619$, $p < 0.01$). This was followed by the factor 3 "event area" ($\beta = 0.217$, $p < 0.05$). The least important independent variables in this regression model were factor 2 "staff service quality" and factor 4 "convenience and accessibility of facilities" ($\beta = 0.075$, $\beta = 0.072$, $p > 0.05$, respectively), meaning that these factors had the smallest impact on overall visitor satisfaction. In addition, this impact was not statistically significant.

5. Conclusion and implications

The present research reports how visitors perceive city event atmospherics, and what determines visitor satisfaction in the city event context.

The research results reviled that the construct of city event atmospherics is perceived through event offerings and programmes, staff service quality, event area, and convenience and accessibility of facilities. Previous studies conducted in the event tourism sector identified somehow different outcomes with regard to the number and interpretation of factors that visitors use to assess perceived experiences of a city event (Bitner, 1992; Lee et al., 2008; Yoon et al., 2010; Mason and Paggiaro, 2012; Anil, 2012). Therefore, it is necessary to modify factors that fit research context.

According to the results of multiple regression analysis, the regression model predicted the dependent variable significantly well. It means that four event atmospherics factors simultaneously have significant and positive influence on visitor satisfaction in a city event environment. These results imply that highly perceived event offerings and programmes, staff service quality, event area, and convenience and accessibility of facilities lead to higher overall visitor satisfaction with the event. Thus, the main research hypothesis (H1) is confirmed.

What is more, it has been identified that event offerings and programmes as well as event area projected the strongest significant impacts on visitor satisfaction. Thus, availability of different activities, variety of products and entertainment possibilities, gastronomy, as well as cleanliness, number of visitors and feeling of safety are the most important predictors of city event visitor satisfaction.

Based on these findings, event managers and local community decision makers who want to increase the level of visitor satisfaction with city event should emphasize both tangible and intangible factors of the event. Although factors “staff service quality” and “convenience and accessibility” individually had no significant contribution to overall visitor satisfaction in the tested model, these results provide event practitioners with opportunities for improvement and growth.

This research has both theoretical and practical implications. Theoretically, it extends the literature of event tourism by exploring the relationship between visitors’ perceptions of city event atmospherics and their satisfaction. Practically, it provides event managers a better understanding of visitors’ reactions to city event that attracts both local and nonlocal visitors. By understanding how visitors perceive city event attributes, event managers and local community decision makers would be in a position to create better designed programmes and offerings, thus enhancing visitor satisfaction, and consequently positive behavioural intentions.

When considering the reported results, some limitations should be noted. The results are limited to specific city event and geographical area. Thus, broadening the research geographically to other cities where events of the same type are organized, may enhance research results. Another limitation refers to the focus on a specific evet type and programmes, thus results cannot be generalized to every city event.

In order to broaden contemporary literature related to the city event experience, future research should be conducted among event organizers, as well as local residents, thus consequently gaining the perceptions from their point of view. Further, results of the present research could be compared to the results of similar research conducted in other city tourism sectors in order to provide local decision makers better understanding of how city visitors perceive all the city tourism sectors overall. Additionally, future research should examine a set of different city events simultaneously, thereby providing city event practitioners with a more comprehensive view of city event tourism. Finally, additional analysis could be performed to examine how relationship tested in present research differs among different groups in the same population (e.g. domestic versus foreign visitors, local versus nonlocal visitors, first-time versus repeat visitors).

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HOW VISITORS EXPERIENCE TOURIST DESTINATIONS? A CASE STUDY OF CROATIA AND MACEDONIA

ABSTRACT

This study aims to measure and compare visitors' tourism experience at two different tourist destinations.
On-site survey was conducted in Opatija Riviera (Croatia) and Ohrid Riviera (Macedonia). The research instrument for collecting data was divided into two main parts. The first part was designed to measure tourism experiences, using multiple-item scale with 34 items. The second part of the research instrument was designed to measure demographic characteristics of the respondents, which included: gender, age, marital status, frequency of visit, employment status, education, source of information, type of accommodation, and length of stay. Bivariate analysis was used to test the significance of difference between two tourist destinations and their visitors. The results of analysis showed significant differences in ten out of 34 tourism experience items, revealing that self-beneficial experience was rated significantly higher in Croatia, while hospitality of local people and tourist-guides were rated significantly higher in Macedonia.
The results presented in this study may contribute to the existing literature of tourism experience construct, indicating how different tourist destination attributes contribute to visitors' experience of the destination.

Key words: *tourism experience, tourist destination, bivariate statistical analysis, Croatia, Macedonia*

1. Introduction

Tourists have started to expect unique, gratifying and diverse experiences on their travels but conventional destination marketing is still driven by the quality of services that are focused on amenities or facilities at the destination (Chandralal and Valenzuela, 2015). However, in recent years, competitiveness between destinations has become fierce and with the recognition of tourism destinations as amalgams of tourism products offering an integrated experience to consumers (Buhalis, 2000) destination managers have turned their focus to delivering unique memorable experiences as a means of differentiation on the tourism marketplace (Kim and Ritchie, 2013). Their reasoning is that experiences can 'touch' people better than products or services. They are intangible and immaterial and, although they tend to be more expensive, people attach great value to them because they are memorable (Binkhorst and Den Dekker, 2009).

Focus on marketing experiences instead of products and services has resulted in significant interest in memorable tourism experiences and its underlining dimensions among tourism researchers (Chandralal and Valenzuela, 2015). Various authors (Tung and Ritchie 2011; Kim et al. 2012; Chandralal and Valenzuela, 2015) have developed scales to measure memorable tourism experiences. However, many of the studies have used only student samples to examine the framework of the memorable tourism experiences therefore additional research, employing different groups of respondents from more representative populations, is needed to confirm the psychometric properties of memorable tourism experience dimensions. Kim (2013) found that evaluation of some of the memorable tourism experience dimensions varied between students in the United States and Taiwan. Therefore, this study aims to measure and compare dimensions of memorable tourism experience for visitors in two different tourist destinations: Opatija Riviera in Croatia and Ohrid Riviera in Macedonia.

The paper is organized as follows. Firstly, a literature review is provided regarding the research construct of memorable tourism experience. Next, research methodology is explained, and lastly, research results and conclusions are presented.

2. Study framework

The trigger for widespread interest in the tourism experience literature can be traced to work of Cohen (1979) who defined tourism experience as the relationship between people and their total world-view dependent on the location of their center with respect to the society to which they belonged. Recently, memorable tourism experiences are viewed as multidimensional constructs selectively formed from tourists' experiences based on each individual's assessment of the experience (Kim et al., 2012).

In other words, a tourist's experience, which has been viewed as the subjective mental state felt by participants as a part of service encounter (Otto and Ritchie 1995), does not always translate into a memorable tourism experience. Therefore, to successfully capture the components of tourism experiences that strongly affect individuals, we first need to look at the subjective nature of tourist experiences and previous research regarding the underlying dimensions of the tourism experience (Kim et al., 2012). Ooi (2005) found that tourists' different interests and backgrounds can lead to wide array of interpretations of a single tourist product or service. Also, since tourists tend to have different experiences even if they are doing the same thing in the same place, at the same time their moods and personal feelings at a particular moment affect their interpretations of the experiences. Even if all tourists say that they enjoyed themselves during an experience, it does not necessarily mean that they all had the same existing and memorable experiences (Ooi 2005).

Therefore, research on the dimensions underlying tourist experiences has shifted from the products or services provided by tourism businesses towards tourists' presonal interpretation of the meanings of those objects (Uriely 2005). By identifying these objects in the qualitatively different ways in which individuals experience tourism, researchers have conceptualized the tourist experience as subjective (Cohen 1979; Hjemdahl 2003; Larsen 2007; Ryan 2002).

As the trend of emphasizing the experience economy concept in business literature has grown, a rich body of research has followed that examines the antecedents, outcomes and dimensions of experiences and how to measure them. Brakus et al. (2009) developed a four-dimensional scale that identifies sensory, affective, behavioral, and intellectual dimensions of brand experience. They noted that individuals develop feelings and impressions toward a brand as well as undertake physical actions while searching, shopping or consuming brands.

In the tourism literature, Oh et al. (2007) developed a measurement instrument that applies Pine and Gilmore's (1999) four dimensions of experiences, namely aesthetic, education, entertainment, and escapism. They found that all four proposed realms of experiences are valid in assessing tourist experiences. Tung and Ritchie (2011) explored the essence of memorable experiences based on research from the field of psychology, with a view to understanding the cognitive processes that limit individuals from paying attention to their experiences, as well as the conceptual processes of memory formation and retention. Their research revealed four key dimensions of memorable experiences: affect, expectations, consequentiality and recollection. Kim et al. (2012) developed a 24 item memorable tourism experience scale (MTE scale) that consisted of seven dimensions: 'hedonism' (refers to experiences connected to emotions such as pleasure or excitement), 'refreshment' (associated with feelings of revitalization of freedom), 'local culture' (represents tourists experience with local people), 'novelty' (consists of unique experiences encountered as part of MTEs), 'meaningfulness' (indicates engagement in personally significant activities), 'involvement' (represents tourists active participations in MTEs), and 'knowledge' (represents exploration of new cultures and the acquisition of new knowledge during the trip).

On the other hand, Chandralal and Valenzuela (2015) claim that their 34 item scale that spreads across ten experiential dimensions: authentic local experiences; self-beneficial experiences; novel experiences; significant travel experiences; serendipitous and surprising experiences; local hospitality; social interactions with people; professional local guides and tour operators; fulfilment of personal travel interests and affective emotions is expected to be more reliable and more accurate in its application to a wider travel population then Kim et al.'s (2012) scale because it was purified and validated using a relatively large sample of authentic leisure travellers.

3. Methodology

This study aimed to measure and compare tourism experience of visitors in two different tourist destinations. For this purpose, the present study addressed two research questions: (a) are there significant differences in visitors' demographic characteristics in Croatia and Macedonia; (b) are there significant differences between Croatia and Macedonia in terms of visitors' tourism experience?

To meet study objectives and answer research questions, questionnaire was developed based on Chandralal and Valenzuela's "2015) research. The questionnaire was divided into two main parts. The first part was designed to measure tourism experiences, using multiple-item scale with 34 items. The level of agreement with these items was rated using a 7-point Likert scale with anchors "strongly disagree" (as 1) and "strongly agree" (as 7).

The second part of the questionnaire was designed to measure demographic characteristics of the respondents, which included: gender, age, marital status, frequency of visit, employment status, education, source of information, type of accommodation, length of stay.

Data was collected using on-site questionnaires that were randomly distributed to travellers visiting Opatija Riviera (Croatia) and Ohrid Riviera (Macedonia) during the summer in 2017. The participation was voluntary and questionnaires were gathered on site as soon as they were completed.

Data analysis included descriptive and bivariate statistical analyses. To determine respondents' demographic profile and to evaluate tourism experience items, descriptive statistics was used. Chi-square was performed to test the significance of difference regarding the respondents' demographic characteristics. The independent samples t-test was conducted to test the significance of difference between the scores in each tourism experience item.

4. Study results

The results are presented in two parts. Firstly, respondents' demographic characteristics between two tourist destinations are compared. Secondly, comparison of tourism experience in two destinations is provided.

4.1 Respondents' profile

Respondents' profile in terms of demographic characteristics is shown in Table 1.

***Table 1:** The comparison of respondents' demographic characteristics*

Demographic attributes		Ohrid Riviera[a]	Opatija Riviera[a]	Test value[b]	p
Gender	Male	50.8	67.0	10.736	0.001
	Female	49.2	33.0		
Age		40.74	52.03	6.987	0.000
Marital status	Married	43.4	54.2	12.115	0.007
	Single	28.9	30.7		
	In relationship/ Engaged	17.5	9.9		
	Separated/Widowed/ Divorced	10.2	5.2		
Frequency of visit	First-time guest	65.9	75.6	5.427	0.020
	Regular guest	34.1	24.4		
Employment status	Employed	49.7	43.2	41.992	0.000
	Self-employed	20.4	26.4		
	Retired	10.2	25.6		
	Unemployed	10.2	2.6		
	Other (student, home economics, etc.)	9.6	2.3		
Education	High School	24.9	28.1	57.222	0.000
	College	22.5	44.1		
	Technological Education	17.2	17.8		
	Faculty/University	26.0	8.6		
	Post-Graduate (MSc, PhD)	9.5	1.4		
Source of information	Friends/relatives	31.3	37.9	46.399	0.000
	Guide books	15.3	25.2		

Demographic attributes		Ohrid Riviera[a]	Opatija Riviera[a]	Test value[b]	p
	Newspaper/Magazine	4.3	11.3		
	Television	9.2	7.8		
	Social Media	22.1	4.2		
	Travel Agency	17.8	13.6		
Type of accommodation	4 or 5-star hotel	45.6	88.6	149.365	0.000
	3 or 2-star hotel	13.5	9.4		
	Apartment	17.5	1.4		
	Private accommodation	18.7	0.6		
	Other	4.7	0.0		
Length of stay	< 3 days	30.7	21.5	7.740	0.052
	4 – 7 days	48.8	49.1		
	8 – 13 days	14.5	22.6		
	14 days +	6.0	6.8		

Note: [a] values are percentages; [b] Chi square or t-test; Age: mean and t-test values.
Source: Authors

The comparison of demographic characteristics of the respondents between two tourist destinations revealed significant differences in all demographic attributes, except one.

In terms of gender proportion, male respondents outnumbered female ones, although in Ohrid Riviera sample both groups were almost evenly distributed. When comparing two destinations, there were more males in Opatija Riviera sample than in Ohrid Riviera sample.

In terms of age, respondents in Ohrid Riviera sample tend to be significantly younger than in Opatija Riviera sample.

When comparing marital status of the respondents, in both samples majority of the respondents were married or single ones. Significantly more married and single ones were in Opatija Riviera sample, while those who are in relationship/engaged or separated/widowed/divorced were more in Ohrid Riviera sample.

In regard of the frequency of visit, in both samples most of the respondents were first-time visitors. However, more first-time visitors were in Opatija Riviera sample. The number of employed and unemployed respondents was higher in the Ohrid Riviera sample. Self-employed and retired respondents in Opatija Riviera sample significantly outnumbered those in Ohrid Riviera sample.

The comparison of respondents' education level revealed that majority of the respondents in Opatija Riviera sample reported they had college education. In Ohrid Riviera sample respondents were more evenly distributed among levels of education, with slightly more respondents who completed university. Accordingly, respondents with high school or college education in Opatija Riviera sample outnumbered those in Ohrid Riviera sample, while number of those with university or post-graduate education was higher in Ohrid Riviera sample.

In both samples friends and relatives were the most commonly reported source of information about the tourist destination. In addition, guide books tend to be more frequently used in Opatija Riviera sample, while social media are more popular among respondents in Ohrid Riviera sample.

Furthermore, it was found that respondents mostly stayed in 4 or 5-star hotels. However, the choice of accommodation differs in regard of tourist destination. Namely, in Opatija Riviera sample almost twice the percentage of the respondents stayed in 4 or 5-star hotels than did those in Ohrid Riviera sample. Other types of accommodation were more popular among the respondents in Ohrid Riviera sample.

The only insignificant difference in demographic attributes between two samples was revealed regarding the length of stay. However, the results showed that respondents mostly stayed in destination between 4 and 7days.

4.2 The comparison of tourism experience in two destinations

The results of descriptive statistics and t-test for tourism experience attributes are presented in Table 2.

Table 2: *The comparison of tourism experience scores*

Items	Ohrid Riviera	Opatija Riviera	T-value	Sig.
I closely experienced the actual local cultures.	5.44 (1.539)	5.44 (0.957)	-0.005	0.996
I was exposed to authentic local villages and markets.	5.35 (1.504)	5.53 (1.050)	-1.390	0.166
I could immerse myself in local festivals and other cultural ceremonies.	5.12 (1.755)	5.68 (4.479)	-1.573	0.116
I visited authentic local restaurants/food outlets.	5.67 (1.430)	5.52 (1.119)	1.206	0.229
It gave me an opportunity to experience the real day-to-day life of locals.	5.25 (1.637)	5.41 (1.222)	-1.168	0.244
It helped me to improve my self-confidence.	4.57 (1.840)	5.45 (2.969)	-3.523	0.000**
It helped me to developed my personal identity.	4.61 (1.821)	5.31 (1.469)	-4.349	0.000**
It helped me to learn more about	4.61	5.43	-3.755	0.000**

Items	Ohrid Riviera	Opatija Riviera	T-value	Sig.
myself.	(1.812)	(2.571)		
It helped me to acquire new skills.	4.46 (1.995)	5.20 (1.438)	-4.388	0.000**
Local guides were very informative and knowledgeable.	5.70 (1.451)	5.67 (0.950)	0.258	0.797
Social skills of local guides were very impressive.	5.72 (1.362)	5.62 (0.997)	0.842	0.401
Local guides were always very supportive.	5.97 (1.211)	5.67 (0.968)	3.042	0.002**
Local tour operator services were outstanding.	5.63 (1.520)	5.59 (1.020)	0.248	0.804
Many aspects of this trip were novel to me.	5.48 (1.484)	5.40 (1.347)	0.614	0.539
The trip provided a unique experience to me.	5.62 (1.388)	5.47 (1.274)	1.182	0.238
It was an adventurous experience.	5.47 (1.403)	5.38 (1.420)	0.669	0.504
I felt I was in a different world during the trip.	5.16 (1.642)	5.40 (1.327)	-1.614	0.108
Local people I encountered were genuinely helpful.	6.07) (1.097)	5.76 (0.914)	3.145	0.002**
Local people I encountered were genuinely friendly.	6.08 (1.138)	5.86 (0.889)	2.218	0.027*
Local people I encountered were genuinely generous.	6.00 (1.183)	5.82 (0.934)	1.730	0.085
I felt very stimulated during the trip.	5.71 (1.229)	5.54 (1.161)	1.478	0.140
I felt very excited during the trip.	5.75 (1.268)	5.50 (1.299)	2.108	0.035*
I was very pleased during the trip.	5.96 (1.202)	5.82 (0.917)	1.360	0.175
It was a special experience for me personally.	5.81 (1.369)	5.56 (1.099)	2.042	0.042*
It was a once in a life time experience for me.	4.99 (1.587)	5.47 (1.242)	-3.454	0.001**
It was an extraordinary experience for me.	5.34 (1.397)	5.43 (1.325)	-0.706	0.480
I highly enjoyed the comradeship among my travel companions of the trip.	5.56 (1.388)	5.63 (1.058)	-0.530	0.596
I enjoyed the trip very much	5.69	5.64	0.461	0.645

Items	Ohrid Riviera	Opatija Riviera	T-value	Sig.
because I was with a wonderful group of travellers.	(1.371)	(1.088)		
It enhanced the existing bonds with my friends and travel companions.	5.70 (1.384)	5.60 (1.073)	0.842	0.400
I faced unplanned and unexpected good incidents/experiences during the trip.	5.30 (1.683)	5.43 (1.483)	-0.830	0.407
I experienced certain random things that really surprised me during the trip.	5.24 (1.727)	5.40 (1.366)	-1.023	0.307
I received unexpected benefits/advantages during the trip.	5.25 (1.665)	5.47 (2.388)	-1.070	0.285
I engage in activities which I really wanted to do.	5.76 (1.411)	5.65 (1.313)	0.891	0.374
I visited the places where I really wanted to go.	6.01 (1.211)	5.87 (0.994)	1.346	0.179

Note: values in parentheses are standard deviations; $p < 0.05$; $p < 0.01$

Source: Authors

Respondents from both samples rated the item “It helped me to acquire new skills” with the lowest score, while the highest scores were given to the item “Local people I encountered were genuinely friendly” (in the Ohrid Riviera sample) and to the item “I visited the places where I really wanted to go” (in the Opatija Riviera sample).

The analysis of difference in tourism experience scores between Ohrid Riviera and Opatija Riviera indicated higher scores in the Ohrid Riviera sample for 18 out of 34 tourism experience items.

The results of t-test show that in 10 out of 34 tourism experience items significant differences were found between Ohrid and Opatija Riviera samples. In 5 items tourism experience in Opatija Riviera was rated significantly higher. These items are “it helped me to improve my self-confidence”, “it helped me to develop my personal identity”, “it helped me to learn more about myself”, “it helped me to acquire new skills”, and “it was a once in a life time experience for me”. In addition, significantly higher scores for tourism experience in Ohrid Riviera was found in following items: “local guides were always very supportive”, “local people I encountered were genuinely helpful”, “local people I encountered were genuinely friendly”, “I felt very excited during the trip”, and “it was a special experience for me personally”.

5. Conclusions and implications

This paper reported the findings from two studies that addressed differences in two tourist destinations regarding the respondents' demographic profile and their experience of the destination. Thus, the research questions were answered.

Firstly, significant differences emerged regarding the respondents' demographic attributes. Visitors of two tourist destinations differ according to gender, age, marital status, frequency of visit, employment status, education level, source of information and type of accommodation. In particular, visitors of Opatija Riviera were significantly older, tended to be married or single more often, used guide books, friends or relatives as source of information, completed college education, stayed in 4 or 5-star hotels more frequently, and were mostly first-time visitors at the destination. On the other hand, those visiting Ohrid Riviera completed university education, were more frequently influenced by social media, and were younger.

There was one similarity, as well. The results indicated that in both tourist destinations visitors stayed similar lengths of time, mostly between 4 and 7 days.

Secondly, significant differences were found regarding the level of experience with destination. Self-beneficial experiences were more memorable for visitors of Opatija Riviera, while professional local guides, local hospitality and affective emotions were more beneficial to those visiting Ohrid Riviera. In addition, experiences dealing with perceived significance tend to be memorable for visitors in both destinations.

Since present study is limited to a single (although significant) geographical area in each country of interest, future research should be broadened to other tourist destinations in Croatia and Macedonia to be able to conduct more comprehensive comparison. In addition, future research could examine how visitors' experience with destination affect their satisfaction and intention to return, as well as does the nature of these relationships differ between the tourist destinations.

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DETERMINANTS OF TRAVELERS EXPENDITURE – THE CASE OF DUBROVNIK, CROATIA

ABSTRACT

Traveller'expenditure in receptive tourism destinations is an important element in determining economic benefits from tourism. Considering economic benefit, modern economic theories take travellers expenditure as the destination planning starting point. The main reason is that travellers expenditure has multiple economic implications, in particular onto the emissive tourism destinations, the area over which the travellers travels to reach the destination (transit area) as well as the receptive destinations. The economic benefits in all three mentioned areas are not equally distributed; the receptive destinations enjoy the most benefits. Therefore the main purpose of this paper is to research the factors that affect different categories of travellers' expenditure visiting the city of Dubrovnik (tourists, excursionists and cruise ship visitors). The empirical research was carried out from April 1st 2016 to October 1st, 2016. In total, 1119 questionnaires were administered personally to the respondents. T-test was applied to detect significant differences among different categories of travellers expenditures and then, multiple regression analysis was performed in order to determine factors that affect their expenditure. This research identifies the main expenditures determinants and expenditure differences among different categories of travellers and also provides an essential contribution to the local authority since different types of travellers have a different economic impact on local destination.

Keywords: *travellers, expenditure, tourists, cruise ship visitors, excursionists*

1. Introduction

Tourism is a very important factor in the economic development of many countries. Due to its impacts, tourism has engaged the attention of scientists in its various researches. The importance of tourism manifests itself in overall tourist expenditure, which generates growth in tourism revenues, thereby increasing the country's overall GDP. It is important as new money entering, travellers expenditure stimulates the economy, not once, but several times over. Inbound travellers' expenditure in receptive tourism destinations represents exports for the whole country (Lundberg et al 1995). Travellers' expenditure has a cascading effect throughout the host economy. The direct impact is likely to be less than the value of travellers' expenditure, except in rare cases where a local economy can provide all tourist wants from its own productive sectors (Cooper, et al., 1998; 130).

Therefore, the main aim of this paper was to research the differences in the expenditure forms of different travellers' category (tourists, excursionists and cruise ship visitors) and also to analyse the main determinants of their expenditure in tourism destination Dubrovnik, Croatia.

2. Literature background

Almost four decades ago Mak, Moncur and Yonamine (1977) have warned about the limited approach of tourism research. Namely, they have emphasized that traditionally researches of tourism have been focused largely on the determinants of travel demand with the explanation the only number of tourists who travelled to the particular tourism destination. Their research was the first attempt to analyse the determinants of visitor lengths of stay and per capita visitor daily expenditures using the two stages least squares regression. They have found out that length of stay affect average daily expenditure per person and vice versa and also that recall survey significantly underestimated their expenditures. Frecthling (1987) has pointed out that researching the expenditure alone is threatened by biases and irregularities and therefore that there is not an adequate instrument to measure the economic impact of tourism.
Howard, Lankford and Havitz (1991) have examined the accuracy of tourists' expenditure using a form of parried-comparison design. They have indicated several problems that have appeared in the estimation of tourists spending such us response error and travel party generalization and also they have found out that travellers tend to underestimate expenditure during a trip experience and that travellers will provide more accurate expenditure data when responding broad expenditure categories than to open-ended questions. Travellers' expenditures have been structured in five major categories (lodging, food and beverage, entertainment and recreation, shopping and transportation). They have used correlated samples t-test to determine significant differences between using open-ended questionnaire and those who use category questionnaires. Sheldon (1993) has emphasized the difficulties that appeared in tourist expenditure measuring since tourism consists of many component sub-industries. Also, he has pointed out the three most commonly used methods of tourism data collection (bank records of foreign exchange transactions, surveys of tourists and survey of tourism establishment). He has researched the issues relating to forecasting international tourist expenditure versus international tourist arrivals using the different methods of forecasting. Rylander, Propst and Murtry (1995) assessed the extent of nonresponse and recall biases in travel spending survey. They have found out that the accuracy of reported spending depends on the complications of the spending patterns and on the time that takes to obtain a complete response. Besides, they have pointed out that it is critical to obtain a complete response as soon as possible after the end of the trip.

Mudambi and Baum (1997) in their paper have shown different ways to generate strategic insights from national arrivals data by examining tourists' expenditures on the basis of demographic, variables (nationality, age and occupation) and behavioural variable (a type of accommodation). Agarwal and Yochum (1999) have investigated racial differences in the spending patterns of tourists by developing a deterministic model to explain the expenditure of overnight tourists. In the model, they have used three different variables as a measure of tourists spending (total party, expenditure, party expenditure per day and expenditure per person per day) and they have found out that income, length of stay, party size and the number of children in the party were significant determinants of visitor expenditures. Stynes (1999) has suggested different ways to measure visitor expenditure using survey methods. Primarily, the author has reviewed preliminary consideration such us visitation data, the study region, types of spending,

spending categories, units of analysis and local strategies in designing spending studies for an spending survey methods and then he has stressed the importance of segmentation strategies where he has proposed five main segments (local day users, day users from outside of local area, overnights visitors in campgrounds, overnights visitors in motels, cabins, B&B, and overnights visitors in seasonal homes). Also, he has warned of errors that appeared in the spending survey (measurement error, errors due to unrepresentative samples, sampling errors and analysis errors). Due to the discretionary nature of the tourist expenditures on the trip, it is primarily necessary to research different factors affecting concrete tourist behaviour. Understanding the tourist expenditure model during their visit to the tourism destination is the strategic planning of facilities and amenities (Mok & Iverson, 2000). Perez and Sampol (2000) have researched tourism expenditure as the main key for the economic analysis of tourism. They have analysed methodology for tourism expenditure estimation per person per day via a cross-sectional sample of individuals by detecting the main characteristics influencing tourists expenditure, differentiating between two expenditure categories (in the country of origin and in tourism destination) applying two linear regression models. Exploratory variables they used were age, nationality, occupation, type of accommodation, type of booking, opinion on prices and the trip itself, and influence tourism expenditure. By this approach, they enable the characterization of expenditure segment matching to various tourist profiles adjusted to a different specific destination which is in accordance with the contemporary approach of the tourism market segmentation. They have emphasized that this model allows estimation of the average expenditure for specific tourist's profiles which can provide to forecast the changes made in tourist expenditures. Zhou (2000) assessed the impact of the length of elapsed time between the destination visit and the time when the tourists were asked to recall trip expenditures on the accuracy and direction of the reported data using the two-way analysis of variance and he found out that the longer the elapsed time between visit and the recall of tourist expenditure it is greater likelihood that the trip expenditures will be overestimated.

Breen, Bull and Walo (2001) have made a comparison of survey methods (individual recall interview, individual recall interview within a group, diary and mail back diary) to estimate visitors expenditure on accommodation, entertainment, food and beverage, shopping and local transport, at a local level using the t-test and they determined that recall interview method can result in lower estimation of visitor expenditure in certain key areas due to memory decay. Tyrrell and Johnston (2003) have presented the methodology for assessing expenditure changes associated with welcome centre visit. Applied model in the paper is distinguished by on the one hand use of detailed information from both on-site and follow-up surveys and on the other hand, a means to correct potential nonresponse bias in the follow-up sample.

Laesser and Crouch (2006) have analysed segmenting markets according to drivers of travel expenditure in the case of international visitors using the model of hedonic (log-linear) regression based on characteristics of a trip (number of travel companions from the same household, duration of trip, and choice of type accommodation) as well as the reason for travel. Fretchling (2006) has estimated visitor expenditures applying the relevant concepts suggested by World tourism organization. He has identified three contexts of measuring visitor expenditure (occasion, venue and time frame). The author has examined a number of methods that have been proposed to estimate tourists' expenditure by grouping the methods in seven main categories (existing data, household surveys, visitors' surveys, tourism establishment surveys, and central bank data, expenditure models that include expenditure ratio model and cost-factor models; and direct observation). He has found out that only visitor surveys and cost-factor models can produce estimates of tourist expenditure that meets the relevance, coverage and accuracy principles. The author has also suggested that surveys should be focused on interviewing visitors as they leave the venue during the previous 24 hours following the best practice in survey design. Wilton and Nickerson (2006) have presented different ways to segment visitor spending data. Survey data were weighted by the point of entry and purpose of the trip based on front-end data numbers and variables included the primary purpose of the trip, main attractions, a repeat of first-time visitors and visitors with or without children. Authors have emphasized that visitors spending collected with an onsite diary method that reduce recall bias can produce a detailed report of individual spending patterns and daily expenditures. Stynes and White (2006) have reviewed problems that can occur using visitor surveys to measure trip spending. Authors indicated on some difficulties such as lack of consistency in question-wording, spending categories and units of analysis for studies results in comparison and also that spending data results can be sensitive to a number of data-handling issues/treatment of outliers, contaminants and missing spending data). Koc and Altinay (2007) have emphasised that it is very important to better understand the off-season tourists' characteristic and their spending forms for adequate planning and effective resource allocation in the destination.

Craggs and Schofield (2009) have measured visitor, employee and resident expenditure in an attempt to quantify local economic impacts. Their research was focused on expenditure patterns of heavy, medium and light expenditure segments by local category/tourism product component and examines the significance of a range of socio-economic and behavioural variables using the Chi-square, t-test and one way ANOVA to test significance between different expenditure segments on the basis of socio-demographic and visit specific variables. Demographic variables: age and gender were found to have significant influences on overall expenditure, but it was also found out that there is no significant differences in total expenditure on the basis of socio-economic class, level of education, business/conference, attendance, organized tours, educational trips or visiting with partners, friends or colleagues. Statistically significant associations between heavy, medium and light expenditure segments and gender, age, visit purpose, group size, group characteristics and visit frequency were determined. Wang and Davidson (2010) have made a review of tourist expenditure analysis, presenting a range of factors that could affect tourism demand and expenditure and they found out that micro-economic modelling of tourism demand is an important factor and also that effects of psychological and destination-related factors of tourist expenditure have to be analysed. Brida and Scuderi (2013) have emphasized the importance of income in the analysis of the determinants of expenditures due to the relevance of economic theory in the purchasing behaviour of the individual.

Kruger et. al. (2012) have researched the relationship between tourist expenditure patterns and previous and return visit using the factor analysis and linear regression analysis and logistic regression analysis. They found out that socio-demographic variables that have a significant influence on spending per person are gender, language and province of origin while the only behavioural determinant is group size and also that. There is no significant relationship between spectator spending, repeat attendance and intention to re-visit. Differentiation between various kinds of tourism spenders could be useful to additionally examine the determinants of microlevel expenditures of tourists (Thrane, 2014). Disegna and Osti (2016) have pointed out that it is necessary to analyse micro-data in which individuals or households are the principal units of analysis in order to measure and determine the depth of the economic benefits experienced by the destination it is necessary to analyse. Tavares, Ivanov and Neves (2016) have applied cross-section multiple regression analysis using the ordinary least squares method in order to estimate the influence of different determinants of tourist expenditure (income, length of stay, type of accommodation, number of companions, the destination image and repeat visit) and they have found out that repeat visitation have a positive impact on tourists' expenditure. Smolcic Jurdana and Soldic Frleta (2016) have analysed tourists' expenditure determinants in order to determine the impact of a set of relevant control variables on daily tourist expenditure for domestic and foreign tourists using simple linear regression and multiple regression. They have found out that there are differences in expenditure among domestic and foreign tourists. The same authors (2017) have analysed the influence of tourist satisfaction with the tourism offering on tourist expenditure in the destination applying regression analysis and they have found out that only one satisfaction dimension is significant predictor of tourist expenditure in the destination and also that family income, type of accommodation, past behaviour and length of stay significantly influence daily tourists expenditure. Jelusic (2017) has shown that a multiple linear regression model is acceptable for modelling international tourist spending or expenditure. Soldic Frleta (2017) has highlighted that diverse predictors affect the daily off-season expenditure levels of light and heavy spenders, also author has pointed out that more satisfied tourists with the cleanliness and preserved environment tend to spend more in the destination in comparison with those who are less satisfied with this dimension.

3. Data and methodology

In order to identify the main factors that affect different types of travellers (tourists and cruise ship visitors) and also to identify the differences among their expenditure, empirical research based on questionnaire survey on the sampling of 1200 randomly –chosen travellers visiting City of Dubrovnik was carried. The sample of the travellers has consisted of 547 tourists, 472 cruise ship visitors and 100 excursionists. Since the sample of the excursionists hasn't been appropriate for the analysis, this category of travellers has been excluded from the analysis. The research was carried out from April 1st 2016 to October 1st, 2016. In total, 1019 questionnaires were administered personally to the respondents.

A high structured questionnaire that has included all constructs of the proposed model was used. The questions were based on the literature review (Wang et al. 2006; Fredman 2008; Brida and Scuderi 2013; García-Sánchez et al. 2013; Smolčić Jurdana and Soldić Frleta 2017) and the questionnaire is structured of six main parts. The first part of the questionnaire is consisted of the items about the socio-demographic profile of the travellers, the items about their characteristic of stay in Dubrovnik destination (party size, length of stay and they are tourists, type of accommodation). The second part of the questionnaire is focused on information sources. Information sources have a great impact on the tourists' decision-making process and they are known as the main stimulus factors. The third part is consisted of questions about motivations and activities in the destination. Motivations are a basis for understanding travellers' behaviour. They are also an important factor in tourism destination choice process. The fourth part of the questionnaire includes 47 destination offering elements. For the purpose of this paper, just questions related to the main purpose of this paper were used. Travellers have been asked to rate their level of satisfaction with each item on the five-point Likert scale (1=totally unsatisfied; 5=completely satisfied). The fifth part was focused on their overall satisfaction in Dubrovnik destination and their intention to return to the destination or to recommend Dubrovnik destination. The last part of the questionnaire is based on information about total travellers' expenditure and also about specific expenditure elements (accommodation, food and beverage in restaurants, food and beverage in the markets, souvenirs, local transport, culture, recreation, sport, excursions and other). In order to achieve a better model fit, tourists and cruise ship visitors expenditures was classified as daily expenditure and transformed by natural logarithm to mitigate heteroscedasticity and to decrease the influence of the outliers.

Statistical procedures were applied using the SPSS 23. Descriptive statistics were used to analyse the tourists and cruise ship visitors profile and to find out the information about total and daily tourists and cruise ship visitors expenditures and also to analyse the structure of their expenditures. In order to test for differences between tourists and cruise ship visitors, simple linear regression was applied. Furthermore, multivariate regression analysis was applied in order to investigate the factors that influence the expenditure of tourists and cruise ship visitors.

4. Results

The results of the descriptive statistical analysis of the questionnaire indicated a respondent profile. About 64.9% of the respondents were male and 35.1% were male in tourists' sample and the different situation was in cruise visitors sample where 60.2% were female and 39,8 were male. The tourists and cruise ship visitors are mostly over 55 years (70% tourists are from 55 years and 68.9% cruise ship visitors are from 55). The education structure showed that 65,2% of tourists were graduate and postgraduate and cruise ship visitors were 62% undergraduate and graduate, which indicated that a large proportion of both samples were well educated. The great majority of the tourists 91.2% had a personal monthly income lower than 2000 € and on the other side, almost 80% of the cruise ship visitors had more than 1500€. Table 1 shows the respondents' profile (tourists and cruise ship visitors).

__Table 1:__ Tourists and cruise ship visitors' profile

Demographic characteristics	TOURISTS		CRUISE SHIP VISITORS	
	Frequency	Percentage	Frequency	Percentage
Age				
18-25	6	1.1	4	0.8
26-35	83	15.2	25	5.3
36-45	47	8.6	46	9.7
46-55	28	5.1	72	15.3
56-65	173	31.6	146	30.9
66 and over	210	38.4	179	37.9
Gender				
Male	192	35.1	284	60.2
Female	355	64.9	188	39.8
Education				
Primary School	16	2.9	25	5.3
Secondary school	92	16.8	91	19.3
Undergraduate	82	15.0	113	23.9
Graduate	237	43.3	180	38.1
Postgraduate	120	21.9	63	13.3
Personal monthly income				
-500	40	7.3	15	3.2
501-1000	43	7.9	14	3.0
1001-1500	83	15.2	31	6.6
1501-2000	113	20.7	43	9.1
1501-2000	223	40.8	74	15.7
2001-2500	3	0.5	79	16.7
2501-3000	11	2.0	56	11.9
3001-3500	9	1.6	18	3.8
3501-4000	11	2.0	22	4.7
4001-4500	1	0.2	20	4.2
4501-5000	8	1.5	11	2.3
5501-	2	0.4	89	18.9
Country of origin				
USA	88	16.1	219	46.4
Germany	55	10.1	99	21
UK	205	37.5	43	10.1
Ireland	28	5.1	4	0.8
France	71	13.0	-	-
Canada	38	6.9	54	11.4
S Korea	15	2.7	-	-
Israel	13	2.4	-	-
Russia	7	1.3	-	-
Sweden	15	2.7	-	-
Australia	-	-	19	4.1
Spain	-	-	8	1.7
Argentina	-	-	6	1.3
Other	12	2.2	14	2.9

Source: Author research

Table 2 presents Level of tourists and cruise ship visitors' level of tourism destination satisfaction. Comparing the level of tourism destination satisfaction among these two categories of travellers it is evident that in both cases the results are alike. Generally, the both categories of the travellers are not unsatisfied and indifferent. In the both cases, travellers are the most satisfied with the environment, protection and safety that include scenic and natural beauty, varied landscape, environmental preservation, level of noise, the cleanness, air quality, drinking water quality and security and safety. The both of these groups are the last satisfied with the events, entertainment and shopping like variety of special events, reasonable prices for the entertainment, possibilities for the shopping, variety of shops, the availability of authentic local souvenirs and crafts and with the reasonable prices in shops.

Table 2: *Tourists' and cruise ship visitors' level of tourism destination satisfaction*

Satisfaction	Tourists		Cruise ship visitors	
	Mean	Std. dev.	Mean	Std. dev.
Culture	3.9	0.837	3.8	1.251
Environment, protection and safety	4.3	1.098	4.2	1.13
Events, entertainment and shopping	3.7	0.793	3.6	0.937
Food and beverage	4.1	0.889	4.0	1.129
Value for money	3.9	1.216	3.7	1.336
Atmosphere	3.9	0.835	3.7	1.380

Source: Author research

Average daily expenditure per person of tourists in destination, without travel expenses is 166.25€, while the average daily expenditure per person of cruise ship visitors in destination is 24.15€. Tourists mostly spent their money for the accommodation costs, almost two third of their daily expenditure and more than one fifth costs (37.41€) for the foods and beverage in bars and restaurants. Beside the accommodation costs, their daily expenditure is also higher than cruise ship visitors' and amount 67€. Cruise ship visitors spent one third of their money for food and beverage in bars and restaurants 8.09€, on souvenirs 5.82€, on local transport 3.57€ and food and beverage in the shops 3.31€ while for at least they spent for the entertainment, sport and recreation. It is in related with the fact that their stay in the Dubrovnik destination is approximately four hours. Interesting is that both categories of the travellers spent similar amount on the souvenirs.

Table 3: *Structure of tourists and cruise ship visitors' daily expenditure in Dubrovnik destination*

Expenditure structure	Tourists	Cruise ship visitors
Daily expenditure per person	166.25 €	24.15€
Accommodation	99.25	-
Food and beverage in bars and restaurants	37.41	8.09
Food and beverage in shops	4.99	3.31
Culture	6.32	2.56
Souvenirs	5.65	5.82
Local transport	8.31	3.57
Entertainment	3.16	0.77
Sport and recreation	1.16	0.02

Source: Author research

In order to detect existence of significantly statistical differences between expenditure of tourists and cruise ship visitors t-test was applied (Table 4).

$$H_0: \dots \dots \dots \bar{X}_1 - \bar{X}_2 = 0$$

$$H_1: \dots \dots \dots \bar{X}_1 - \bar{X}_2 \neq 0$$

It is evident that tourists' average daily expenditure is significantly higher than cruise ship visitors and *H_0* can be rejected. Subsequently, cruise ship visitors stay in destination just for few hours and they have all kind of services included on their cruise ship and it is expected that they will spent less money in destination.

***Table 4:** t-test*

Paired Differences					t	df	Sig. (2-tailed)
Mean	SD	Std. Error Mean	95% Confidence				
			Lower	Upper			
138.91	172.27	7.93	123.33	154.49	17.52	471	.000

Source: Author research

In order to research the factors that affect tourists and cruise ship visitors expenditure, two multivariate regression analyses were applied separately and then compared. In the analyses natural logarithm of average daily expenditure for both categories was used. The model that analyse tourist' daily expenditure explain 37% of the total variance in the individual expenditure levels. Independent variables explain 37.4% of the variation in the daily tourists expenditures (R^2=0.374; F(10;536)=14.874; p=0.000). The p value for F statistic is less than 0.05 and that means that at least one independent variable is significant predictors of reading scores. In case of the tourist six variables are significant predictors. On the other hand the model that analyse cruise ship visitors' daily expenditure explain 21% of the total variance in the individual expenditure levels. Independent variables explain 21.5% of the variation in the daily tourists expenditures (R2=0.215; F(10;461)=11.874; p=0.039). The p value for F statistic is less than 0.05 and that means that at least one independent variable is significant predictors of reading scores. In case of the tourist just two variables are significant predictors.

***Table 5:** Multivariate regression models for tourists and visitors daily expenditure*

Variables	Tourists			Cruise ship visitors		
	Coefficient B	Std. Error	p	Coefficient B	Std. Error	p
Constant	5.163	0.415	0.000	3.376	0.148	0.000
Satisfaction with the culture	-0.006	0.114	0.955	0.024	0.02	0.224
Satisfaction with the environment, protection and safety	0.381	0.073	**0.000**	0.006	0.022	0.779
Satisfaction with the events, entertainment and shopping	0.524	0.117	**0.000**	0.066	0.03	**0.027**
Satisfaction with food and beverage offer	0.228	0.085	**0.007**	-0.007	0.031	0.825
Satisfaction with "value for money"	0.038	0.073	**0.045**	-0.009	0.021	0.658
Satisfaction with atmosphere	0.802	0.227	**0.000**	0.012	0.026	0.651
Gender	0.022	0.09	0.810	0.003	0.044	0.941
Age	0.028	0.034	0.405	-0.013	0.017	0.464
Education	-0.052	0.046	0.259	-0.035	0.02	0.083
Personal monthly income	0.035	0.027	**0.033**	0.027	0.007	**0.028**
Model diagnostic						
R2	0.374	0.87		0.215	0,54	
R2 adjusted	0.316			0.208		
F-statistics	14.874		0.000	1.231		0.039

Source: Author research

Level of travellers' satisfaction is related to their expenditure. Analyses showed that variables personal monthly income and satisfaction with the events, entertainment and shopping are significant predictor of daily expenditure in case of tourist but also in case in cruise ship visitors. It is evident that those tourists that are satisfied with the environment, protection and safety will spend 38% more money than those who are unsatisfied with this element. Tourists that are satisfied with the events, entertainment and shopping are tend to spend 52% more money than those who are unsatisfied and very interesting is that tourist that are satisfied with the destination atmosphere will spend 80,2% more money than those who are not satisfied.

5. Conclusion

Researching travellers' expenditure is very significant since, tourism is expenditure driven factor of economy for many countries, especially for low-income countries and for developing countries. Tourism is factor economy activity that brings prosperity at micro and macro national level. Therefore, travellers' expenditure structure and determinants researching is very important tool for achieving positive tourism economic impact. This is the main reason why this topic attracts many of scientists.

The main aim of this paper was to analyse the structure of tourist and cruise ship visitors expenditure, and also to research the main factors that affect different categories of travellers' expenditure during their stay in the city of Dubrovnik. This paper confirmed that there are statistical significant differences between tourists' and cruise ship visitors' daily expenditure as it's expected. Although, level of their satisfaction is similar, level of their expenditure is different. Tourists' average daily expenditure per person of tourists in destination, without travel expenses is 166.25€, an on the other hand the average daily expenditure per person of cruise ship visitors in destination is 24.15€. Tourists mostly spent their money for the accommodation costs, almost two third of their daily expenditure and for the foods and beverage in bars and restaurants. Cruise ship visitors stay in destination approximately four hours, but beside the tourists' accommodation costs, their daily expenditure is also higher than cruise ship visitors' and amount 67€. Multivariate regression analysis was performed for both travellers' categories (separately) in order to research which factors influence their daily expenditure. Analysis has revealed that the personal monthly income and level of travellers' satisfaction is related to their expenditure. Also, it is determined that more variables in categories of tourists are related to level of their expenditures than in category of cruise ship visitors.

This research can be useful tool for the tourism policy makers in the city of Dubrovnik in the process of forming strategies for tourism destination development and also in stimulating the an incensement of travellers' expenditure. Limitation of this paper is that other variables, besides level of satisfaction and socio-demographic, haven't been included in model such as motivation, activities, type of accommodation for the tourists and cruise ship category for the cruise ship visitors. Further research should take into the account the other cruise ship destination to compare the results. Excursionists should be included into further analysis to gain deeper knowledge about expenditure of all travellers' categories.

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RURAL TOURISM IN FUNCTION OF ECONOMIC DEVELOPMENT IN THE SLAVONIJA AND BARANJA REGION

ABSTRACT

Rural tourism, as a significant factor in the sustainable economic and tourist development of rural areas, increasingly requires a strategic approach for overcoming the difficulties and managing its further development. Development solutions are essential for the revitalization of the rural areas of the Slavonia and Baranja region, especially due to the current developmental disparities of the five counties of this area compared to other counties of the Republic of Croatia. In order to identify the role of rural tourism in the economic development of some region, this paper analyzes the existing situation, the assumptions of rural tourism, the emerging forms of rural tourism in Slavonia and Baranja region and the strategic role of tourist communities in stimulating sustainable economic development. The analysis of the selected macroeconomic indicators shows the developmental disparities of the Slavonia and Baranja regions in relation to the Republic of Croatia. The aim of this paper is to analyze the exsistance of the strategic approach of development of the rural tourism in the Slavonia and Baranja region and to determine with conducted empirical research the existance of development strategies of rural tourism, and determine the potentials and obstacles of the further development of rural tourism in region Slavonija and Baranja. For the implementation of empirical research, as a surveyed population, tourist communities were selected from the Pozega-Slavonia, Osijek-Baranja, Brod-Posavina, Vukovar-Srijem and Virovitica-Podravina counties. Suitable statistical and mathematical methods were used to generate and interpret the results of the research. The results obtained identified the existence of strategic and developmental approaches, and identified the current difficulties and constraints for faster development of rural tourism in the function of economic development of this region. The scientific and applicative contribution of this work is reflected in the findings of empirical research.

Key words: *Rural tourism, Rural tourism development strategy, Slavonija and Baranja region,*

1. Introduction

One of the new forms of tourism in the Republic of Croatia is rural tourism. The Republic of Croatia has cultural, natural and gastronomic attractiveness, which represents a great potential for further development of rural tourism. The potential for rural tourism development in Croatia is reflected in the fact that the rural area occupies 91.60% of the overall surface area, and 47.60% of the population lives in rural area (Central Bureau of Statistics, 2001). Slavonia and Baranja region are mainly rural areas, and due to their cultural and natural resources and the growing number of family farms, there is a great potential for even greater rural tourism development, which may result in greater economic development of this region where macroeconomic development disparities in comparison to the rest of Croatia are visible. Rural tourism in Croatia is developing slower than in neighbouring European countries (Zaborski, 2018, 36), and the cause of slower growth, especially in the Slavonia and Baranja region, are numerous constraints resulting from war events, insufficiently developed transport infrastructure, lack of skilled staff due to large migrations and insufficiently organized promotions of tourist offer.

According to Demonja and Baćac (2012, 206), rural tourism has emerged as the need to preserve, revitalize and give new, added value to inherited heritage and to authentically promote traditional knowledge and skills through the organization of an attractive and original tourist offer.
In order to develop a sustainable rural tourism in a rural area, it is necessary to continuously and in the long term look at all the potentials and to create a tourist offer based on the principles of economic viability, which is also the basis for economic development. With strategic approach to rural tourism development, the idea of tourism services development can be developed in certain areas and determine the greatest potential for forming and organizing a future quality tourism offer.

Therefore, this paper explores the existence of strategic development of rural tourism in the Slavonia and Baranja region as the basis for transforming existing cultural and natural resources into a tourist product. The aim of this paper is to provide an overview of the existence of strategic management of rural tourism development, as well as an overview of the problems and potential of rural tourism development based on the results of empirical research.

2. Rural tourism - terminology, manifestations and features

Rural tourism is a term that encompasses all tourist services, activities and types of tourism in the rural areas, including for example hunting, fishing, tourism in nature parks, winter, rural, eco-tourism, health, cultural tourism etc. The concept of a rural area is not strictly defined, but it includes areas prevalent by natural environment, rural environment, small settlements and villages, secession, isolated family farms where agriculture and forestry are the main economic branches (Baćac, 2012, 16).

One of the most common forms of rural tourism is agrotourism, which includes the following forms: family farms or agrotourism, tasting rooms, excursion sites, rural camps, ethno villages, folklore etc. Family farms are the most common form of rural tourism and offer services for overnight stays, catering services and other active vacation services at family farms. (Baćac, 2012, 18).

The basic features of rural tourism are the following: it is organized in an open space in direct contact with nature, allows interaction and participation in local small-business life activities, based on small entrepreneurship and growing slowly and organically, associated with local families, a complex model of rural environment, history, location etc. (Jelinčić, 2007, 275).
The development of rural tourism is also influenced by new trends in the tourist market and changes in the behaviour of tourists. One of the trends is the growing orientation of tourists to rural experiences and the avoidance of city tourist destinations. The most significant motivators motivating city-oriented tourists to "live the rural experience" are (Irshad, 2010, according to Sikiric et al., 2015):

- urban, hectic lifestyle and growing detachment from nature and natural environment create a desire to escape the city;
- growing "green thinking" trend
- growing desire for authentic experience;
- removal of transport, communication and political-economic barriers and others.

Croatia has all the features and potentials for rural tourism development, but there are certain problems and difficulties. According to Krajnović et al. (2011), the problems of insufficient and inadequate financial incentives by the public sector, the lack of recognition of rural tourism as a form of tourism that adds value to tourist destination, the lack of expertise in small family farms, the adoption of inadequate laws dealing with the issue of rural tourism, there is a very bad or inadequate marketing activity of unified business units (family farms in rural tourism) etc. According to the results of the research on the scientific project of the Ministry of Science, Education and Sports "Agrotourism - a component of sustainable development" (Krajnović et al., 2011), the main constraints on family farms' business in the development of agrotourism are insufficient system of measures and incentives, information on incentive programs, employment of non-family labour force, high VAT and high interest on loans. Part of the mentioned problems has been identified in the research results presented in Chapter 4 of this paper.

3. Rural tourism in the region of Slavonia and Baranja

Slavonia and Baranja Region have all the factors contributing to the development of rural tourism. According to Ružić (2009), the bidding factors are divided into three main groups:

- Natural attractions: climate, hydrographic elements, terrain, flora and fauna, natural rarities, agriculture and ecological agriculture.
- Social attractiveness: cultural monuments, folk culture, housing and nutrition, folk customs, folk games, folk creations, cultural institutions and events, entertainment, sports and economic events.
- Traffic connection to the place of tourist residence and the connection to the tourist destination.

Offer of this region is numerous and diverse, and with their mobilization, preservation, nurturing and branding rural tourism increasingly evolves. Slavonia and Baranja region have different natural attractions, social attractiveness made up of different traditional beliefs and attitudes of the locals, and traffic connections secured through the airport, highway, public roads and the rest. Infrastructural progress has been made in the last 10 years, which enables the growth of various indicators of rural tourism growth. Some of the indicators of rural tourism growth are data on changes in the number of overnight stays, number of tourists and number of beds in the counties in this region. The most recent data is presented in the following two tables.

Table 1: *Accommodation capacities by counties (31 august 2017)*

COUNTY	NUMBER OF BEDS		INDEX 17./16.	NUMBER OF BEDS IN THE HOTELS		INDEX 17./16.
	2016.	2017.		2016.	2017.	
VIROVITICA - PODRAVINA	609	705	115,76	141	141	100,00
POZEGA - SLAVONIA	479	596	124,43	0	0	-
BROD - POSAVINA	995	1.093	109,85	339	299	88,20
OSIJEK - BARANJA	2.661	2.511	94,36	1.185	951	80,30
VUKOVAR - SRIJEM	1.463	1.872	127,96	486	698	143,60
TOTAL SLAVONIA AND BARANJA REGION	**6.207**	**6.777**	**109,18**	**2.151**	**2.089**	**97,12**
SHARE SLAVONIA AND BARANJA REGION IN TOTAL REPUBLIC OF CROATIA	**0,55 %**	**0,56 %**		**1,59 %**	**1,59 %**	
TOTAL REPUBLIC OF CROATIA	**1.133.751**	**1.207.427**	**106,50**	**135.236**	**131.152**	**97,00**

Source: authors according to the data https://www.htz.hr/sites/default/files/2018-08/HTZ%20TUB%20HR_%202017%20FINAL.pdf

In the Slavonia and Baranja region there is an increase in the number of beds in non-hotel accommodation in 2017 compared to 2016 in almost all counties. The share of accommodation capacities in the region has risen as compared to the total in the Republic of Croatia, but it is still small and it is necessary to increase the number of beds.

Table 2: *Tourist traffic, by counties, January 2019*

COUNTY	NUMBER OF TOURISTS		INDEX 19./18.	OVERNIGHT STAYS		INDEX 19./18.
	2018.	2019.		2018.	2019.	
VIROVITICA - PODRAVINA	884	749	84,73	2.139	2.005	93,74
POZEGA - SLAVONIA	1.184	1.432	120,95	2.693	3.209	119,16
BROD - POSAVINA	1.625	1.675	103,08	2.892	2.755	95,26
OSIJEK - BARANJA	4.948	4.361	88,14	10.437	8.963	85,88
VUKOVAR - SRIJEM	5.684	4.868	85,64	8.916	6.873	77,09
TOTAL SLAVONIA AND BARANJA REGION	**14.325**	**13.085**	**96,51**	**27.077**	**23.805**	**94,23**
SHARE SLAVONIA AND BARANJA REGION IN TOTAL REPUBLIC OF CROATIA	**6,80 %**	**6,30 %**		**5,09 %**	**4,72 %**	
TOTAL REPUBLIC OF CROATIA	**210.581**	**207.643**	**98,60**	**532.075**	**504.434**	**94,81**

Source: authors according to the data https://mint.gov.hr/UserDocsImages/AA_2018_c-dokumenti/1903_statmint_I.pdf

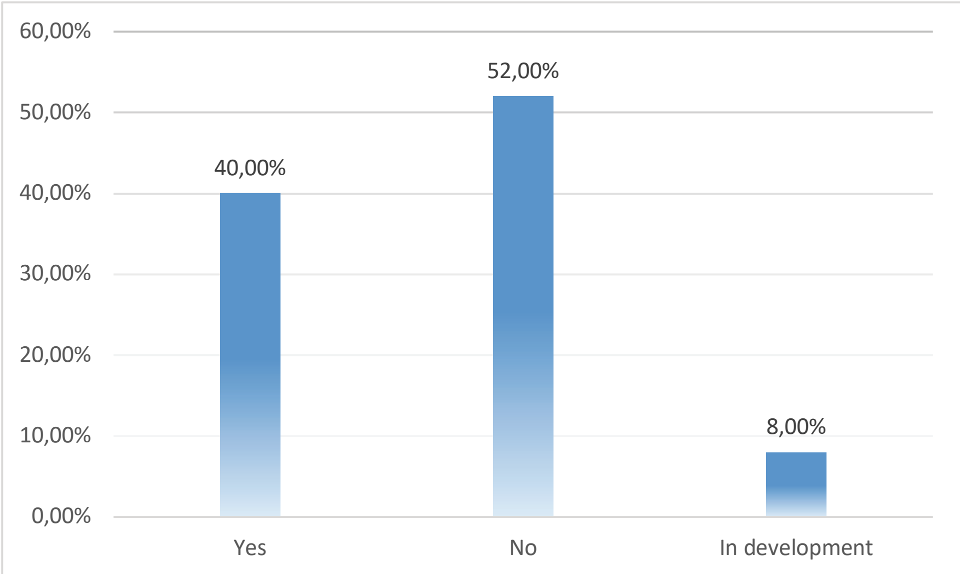
According to the data in Table 4. it is noticeable that in January 2019, as compared to January 2018, the number of tourists in the Slavonia and Baranja region decreased by 8.65%, and the number of overnight stays decreased by 12.09%. The number of tourists and overnight stays in the Slavonia and Baranja region is still low compared to the number of tourists and the number of overnight stays with the total number in the Republic of Croatia, and it is noticeable decrease of this share by 2019 compared to the same period of 2018. It is also evident that the number of tourists in the Brod-Posavina and Pozega-Slavonia counties is growing, which may indicate the link between the existence of sustainable development strategies for rural tourism in these counties (see more in the results in section 4).

4. Results of research on strategic management of development of rural tourism in the Slavonia and Baranja region

In available official data and existing professional and scientific literature there are no data on research on the existence of strategic management of rural tourism development in Slavonia and Baranja regions. This paper presents the results of the research conducted on the Strategic Development of Rural Tourism in Slavonia and Baranja Region. The survey was conducted using a survey questionnaire created by Limesurvey. Invitation to participate in the research was sent via email at the beginning of March 2019. The research was conducted in five counties of eastern Croatia - Požega-Slavonia, Osijek-Baranja, Brod-Posavina, Vukovar-Srijem and Virovitica-Podravina counties. The samples included registered tourist boards in this area. A sample consisted of a total of 40 tourist boards, and 25 of them fully responded to the questionnaire, while 12 incomplete responses were not considered when analysing the results of the research. With 25 respondents, the response rate was 62.50%, and the sample is considered to be representative sample which is distributed across all counties. The questionnaire consisted of 10 questions that were divided into the area of existence of a sustainable rural development strategy / tourism strategy, its primary goals, the participants of the development and the way of monitoring the realization of the strategy; issues related to promoting rural tourism development, and the limitations and potentials of sustainable rural tourism development. The results were processed using the appropriate mathematical and statistical methods and are presented below.

In this research, a representative sample is made up of tourist boards as carriers of rural area / tourism development in towns and counties. Figure 1 shows the existence of a Strategy for Sustainable Development of Rural Area / Tourism (hereinafter referred to as the Strategy) in 40% of respondents. The lack of defined strategic rural tourism development is visible in 52% of surveyed tourist boards.

Graph 1: *The existence of the Strategy for Sustainable Development of the Rural Area / Tourism City / County*

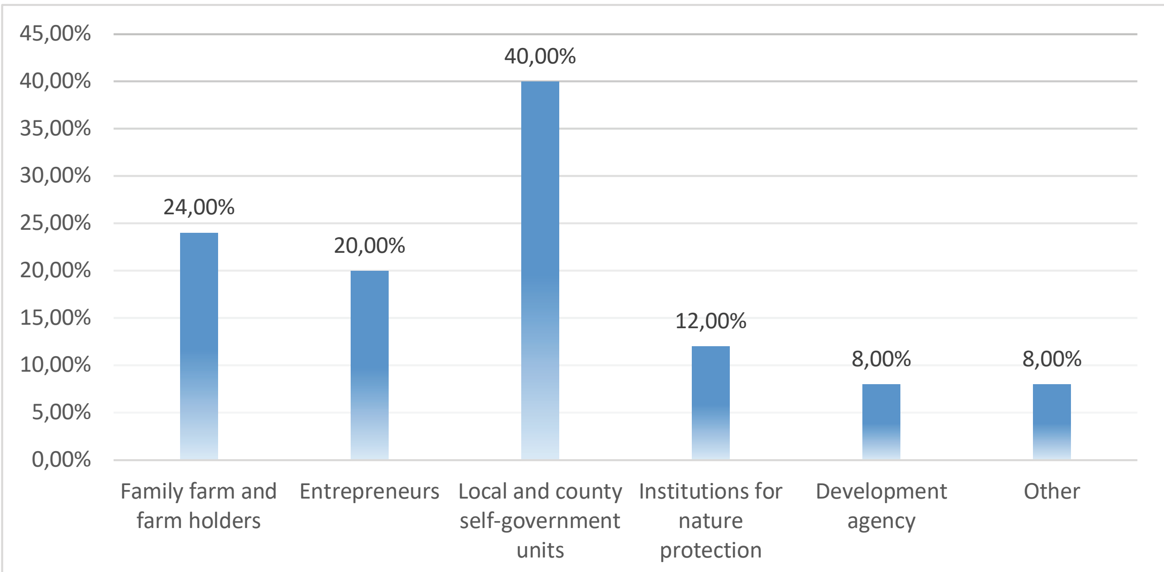


Source: by the author

The most development strategies are seen in Pozega-Slavonia (40%) and Brod-Posavina counties (40%), only two were reported in Osijek-Baranja County (20%), while Vukovar-Srijem and Virovitica-Podravina counties have no developed strategic or strategies are being developed.

Participants who, alongside tourist boards, participate or have participated in the development of strategies are presented in Graph 2.

Graph 2: *Participants/cooperation in strategy development*



Source: by the author

From the Graph 2 it is noticed that there is cooperation of tourist communities with other stakeholders and related institutions, which is essential for the further development of rural tourism. It can be noted that cooperation with the institutions of local and county self-government units is better than cooperation with entrepreneurs and development agencies.
The development of strategies largely preceded the definition of planning goals (32%), resource analysis (agricultural, cultural, natural and other) (32%), and development potential analysis (28%). Cost-benefit analysis of projects (12%) as a basis for strategy development received the fewest numbers of responses.

In order to stimulate economic growth and development in rural tourism, it is necessary to analyse in advance the financial viability and economic justification and the sustainability of future investments in this activity. This should be included in the primary objectives of the strategy, and the implementation of the defined strategy should be followed by defined key indicators. According to the results of this research, the primary goals of existing strategies in this area are (order according to results):

- preservation of local culture and identity of the local community (36%)
- sustainable and long-term tourism development (32%)
- preservation of landscape and the natural "habitat" (28%), and
- preservation and sustainable development of rural economy (28%).

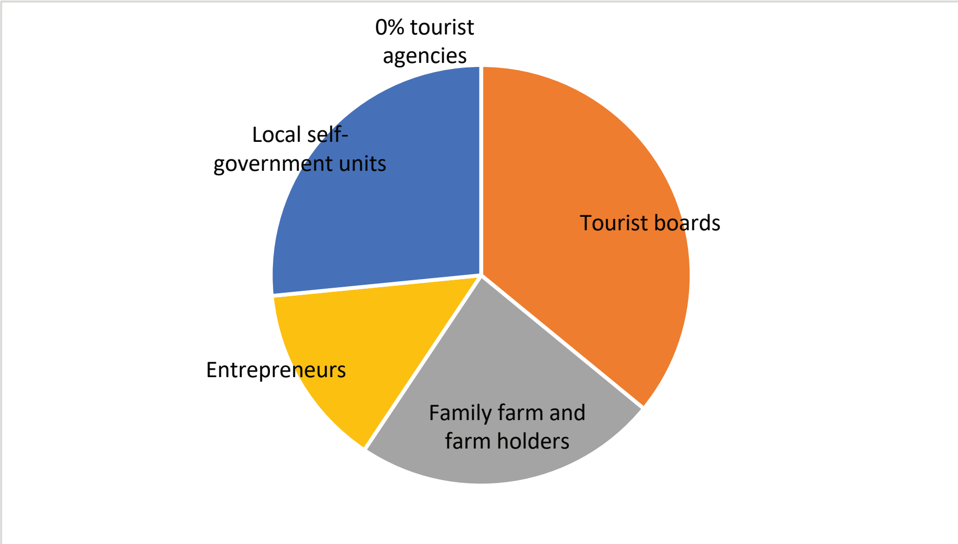
The least represented goal: the strategy needs to become a platform for safe and long-term investments for tourism entrepreneurs (12%).
The realization of the strategy is monitored as follows:

- there is only a plan for implementing the Strategy without monitoring the effectiveness and realization (60%)
- there are quantitative indicators and defined target values (20%) or
- there are no quantitative indicators (20%).

The results show a greater focus on long-term preservation of local culture, landscape and sustainable development, while less focus is placed on creating conditions for safe long-term investments. This is also confirmed by the fact that the realization of only 20% of existing strategies is monitored through quantitative indicators and set target values.

Continuous growth and development of rural tourism require promotion of rural tourism. Graph 3 shows that, in the opinion of the respondents (they could choose from the two most frequent participants in the promotion), tourist communities and local self-government units are most involved in the promotion of rural tourism development in this region, followed by entrepreneurs and owners of family farms, while touristic agencies participated the least in the promotion.

Graph 3: *Participants in promoting of rural tourism development*



Source: by the author

Entrepreneurs and family farm holders, as holders and predominant providers of rural tourism services, perform self-promotion, but obviously without greater connection with tourist agencies. They need more financial and technical assistance in the organized promotion of both individuals as well as branding throughout the region in order to ensure a sustainable development of rural tourism that could stimulate sustainable economic development. However, insufficient promotion is not considered to be one of the major problems and constraints for better sustainable development of rural tourism in this area, as can be seen in the data presented in Table 3 where the arithmetic mean of evaluations provided by participants who were asked to evaluate on a scale from 1 to 5 (1 = not a problem / limitation, 5 = the biggest problem / limitation) which are the biggest problems / limitations for better sustainable development of rural tourism in their area.

Table 3: *The biggest problems / limitations for a better sustainable development of rural tourism in the region of Slavonia and Baranja*

Factor	x
Insufficient Promotion	3.08
Insufficient incentives and support	**3.84**
Too high VAT	3.68
Lack of financial resources	**4.2**
Lack of labour force	3.4
Insufficient interest of entrepreneurs and family farms for further development	3.2
Insufficient networking of rural tourism stakeholders	3.72
Inadequate training of labour force in rural tourism	**3.84**
Lack of vision for long-term sustainable business	**3.84**
Tourist infrastructure (bicycle paths, tourist signalling)	3.4
Insufficient use of funds from the EU funds	3.64
Insufficient resources of tourist boards	**3.84**
Lack of operational and financial support from competent state institutions	3.56

Source: by the author

The following are seen as the biggest problems or limitations of sustainable development of rural tourism: insufficient funding, support and incentives, and lack of vision for long-term business, insufficient resources of tourist boards and insufficient education of the labour force in rural tourism. These results point to the need to provide additional sources of funding to strengthen the resources of tourist communities and educate the labour force in rural tourism. It is necessary to systematically plan and organize education for all stakeholders, in particular to define the measures and programs of education by the local community and the county for the providers of tourist services, as evidenced by the data presented in Table 4, according to which the quality labour force is considered the least rated potential for sustainable tourism development in the region of Slavonia and Baranja.

Table 4: *The greatest potential for sustainable development of rural tourism in the region of Slavonia and Baranja*

Factor	x
Quality labour force	3.16
Rural area (mountains, lakes, rivers, forests etc.)	4.36
Rural heritage (tradition, architecture, history, villages etc.)	**4.56**
Rural life (crafts, events, local food etc.)	4.36
Rural activities (horse riding, fishing, walking etc.)	**4.56**
Strategic management of sustainable development of rural tourism	3.2

Source: by the author

Rural heritage and rural activity are seen as the greatest potentials, while strategic management of sustainable rural tourism development and quality labour force are considered the weakest potential of sustainable rural tourism development.

5. Conclusion

In Slavonia and Baranja region, the strategic approach to rural tourism development is still insufficiently present, as is evident in the results of the survey conducted on a sample of 40 tourist boards in five counties. Strategic development of rural tourism is not based solely on the existence of a rural tourism development strategy, but also on the mutual cooperation of all rural tourism stakeholders, including local and county self-government units, various support institutions and tourism entrepreneurs and rural tourism providers. Particularly necessary is cooperation in monitoring the realization of the strategy and set goals in order to ensure sustainable economic growth, in addition to preserving the local culture and the landscape. The biggest problems, i.e. limitations for better sustainable development of rural tourism in this area. are insufficient funds, grants and incentives, lack of vision for long-term business, insufficient resources of tourist boards and insufficient education of the labour force in rural tourism. While rural heritage and rural activity are considered the greatest potential of this area, quality labour force is considered to be the smallest potential.

Considering the results of the research carried out, the strategic sustainable development of rural tourism should be based on the development, implementation and monitoring of the implementation of the rural tourism development strategy and should be seen in the context of the overall rural development. It is therefore necessary to network and balance the interests of the local community, tourist service provider and tourists. Serious strategic approach to sustainable rural tourism development can ensure minimizing damage to the environment, optimizing tourists' satisfaction, and developing the long-term economic and social development of rural areas. In Slavonia and Baranja region, which has a rich rural area, rural heritage, rural life and rural activities, it is necessary to find a model of strategic rural tourism development based on human resource education in the direction of optimal and sustainable use of existing rural tourism resources in order to ensure sustainable economic growth and development. All this includes financial, legal and other support from the state and competent ministries in order to enhance the competitiveness of eastern Croatia.

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AGE AND MOTIVES OF ADVENT FAIR VISITORS IN THE CONTEXT OF CREATING EVENT FACILITIES

ABSTRACT

There are various motives for visiting a certain event. Visitor's motives of temporary changes of the social and physical environment are most commonly divided into biological, social and personal. In this paper, author's special interest is focused on biological (eg. enogastronomic supply of the destination) and social (eg. entertainment and recreation programmes of the destination) ones with the purpose of visiting a certain event or manifestation. The subject of this paper are the motives of Karlovac Advent Fair visitors. The aim is to compare visitor's motives towards the visitor's age in order to create proper event facilities.
The main hypothesis is as follows:
MH – The motives to visit Karlovac Advent Fair vary according by age.
The study also tested the following hypotheses:
H1 – Young adulthood and middle adulthood visitors' mostly come for fun-music program (entertainment) on the Karlovac Advent Fair,
H2 - Older adulthood visitors' mostly come for catering services (enogastronomic supply) on the Karlovac Advent Fair,
H3 - Average retirement age visitors' mostly come for souvenirs and local gastro and ethno products on the Karlovac Advent Fair,
H4 - Older adulthood and average retirement age visitors' mostly come for the spirit of Christmas on the Karlovac Advent Fair.
Exploratory research of visitors' attitudes on Karlovac Advent Fair was conducted on a deliberate occasional sample of visitors in the period from December 14 to December 30 2018. Descriptive statistics describe observed variables. This exploratory research is carried out for the purpose of exploring the motives of Karlovac Advent Fair visitors regarding to different age groups. Methods of mean value of the statistical sequence were used (arithmetic mean, mod). The results of this exploratory research are attempting to expose the aspect of relating the motives and the age of the visitors in the context of forming the appropriate facilities of the observed event or manifestation. Also, the results of this research are of benefit to those subjects who manage the organization of various events or manifestations in order to improve the quality of services.

Key words: *motives, age, visitors, Advent Fair, facilities*

1. Introduction

The subject of this paper is the analysis of Karlovac Advent Fair visitors' motivation. The aim of this paper is to compare Advent Fair visitors' motives by age in order to create event facilities. Exploratory research of visitors' attitudes on Karlovac Advent Fair was conducted on a deliberate occasional sample, which is a form of non-probability sampling, in the period from December 14 to December 30 2018. There were conducted interviews on 350 Karlovac Advent Fair visitors, 202 domestic visitors (57.7%), 113 trippers (32.3%) and 35 tourists (10%). The size of the main sample is estimated at the level of daily visit of Karlovac Advent Fair in year 2018 based on the data form the organizers web site (Association "Izvan Fokusa", 2018). The daily data size of the Karlovac Advent Fair visitors according to the relevant source is 3.000 visitors per day, the significance of the sample of Karlovac Advent Fair visitors is estimated on a daily basis and is 11.66%. The questionnaire contains 23 closed questions and 1 open question. Attitudes of the respondents were measured by the Likert scale ranging from 1 to 5 (1-lowest score, 5-highest score). The observed variables were described using descriptive statistics. The results of this exploratory research are of benefit to those subjects who manage the organization of various manifestations in order to improve the quality of the service. The data was processed in Microsoft Office Excel. The questionnaires were anonymous.

Various events attract tourists in the destinations all over the world which increases economic activity of those destination as well as their recognizability. Thus event tourism became important pillar of development and attractiveness of the destination. Tourists and other visitors of the events are nowadays more demanding so it important to improve the quality of the services offered in the destination. According to Getz event tourism is a type of travel with special interest, that in its context, one travels in order to attend an event or attends an event while traveling. Tourism events can be categorized into three groups: (1) Meetings, incentives, conferences, and exhibitions (MICE) as an industry, (2) Sports events and (3) Festivals and cultural celebrations (Getz, 2008). Event and festivals have significant ability and share in developing cultural, social and economic aspects of destinations (Rezaei et al. 2018).

Festivals are cultural events (Frisby, Getz, 1989) that are considered a form of cultural tourism (Formica & Uysal, 1998, Mahika, Rădulescu and Aluculesei, 2015). They provide communities with a way to celebrate their unique cultural traditions and attract tourist and local visitors (Tanford and Jung, 2017). Festivals are organized by communities for variety of reasons including, showcasing their cultural heritage, promoting their city, attracting tourists and providing additional cultural entertainment offerings to local residents, thereby providing opportunities to improve their quality of life (Cudnym, Korec & Rouba, 2012, Yolal *et al.*, 2016). They provide economic, social and cultural benefits to the communities in which they occur, and contribute to event tourism and destination marketing (Tanford and Jung, 2017). There are studies of festivals in Europe (Grappi & Montanari, 2011), the Middle East (Akhoondnejad, 2016), Asia (Sohn, Lee & Yoon, 2016), the United States (Yuan & Jang, 2008), Africa (Kruger, Saayman & Ellis, 2010) and Australia (Savinovic, Kim & Lang, 2012, Tanford and Jung, 2017). These studies investigate a variety of research topics, including motivations for attending (Maeng et al., 2016), customer segmentation (Chang, 2006), satisfaction (Sohn et al., 2016) and loyalty (Yuan & Jang, 2008, Tanford and Jung, 2017). Many studies investigate visitors' motivations to attend festivals (Uysal, Gahan and Martin, 1993, Getz, 2008, Getz, 2010, Matheson, Rimmer and Tinsley, 2014, Maeng et al, 2016, Tanford and Jung, 2017).

Wilson et al. (2016) in their meta-analysis article on researches conducted about events in the period 1978–2014, have expressed that from 2010 onwards these studies have had a significant growth and that motivation has been one of the most important subjects of study in this field.

2. Theoretical background

Understanding the motivations for attending events has been seen as crucial knowledge for ensuring attendee satisfaction, future behavioural intentions, creating a community identity, capturing sponsors, and successfully aligning marketing efforts to maximize attendance (Dragin-Jansen et al.,2018). Motivation can be defined as the driving force behind all behavior, tourist motivation may also affect tourist attitude in general and some salient aspects of behavior such as involvement, perception and satisfaction (Foodness 1994; Gnoth 1997, Prebensen *et al.*, 2013, 255). According to Jafari, motivation is the cause of human behavior (Jafari, 2002). It is the central factor in the decision making process (Yolal, Rus, osma, & Gursoy, 2015). Motivation has been characterized as a goal-and value-driven behavior, which can be grounded in biology, or a complex interaction with external stimuli hat trigger various individual activities to accomplish a specific goal (Bouder-Pailler, 1999., Slater, 2007).

The most commonly agreed pattern of motives consists of: 1. Biological, 2. Social, 3. Personal dimensions. Biological motives are physiological needs. Social motives are oriented towards others. It means, for example, the need for company. For realization of social motives, it is necessary to contact people (Kesić, Piri Rajh, 2004).

Many studies investigate visitors' motivations to attend festivals (Uysal, Gahan and Martin, 1993, Getz, 2008, Getz, 2010, Matheson, Rimmer and Tinsley, 2014, Maeng et al, 2016, Tanford and Jung, 2017). Previous studies identified five main motivations: socializing, escapism, entertainment (interest in the event's theme), geographical location of the event and loyalty (e.g. Backman, Backman, Uysal, & Mohr, 1995; Gelder & Robinson, 2009; Lee, Lee, & Wicks, 2004; Nicholson & Pearce, 2001; Oakes, 2010; Scott, 1995; Swanson, Gwinner, Larson, & Janda, 2003). Crompton and Mackay's (1997) seven domains offers one of the original perspectives. Increasingly, the research considers satisfaction, emotions, togetherness, a state of need, novelty, nostalgia and escapism as key variables (Scott, 1996; Nicholson and Pearce, 2001; Lee at al., 2004; Duran and Hamarat, 2014; Pope et al., 2017). According to push and pull conceptual framework tourist behaviour is motivated by external factors, e.g. characteristics of a destination, which attract visitors and internal psychological factors, e.g. desire for socialization or relaxation, which impel tourist to engage in a leisure activity. (Marakova et al., 2018). Motives are regarded as a starting point which triggers visitors' decision-making process and directs their behaviour to satisfy a need (Crompton and McKay, 1997). According to Crompton and McKay (1997), attending an event is likely to be directed by a desire for cultural enrichment, socialization, education and novelty.

Other researches drew on the festivals and events literature to develop scales (Lee, 2000, Schofield & Thompson, 2007, Thompson & Schofield, 2009, McDowall, 2010, Chang & Yuan, 2011). Differences in motivation are evident according to visitor type, key differences have been identified between domestic and international visitors (Lee, 2000, Matheson, Rimmer and Tinsley, 2014). In Formica & Uysal's (1996) study on the Umbria jazz festival they classified visitors as being either out of the region visitors of Umbria-region (Matheson, Rimmer and Tinsley, 2014). They found that Umbria-region visitors attracted greater significance to socialization, while out of the region visitors placed more importance on entertainment (Formica & Uysal, 1996, Matheson, Rimmer and Tinsley, 2014).

3. Research results

The objective of this study is to identify the motives of Karlovac Advent Fair visitors. The research instrument was divided into few parts, comprising research constructs which are different motives (entertainment/fun-music program, the Christmas spirit, gastronomy/ catering services, souvenirs and local gastro and ethno products) and respondents' demographic characteristic. Measures were derived from previous literature and modified according to the context of the present research. The sample consisted of 350 respondents classified into three target groups, mostly domestic visitors (57.71%), trippers (32.3%) and tourists (10%). There were more females (60.29%) then males (39.71%). Tourists stayed mostly in hostels (37.14%), lodgings (39.71%) and hotels (11.43%).

Table 1: *General characteristics of Karlovac Advent Fair visitors in year 2018*

GENERAL CHARACTERISTIC		PERCENTAGE
GENDER	FEMALE	60.29
	MALE	39.71
AGE	15 - 24	20.86
	25 - 44	33,14
	45 - 64	18,84
	65 and more	2.86
VISITORS	DOMESTICS	57.71
	TRIPPERS	32.29
	TOURISTS	10.00
TOURIST		
TOURISTS ACCOMMODATION	Hotel	11.43
	Hostel	37.14
	Lodging	31.43
	Other (friends and family)	20.00

Source: Authors' on the basis of research results, N=350

Elements of descriptive statistic (mean, mode) were used while testing the hypothesis of this paper. The table below shows the results in four groups (15 – 24 young adulthood, 25 – 44 middle adulthood, 45 – 64 older adulthood, 65+ average retirement age).

Table 2: *Mean, Mode*

	MOTIVES			
	Social motives		**Biological motives**	
	Entertainment/ Fun-music program	the Christmas spirit	Catering services/ Enogastronomic supply	Souvenirs and local gastro and ethno products
AGE 15 -24				
MEAN	4,12	3,47	4,18	2,97
MODE	5,00	4,00	5,00	3,00
AGE 25-44				
MEAN	**4,42**	3,82	4,19	3,63
MODE	5,00	5,00	5,00	3,00
AGE 45-64				
MEAN	**4,17**	**3,97**	**4,39**	4,34
MODE	5,00	5,00	5,00	5,00
AGE 65+				
MEAN	4,00	**4,50**	4,10	**4,70**
MODE	3,00	4,00	4,00	5,00

Source: Authors' on the basis of research results, N=350

The table 2 shows the result of the most frequent response of visitors (local visitors, trippers, tourists) regarding the motives (entertainment, the Christmas time, gastronomy, souvenirs and local gastro and ethno products) in four groups (young adulthood, middle adulthood, older adulthood, average retirement age). The results of the survey for the question related to the "Entertainment/Fun-music program" show an average rating of 4,42 visitors age 25-44 which implies an agreement with the statement of the survey questionnaire: "I came to Advent to have fun with an interesting fun-music program". Also, the results of the survey for the question related to "the Christmas spirit"show an average rating of 4,50 visitors age 65+ which implies agreement with the statement of the survey questionnaire: "I came to Advent because I adore Advent season and Christmas spirit". The results of the survey for the question related to the "Catering services" show an average rating of 4,39 visitors age 45-64 which implies agreement with the statement of the survey questionnaire: "I came to Advent to enjoy the catering supply (food, drinks, beverages)". The results of the survey for the question related to the "Souvenirs and local gastro and ethno products" show an average rating of 4,70 visitors age 65+ which implies agreement with the statement of the survey questionnaire: "I came to Advent because I enjoy a variety of autochthonous souvenirs and homemade gastronomic and ethnic products".

Since the initial hypotheses of conducted research were: MH - The motives to visit Karlovac Advent Fair vary according by age, H1 – Young adulthood and middle adulthood visitors' mostly come for fun-music program (entertainment) on the Karlovac Advent Fair, H2 - Older adulthood visitors' mostly come for catering services (enogastronomic supply) on the Karlovac Advent Fair, H3 – Average retirement age visitors' mostly come for souvenirs and local gastro and ethno products on the Karlovac Advent Fair, H4 – Older adulthood and average retirement age visitors' mostly come for the spirit of Christmas on the Karlovac Advent Fair.

4. Conclusion

It may be concluded that the motivation of Karlovac Advent Fair visitors is various by age. In this case, age classification of Karlovac Advent Fair visitors is done according to the classification of United Nations Department of International Economic and Social Affairs. The aim of this work has been achieved. The results of the research indicate a stronger motivation of visitors' average retirement age that refers to the variety of autochthonous souvenirs and local gastro and ethno products. Visitors' average retirement age are attracted by the autochthonous and ethnical dimension of product and service more significantly then the other age groups. Also, visitors' older adulthood and average retirement age pay attention to the Spirit of Christmas more significantly than other age groups.

It is suggested a continuous adaptation of the research instrument (survey questionnaire) to the future focus of the researcher's interest and the needs of the target groups (domestic visitors, trippers, tourists). The research process in the future should include also personal motives that are recognized during the visit of the manifestations. It is recommended to use the results of research conducted to all actors in the formation of the same or similar manifestations in order to improve the quality of services. Improving the quality of services tailored to target groups will have a positive impact on target groups expenditure.

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7 Cultural Heritage and Economic Development

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DIGITIZING CULTURAL DATA AS A PROCESS OF MODERNIZING CULTURAL INSTITUTIONS

ABSTRACT

Today, in a wide range of market, cultural and industrial businesses, we witness the key tendency of moving activities from the physical places of business to contemporary digital information spaces. And while the phenomenon of E - Commerce or electronic commerce is a highly successful example of transposing activities into digital reality, cultural institutions encounter multiple - scale problems and obstacles. Using a specific aspect of new-media research, this paper uses a methodological approach called research through design, produces prototypes based on the monograph of academic painter Josip Alebić (Loinjak, 2017), published by Museum of Fine Arts Osijek, aimed at presenting possible new ways of organizing cultural materials within digital information spaces.

Key words: *digitalization, digital information organization, research through design*

1. Introduction

The context of everyday digital communication, and for this paper very important, the production and organization of information within the websites is quite complex. The civilization on daily basis produces unmeasurable amount of information. The most of this information includes widely understood cultural material. Maurice de Kunder (2016) tried to determine the size of today's information production. According to worldwidewsbsize.com the number of websites at the end of the year 2017 was just over 50 billion. More precisely, Google has recorded 51.8 billion web pages and Youtube.com, as part of Google, announced that its users create 13 hours of new video content every minute (de Kunder, 2016) and that in 2017 they reached the number of almost one billion users. At the same time, Facebook estimates it had 1.3 billion users, Twitter 284 billion users, Instagram about 200 million, and Pinterest 40 million users (Walker, 2017).

There is also a significant rise of information production generated by employees of scientific institutions and schools, museum employees, curators, library staff, etc. For instance, a large number of academic institutions freely broadcast, more or less, the integral content of their own courses. This digital phenomenon is called MOOC or Massive Open Online Course and refers to teaching which is organized on the Internet, and is designed for a large number of participants (Anonymous, 2014). It is also interesting to visit the iTunes service, which allows their users to have a program of mainly US university institutions completely free of charge. While the

Institute of Massachusetts (MIT) provides a special section on its website for free professional education. The largest platform of this kind is Coursera.org, which offers an extremely large number of courses in collaboration with many Universities and schools from all around the world. In April 2014, Coursera had about 7.1 million users, and teaching was organized at 108 worldwide universities (de Kunder, 2016).

Furthermore, museums, galleries and other institutions involved in the cultural data collection, storage and display expand their physical collections to digital space. What does that mean? The term collection, in its classical, physical sense, means everything that the archives possess, or what the curators have successfully collected (Allison et al., 2005). Also, the classic collection is catalogued and this document contains information about all units within the collection. More importantly, it enables the search of any element inside the archive. While analogue catalogues have limitations in the sense of its information broadness regarding a collection, digital catalogs don't have these constraints.

Perhaps the first project that digitized cultural texts and enabled their free search was Project Gutenberg from 1970 (Yazdani, Chow and Manovich, 2017).It offers over 54,000 books, free books in epub, kindle and pdf format that can be read inside their platform or downloaded to computer(Project Gutenberg, 1970). Interesting example is The Museum Inside the Telephone Network of 1991 which attempts to establish an exhibition of museums within telecommunication gauges (Akira, Nihon Denshin and Kabushiki, 1991). Visitors could access the exhibition only by phone, fax machine or early computer network. The project was concieved as a model for developing the idea of, as they called it - an invisible museum, or what we know today, as digital collections.

Today's largest globally accessible cultural collection is Europeana's platform that has over 53 million art exhibits, books, videos, and sounds made in Europe. In addition, there is Digital Public Library of America, HathiTrust network and the Library of Congress, all of them with about 13 million digitized objects (Yazdani, Chow and Manovich, 2017). Furthermore, The Internet Archive is a non-profit organization that has created a digital collection of websites and other cultural data in digital formats. They provide free access to researchers, historians, professors and other scholars and offer more than 10 billion free historical texts and almost all forms of computer software that had been developed in the past (de Kunder, 2016).Why is the Internet Archive so essential for this topic? For almost 30 years, this form of archive has a task to store the contents and appearance of the previous web pages in the archive, and thanks to that, the production of past culture can be explored today.

Today we can point out that it is certainly easier to find something that existed in the form of text 150 years ago, and has cultural or historical significance, for example, then finding the content and structure of the first website of the Osijek University and City Library. Paradoxically, civilization accurately records and grasp materials from a greater distance, rather than closer ones. So, the task, the goal or the imperative of modernity, is to change that.
Having that kind of digital environment in mind the main aim of this paper is to present the new possible ways of organizing cultural materials within digital information spaces. Using good practice examples the paper will try to create its own prototypes of digital information spaces using the monography of academic painter Josip Alebić, published by Museum of Fine Arts in Osijek.

2. Theoretical Framework

As it is known from media, communication and information research, through the quantification process and numerical presentation, it is possible to create entities of almost infinite, but still, organized information on any topic or phenomenon. (Shannon, 1969; Manovich, 2001). Such digital records, the almost infinite in size, is easier to move, modulate and perceive than analogous ones (Negroponte 1996). Digital catalogs are based on the principle of those classic, analogue ones, they contain the essential features of the principles from which they originated, but with their unique digital structure they are gaining much more. Lynch (2002) is right when he claims that the material that is digitalized can be considered as communicational valuable only when it is organized on one way or another. Furthermore, the search for digital catalogs is accomplished by searching the keywords, or semantic tags that are added to the elements. The paper tries to answer the question how to research the endless information catalogues using the view methods, visual communication, perception and the process of visualizing information. For instance, the Digital Public Library of America has a direct search, an overview with a timeline, a map overview, and a section for thematic exhibitions. Europeana platform is open to researchers who are developing their own search systems for their collection. The most advanced search interface offers the Google Arts & Culture platform, which is a result of Googles cooperation with a number of museums, galleries, archives and libraries. The search mechanisms of a various scanned collections of these cultural institutions include zooming, timeline, color-based search, thematic exhibitions, and organization through categories (artists, media, artistic movements, places, object names, etc.) (Yazdani, Chow and Manovich, 2017). The main disadvantage of these platforms is that overall material is available for web review, but there is no possibility of systematically loading a large number of selected materials for their own analysis (Yazdani, Chow and Manovich, 2017).

Since the starting point of this paper is an idea that by the process of viewing, or actively observing the exhibited collection, we can create new ways of studying the vast territories of cultural data stored in the archives, the authors believe that digital lists can become objects for themselves. If we firstly digitalize them, then with the process of visualization we provide them with visual shape. Or, we make visible forms of mathematical or text data, that has never been in visible form. For example, if we have a list of images of one artist, we have a classic catalog. In the digital version, to the list of specific media objects is added photos of these objects. Such a catalog, once visualized and designed, according to the principle of information design, leaps out of its textual source, and becomes an overview of the artwork itself. Such a display is a completely new, autonomous expression of information production. It is based on the idea that physical, with its essence, as well as function, becomes a specific place. It is also a digital reproduction of the work itself (digital photography), but also a list of that work. That was then, semantically speaking, and the sign and the signified.

In order to research a new way of organizing cultural materials within digital information space firstly the good practice examples need to be analyzed. The *Cooper Hewit - the Smithsonian Design Museum* and *Accurat studio Milan* serve as cases to demonstrate the basic thesis of this paper about the possible ways of organizing digital collections. *The Smithsonian Design Museum* is one of the few world's museums specializes in design with the collection that covers all aspects of design (graphic, industrial, fashion, web design, etc.). It includes more than 210,000 objects of all civilization epochs and the entire material is digitized, semantically marked, accessible by searching, and most importantly, exquisitely presented. The uniqueness of this platform is the ability to personalize its own digital search of their site[1]. Although it is greatly designed and transparent, this site, apart from the use of timelines, doesn't have an example of visualizing data. *The Accurat studio Milan* as a second example has the most of its work published in La Letturi, a weekly cultural supplement of the Corriere della Sera magazine. It's about paradigmatic work since it is located on an indefinite boundary between visualization of data and art (Cairo, 2016: 73). The intriguing in this platform is that visualization form must be elegant and intriguing. Intriguing is the extreme expressiveness of the argument, or its legibility. Their visualizations seem to invite the users to explore carefully what they are showing.

This approach finds its fundamental value in the slow and systematic research of the studying content. It is to be said that in such a procedure, the so-called Eureka phenomenon, a sudden awareness of the discovery of some information, is almost never created. Opposite, these visualizations are conceived to use time and attention of a user, thus, pulling the user into their own world, as well in to the logic and structure from which the meaning arises. It's as if the authors don't have a centrally set and clear idea, which must be immediately understood. More than that, there are several equal or equivalent information. Giorgia Lupi, the chief designer of the team, writes that the clarity of their visual arguments doesn't come at once; it is built by analyzing several layers of information, what they call a non-traditional witness testimony (Lupi, 2015).

Alberto Cairo notes that *Accurat* seems to be sacrificing an element of clarity, in order to obtain an added value of complexity (Cairo, 2016, 73). But it is interesting that the complexity comes from a relatively small number of data. For example, in the visualization of "Painters in the Making", ninety painters analyzed, more precisely when, at what age a painter painted two of his most famous works. The mentioned data was obtained by searching on the Google search engine to find out which two works of the individual artist were most searched. Each line of the painter added a line that represented the length of life, which is parallel to the central time contextual line. In addition, each painters' line of life is divided into three parts. Furthermore, each of the two key images of the author are analyzed according to the principle of the four colors that appear in the work. In this way, the user examines in which period of life; early, middle-aged or late years, ninety painters painted their two key works. Much more, visualization serves as a diagram of art history. Her point is not only to show how Leonardo da Vinci painted two of his works very early in life, but to show, in one place, in one explicit view, who, why and what has been painted in more than five hundred years. The basic visual structure of their visualization is a timeline, in three dimensions; the length of the artist's life, the contextual general timeline, and the time draws three periods of the artist's life. Three information layers are added to this time-structured information; key images, the most common colors of these images and techniques, or the medium in which it is painted. If we draw an analogy with the mapping process, this infographic is explored without finding a specific place or element, but it is studied to understand what is all there is.

When it comes to similar research, but which specific goals of organizing information of cultural institutions, this paper highlights the research on the design and structure of the web pages of digital collections (Kreiseler et al., 2017),which deals with the browsing mechanisms that will correspond to the idea of knowledge organization according to humanity principles

[1]As a user, during the visit of a site, we sign up to our account, and this allows us, for example, to continue touring the collection where we have stopped, to load what we are interested in in their databases, add comments, make our own notes. And, very importantly, we have, in one view of our interceptions of what we see as an integral part of the platform we are observing.

(Whitelaw, 2015). Thudt and associates deal with the ways how data visualization contributes to the procedures of random but useful findings (serendipity) (Thudt et al., 2012). The relationship between the visitors and museum digital collection infrastructure was the topic of Paul F. Marty's (2008) research. Methodology of design studio was used in the development of computer prototypes that enabled researchers to establish four stylistic and functional principles of different visual archival visualization (Dörk et al., 2017). The Sula's (2012) study of the five main principles, borrowed from data visualization discipline, used for making libraries, museums and other scientific institutions work more functional is also important for identifying the adequate methodological framework for this paper.

3. Methodological Framework

One of the crucial moments of this paper is the definition of methodology framework called research through design. It's about the research methods that includes both theoretical work and the modeling of the constructed (Zimmerman et al., 2007). By designing a prototype, we establish a method of producing knowledge using the process of creation, design, and very importantly - we are activating the simultaneous dialogue of the two spheres of research, theoretical and practical. As Manovich emphasized, "Prototype is the theory!" (in Armaselu and Jones, 2016).

In the light of the new media research paradigm or digital humanism, the prototype is, of course, the theoretical work. The first reason is the need to overcome verbal, textual expression as the only or normative form of expression that can generate a critical discourse. It will be clearer, if we say that there is, for instance, discipline of speculative design, which deals with all that is done with classical design, but with an essential addition, a subversive element, in order to disentangle the dynamics of discourses within the area. Such a movement, dealing with graphic, fashion, product or informational design, using constant experimentation, or twisting of the normative form, examines recent cultural, social and scientific settings. Such research attitude, outside of verbal discourse, can inquire, define, sublimate, engage in activism, oppose commercialization and trivialization of culture. The second moment in which we see practical work as a theory is the fact that, by such a process, we produce generative knowledge production platforms. If the process of theory production is almost always implicit work on the textual plan, then the construction of a digital prototype, which will act in the information space, is highly organized around the text, or writing. The coding procedure is done by talking with a machine, artificial intelligence, or using a language that the computer understands. This language has its terms, grammatical rules and logical structure. To write, and to talk with artificial intelligence, exceeds the usual theoretical work. This detail is not to be underestimated. For example, interactive web pages are created by thousands of text cards. This text is open, available for ongoing interventions, it can be downloaded and used for something else. In other words, a computer program is a theory of, what is called, full significance. Furthermore, practical approach is based on the essential characteristic of digital humanism; the maximum by which theory becomes the driving force of practical work. But not with the sole aim of generating a new discourse, but with the aim of producing a new media artifact, which will, in turn, act on the theoretical framework (Cecire, 2012). Thus, it is imperative to produce, model the idea in the form of prototype, whether it is a media object, an image or a sound, which establishes a bilateral relationship with theoretical work. The model works by the principle:
a (theory) <-> b (practically), not a <b or a> b.

More radically, as an equal addition to theoretical questioning, using the research through design, we create concrete artefacts, in our case - visualization of information. Thus, we can test the theoretical and practical issues of the problem by constructing it; locate open questions and ultimately give guidance on how to improve the system. The prototype construction works as a method of producing knowledge through the act of creation and evaluation of what is done. That's why, and since we participated in the creation of a monography by academic painter Josip Alebić (Loinjak, 2017), we have all the data for making such visualizations. Using the data graphic organization this paper will visualize parts of the monography. We consider that the mentioned approach to monography is a useful example of adding new approach to humanistic research, which we can call systematic close reading. There are two main arguments to support this stand. Firstly, Loinjak's (2017) argument is completely in the form of a textual claim. There is no single statement that doesn't belong to textual expression. Loinjak (2017) is not using charts, or, we do not notice any analysis of an artist's work, which, for example, interacted with the graphic expression of artist's image reproduction. The second argument is more important. The quantitative element of the monography – all exhibitions, the media and technique used by the author, or the facts from the painter's biography, does not in any way affect the analysis.

That is, the research questions in this paper are:
- Does the number of images and the work of art poetics (for instance are the ones created in Sarajevo in some kind of relation to ones created in Osijek) says something about or contributes to understanding of the painter's poetics?
- Is the frequency of the figurative element appearance and the frequency of the abstract element appearance in any way related to the painter's work time period or his working place?

Since the starting point of this paper is that by quantifying the existing data, we can give new dimensions to existing interpretations, in order to develop these insights at all, we have to look at the problem from the second angle. Classical methods of careful reading, in such analyzes, are not functional. More specifically, careful reading never produces such insights. So, by quantifying data, analyzing, or reflecting, and ultimately by visualizing them, we can create a new optics of study. That means that we have to translate textual argumentations into a visual and spatial one. In this way, we are using the Distant Reading method of Moretti's Remote Reading (Moretti, 2013).

As this work has been placed in the paradigm of knowledge production, as understood by the recent idea of digital humanities or new media research, we consider that we will possibly draw the foundations for new methods of cultural information research. More specifically, this paper is a striking example of the prospect of novel research for several reasons. First, it excludes exclusively textual argumentation. The latter, research produces a generative form of knowledge organization. With the help of modern HTML5, 3d.s and CSS technology it is possible to construct easily accessible tools, which will produce new results again (by entering new data). In other words, a digital platform has been designed to visualize information from the monograph, but more importantly, such a system is capable, with additional calibration, to produce paradigms of the same visualization, with completely different data. This is very important because this paper can be a polygon for new research. In addition, in response to the usual critique of the methods of the new digital humanism, and in particular of form of remote reading, this analysis is understood as an addition to the existing textual study. Their whole, the universality, corresponds to the needs of research in the 21st century.

4. Research Results and Discussion

In order to explain the process of constructing a visualization prototype we used the monograph of the academic painter Josip Alebić (Loinjak, 2017). This type of cultural data was selected because they represent a closed system (there are all data from the author's work in one place), and because the Distant Reading process can be demonstrated as an addition to the classic study and textual argumentation which exists in analyzed monography. In other words, by researching information about the painter's work of art, we visualize the constructions of meanings that, previously, emanate from interpretations or traditionally set analyzes. We use data from the monography such as the number of all the group exhibitions in contrary to the individual exhibitions. Furthermore, we connect specific gallery sites, cities in which the exhibitions are organized.

Three interactive information graphics were designed. In addition, each of these visualizations will have three static variants. These non-interactive works have clear deficiencies, because they are immobile, but with their pronounced detailing, they also have some additional values. The technological architecture of these three visualizations is the Java Script programming language. More precisely, its D3 library. Although it is quite complicated to write a program code that can display data in this way, the use of such a system has exceptional advantages. The obvious advantage is that the diagram is designed to be displayed within the browser. Thus, the chart is accessible to everyone, there is no need for having some kind of installed program, for example Flash technology. Another important thing is that, once written, computer code is open to new research. In other words, this chart visualizes our selected data, but it is possible, with a certain calibration, to display the other data set in the same way.

4.1 Network chart– the first visualization prototype

The first visualization prototype belongs to the type of so-called network charts. Using this type of network chart, we wanted to show the interference between painter’s work of art through the cities in which he created them on the one hand, and the specific gallery sites associated with the aforementioned painter’s life environments on the other. This diagram shows relationships through an entity's connection that forms one totality. The interconnection of elements creates nodes, which, for example, are hierarchical points of higher values within the network structures. The correlation degree between the elements is represented by interventions through the basic graphic element of the line that connects the two elements (Figure 1).This is done either by increasing the thickness of the line, or by changing the color if the frequency of the relationship at that point is greater. Furthermore, the elements are often discriminated thus a different color or a geometric shape (circle, triangle, and the like) is given to them.

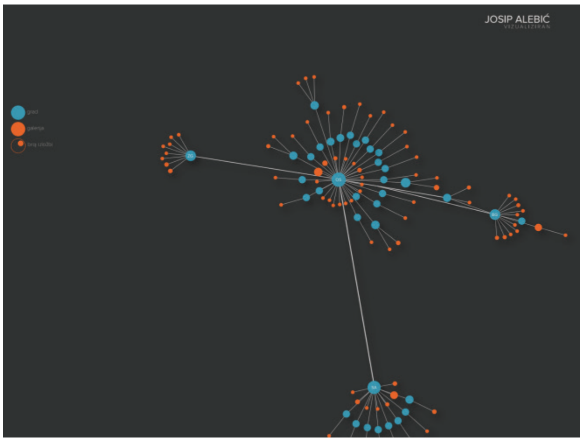
However, the main feature of this chart is its ability to display constructions that don’t have a clear hierarchical structure. An additional characteristic is found in an interactive feature, which allows the configuration of the network structure to change. In the JavaScript programming language, a mechanism simulates the interactive movement. Although there is no clear functional value of the mentioned mechanism, its aesthetic element is evident. The data shown in this way seem to be alive, like an organic form. That's why this diagram is called Force diagram. The term force denotes a semi-automated movement after the user interacts or moves individual parts of the chart. Thus painter’s work of art, through the facts about the places, years and type of exhibitions, acquired visible form. The aforementioned staging of data generates almost automatic, intuitive insights (Figure 1).For example, in a fraction of a second, it’s clear that the painter’s work of art is concentrated in four key cities (Osijek, Belgrade, Sarajevo and

Zagreb). The graphical representation of this data creates the network nodes that we are reading as the key cities of the painter's creation. The number of exhibits, and the connection of satellite cities with the base cities, created a specific configuration of this diagram. Furthermore, there is a clear connection between, among other things, satellite cities of exposure with the aforementioned key cities.

When looking at design interventions, it is important to say that we marked the cities with the red circles. Likewise, the size of the circle suggests the number of gallery sites in the city in which the painter exhibited. The blue circles marked cultural institutions or galleries. Following the recommendation of Edward Tufte (1993) the maximum of three colors was used within the graphic argument. In addition, the size of geometric circles is proportional to the number of exposures within a particular gallery space. The third important graphic argument is the lines that connect the two types of circles. The more exhibitions in the specific exhibition space, the thicker is the line that connects the gallery with the city. The distance between cities, more precisely between the centrally located city of Osijek, as the painter's birthplace, and other cities has no functional value.

Also, as the chart is placed in an arbitrary space, there is no direct connection with the real geographical location of the cities. However, in the static information graphic of this diagram, the works of artare placed in some sort of precise geographic location. Thus, Osijek is in the central position, and Belgrade is located to the right of Osijek, which corresponds to the position on the map. Sarajevo is below Osijek, or in the south, while Zagreb is on the left or west. However, this is the definition of data that shows mutual relations of elements in an arbitrary space. This type of chart, and according to the previously defined classification, belongs to the respective structures or so-called network structures.

Figure 1: *Network chart that visualizes the painter's (Josip Alebić) work of art through facts about the places, years and type of exhibitions*



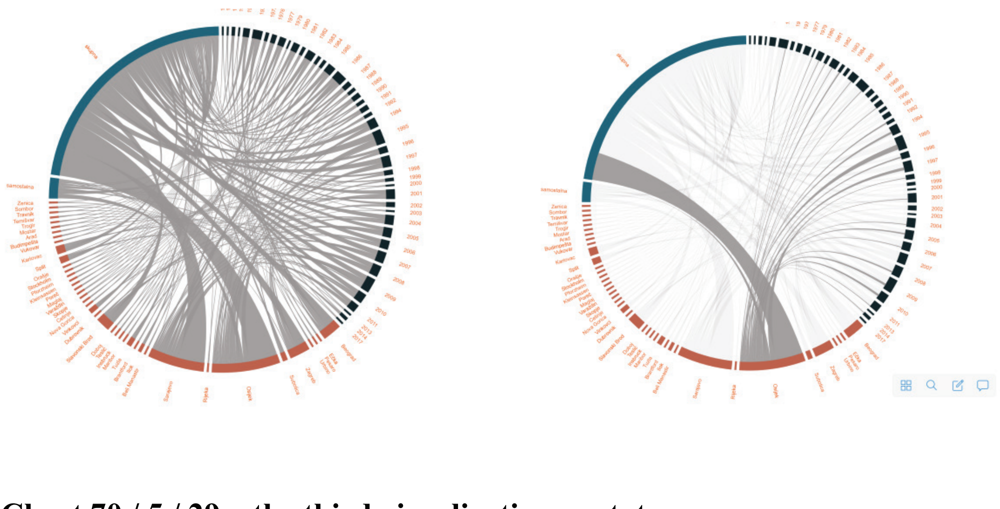
4.2 Radial chart– the second visualization prototype

The second chart type belongs to a certain type of circular diagram (Figure2). This object is usually called a Chord diagram but also a radial chart, or a diagram of arcs. This graphic argument shows the data interactions between the matrix mechanism. The information is organized circularly, within the circle, while the curved lines, or arcs, connect the elements to the different positions of the circle edge. Because of its more complicated construction, the specific data organization beyond writing in the computer language precedes its creation. In other words, it was necessary to develop an enrollment system in Excel, using a kind of data

matrix creation. The data table with the same values within the order set, as well as within the column set was created. The data is placed within the x and y coordinates to see their interdependence. This type of matrix is called square matrix and such data organization always has the same number of rows and columns. Using this chart type we analyzed these data categories: group exhibitions, independent exhibitions, 40 city names, and 44 years of working life. When the information was entered in Excel, we typed them in the JavaScript language.
The special quality of this diagram is its interactivity, achieved within the D3 computer code. In the zero position, this chart shows all the links within the circle, showing the circular lines that connect the categories located at the circle edge. This is achieved by the existence of graphic elements of curved lines, or arcs (Figure 2). The thickness of the arches is determined by the number of exhibitions in a particular year or city. By placing a mouse on a specific data category, for example, the year 1979, the diagram shows the links between cities. This was achieved by clearly highlighting curved lines that connect categories. But with the special effect of bleaching (opacity), unspecified connections are visible (Figure 3). In this way, we show the totality of interactions (zero positions), and the concrete connection of the selected year, city, or type of exhibition.

As in the previous visualization, the minimal possible color choice was used. The three colors that represent the categories of data they mark were set up, and the gray color to show the curved connecting lines. The main value of this chart is in the overall workflow of the painter's work -throughout the working life/years, exhibition spaces and the types of exhibition. Created graphic in interactive mode allows the user to search, or research, the life of a painting artist.
The main point is that the monography author with his professional approach, methods, and time invested in the study, has come to some conclusions, but the procedure of visualization, for the persons who are not professionally immersed in research, achieves similar expressive possibilities equally, but much faster. For this reason, it can be stated that such an argument is needed in the cultural data thematisation.

Figure 2 and 3*: Radial chart that visualizes the painters (Josip Alebić) work of art through facts about group exhibitions, independent exhibitions, 40 city names, and 44 years of working life.*



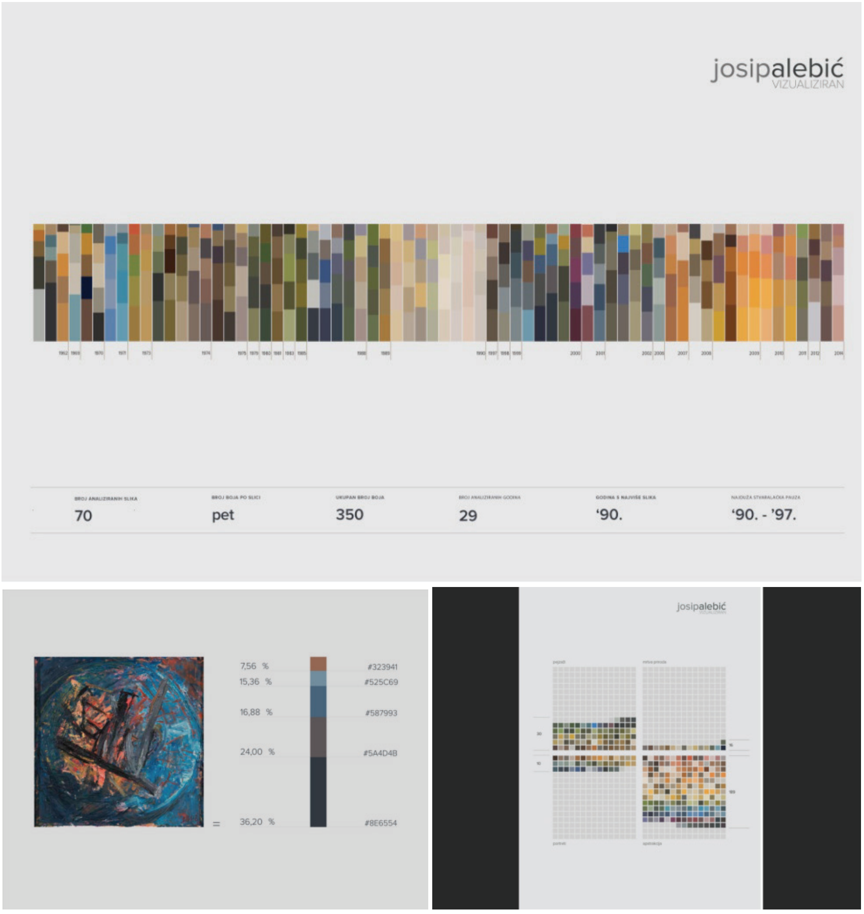
4.3 Chart 70 / 5 / 29 – the third visualization prototype

The third prototype dealt with the remote reading process, which we consider to be the most appropriate in work of art research. The visualization that is bastard in forms has been designed. More exact, the shapes of the timeline with iconic representation are combined, as well as the special color analysis process. The oil on canvas paintings were analyzed according to the percentage of the most common five colors of each picture that painter used. All images taken into consideration in the mentioned monograph are taken into account. To put it this way, using a special program (Image Color Sumarizer), we reviewed a total of 70 images looking for key colors. The mentioned program can analyze the images of paintings, and as a result, give a digital record of a single color. Using the same encrypted colors in Adobe Illustrator we brought back the visual appearance of the analyzed colors. The constructed visualization obtained key colors in the shape of a timeline. By this process, we constructed an element that until then had no shape (Figure 4).The fact that the five most prevalent colors of all 70 oil images author made so far has never been known in a visible form. Since the visualization process creates the forms for phenomenon’s or events that were not visible before it is likely possible that mentioned event was never even conceived. Only with the visualization process, with graphic expression we can laminate the phenomenon’s and events, we can shape them but also we can argue with them. Specifically, in this case, it is possible, by so-called remote view, to see the sampled prosedee of the painter's creation.

In the interactive version of this graph (Figure 5), the user intervenes with the move to indicate a single pallet, and the program creates in a special window a digital reproduction of a specific image from where the colors are analyzed. This visualization belongs in a sort of bastard form; it uses the time structures of visualization, or timeline, and a kind of direct visualization. The squares that represent color palettes are concrete oil on canvas paintings, which in the interactive version also show digital reproductions of images. This corresponds to the process of direct visualization. These results directly point out the necessity of finding new ways that cultural institutions can use in order to organize their own digital collection. As in this example, museums should digitize, and analyze all the objects of their setting. Then, with the help of a similar platform, visualize the information in a way that will allow digital collection users to explore through and with the help of visualizations. Also, as it was seen on example of Josip Alebić monography, the users can see the concrete works of art of a certain author or a whole permanent setting.

In the non-interactive version of this visualization, besides the main chart of the time line with the most abundant colors, we showed a kind of textual part with prominent clearest data. This is an intervention by the principle of the novelty form of anterfile; or form, outside of the main text, organized essential information. Furthermore, in separate visualization, but as a part of the thematized chart, we used the above color analysis, but instead of the timeline, we visualized the data by thematic areas (Figure 6). Thus oil paintings are organized within four categories; landscapes, dead nature, portraits and abstraction.

***Figure 4, 5 and 6:** Chart 70 / 5 / 29that visualizes the painter's (Josip Alebić) work of art through the percentage of the most common five colors of oil on canvas paintings*



5. Conclusion

The prototypes of visualization and interface design explored in this paper demonstrate how to organize digital information, and with the imperative of producing user interfaces that will enable quality and meaningful user research. Thus, three information platforms have been formed, based on textual and quantitative data, which generate the production of knowledge by their visual arguments, as well as the mechanism of interactivity. We believe that this way of generating information is not possible in classical, textual argumentation. For example, in visualization that discusses the key colors of all the paintings on the canvas thematized in the monograph, it is possible to notice striking sampled procedures. Thus, it is evident that in the year of 1990 there are several paintings whose colors are desaturated (the painter uses weak, non-expressive coloring), and in the year of 1997, author started to paint again in the form of, conditionally speaking, the opposite, saturated colors. What can be read here? Can the war period that coincided with that period be anticipated in, say, the absence of color? Is there any reason to explain a seven-year break? And if there is a reason, what to say about the procedure of using systemically opposite colors after seven years of abstinence? Any connotations can be loaded into this particular detail. This work does not deal with them. The focus of the research is the question of how to organize information in order to present the foundations for insights that are eclipsed by classical analytical procedures. This paper does not deal with the demonstration of the advantages of visually organizing information in relation to the text, as it has been proven for a long time. What this paper deals with is the reasons why it is necessary to establish arguments arising from the process of visualizing information as well as the design of the user interface, which will modernize research in the humanities and social sciences, and lead them to ways in which they can give a strong, powerful, expressive and contemporary statement. More than that, this research deals with the question - how to produce it. Very important, as it is an open HTML structure of constructed visualization tools, anyone, literally, can, overwrite the mechanism and functionality of the platform, and, with a certain calibration and consultation, adapt to their own research. It is emphasized that what separates the research in the digital humanist from the classical is the imperative of producing the argument beyond exclusively textual forms, as well as finding ways to construct a tool that, with its democratic expression and open structure, will be useful for new research. For this reason, it is claimed that such research requires the intellectual structure and education, as well as the specific attitude of a person who, in addition to writing, can program, design, and ultimately construct new knowledge platforms. Such a research type is an imperative of new ways of research. This was the main goal of this paper. The text produced answers to questions about how and why to use the process of visualizing information from culture data. With these responses it is possible to construct autonomous, or separate sites for organizing information. We have defined their peculiarity as the existence of functional mechanisms of expression, which do not exist in earthly collection sites, or, more broadly, in textual forms of argumentation. Their study, both from the technical aspect of applicability, and from the phenomenological aspect of the relationship to the broader context of knowledge production, are key places of discourse of contemporary study. Concreting, with this work, we discovered the reasons why and how to demonstrate to organize digital collections, in order to establish the information environment that encourages the strategies of researching digital information spaces. In this regard, at the end of the work, we hope, that this research, helps our existing cultural institutions overcome the problems of organizing material exclusively within the physical space, that is, the problems arising from the use of purely textual expression, and contribute to the realization of modern Internet-mediated digital communication, and so far, such research did not exist in Croatia.

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THE ROLE AND IMPORTANCE OF CULTURAL HERITAGE AS A STRATEGIC RESOURCE IN THE DEVELOPMENT OF CREATIVE CITIES

ABSTRACT

The primary objective of this paper is to accentuate the role and importance of cultural heritage as a strategic resource in the development of creative cities. Creative cities are hubs promoting socio-economic and cultural development using the creative industry model, and cultural heritage is one of the bases for the development of the creative city concept.

An analysis of the structure of any city will reveal an aspiration for urban development using the creative industry model. Looking at the creativity of a city as a dynamic process focused on community development, it is necessary to identify the identity of the city and the past messages of its inhabitants through archival material and documentation, referred to as cultural heritage. Cultural heritage is a reflection of the human spirit captured in a materialized object and protected from the constant flow of time. The development of a city identity policy should be based on creative city modelling and design, creating strategies that will include attractiveness and accessibility of public spaces and respect for diversity. New products are thus created within the creative industries that will recognise heritage, or public memory, as the key element in the development of creative city software.

This paper will analyse a selection of creative cities in Croatia and the EU. Research results will show the importance of the creative city concept for future socio-economic and cultural development and the importance of the creative city concept in the revitalization of cultural heritage and urban regeneration.

The methodology consists of desk research and analysis of secondary data from different documents, namely a combination of academic studies, evaluations, literature reviews, case studies and policy papers. Other methods include analysis, synthesis, induction, deduction, comparison and compilation.

Key words: *creative industries, creative city, cultural and socio-economic development, cultural heritage*

1. Introduction

The objective of this paper is to draw attention to the importance of cultural heritage for individual cities as well as for the preservation of the national identity, and to prove that it is the key strategic resource in shaping creative cities. Cultural heritage may be analysed from an interdisciplinary perspective, but its primary connotation is a common resource of humanity in all its particularity and diversity. This paper defines the notion, the meaning and the concept of cultural heritage and expounds on the heritage management concept that involves systematic efforts to preserve it. The complexity of the notion of cultural heritage is evidenced by the existence of two approaches to the valorisation and definition of cultural heritage: the cultural and the economic approach. Heritage can also be viewed as a part of creative industries. According to Jakovljević (2000), a city is a complex product, with every value seeking its own place in the city's identity. Social, political and economic changes in the modern globalised world are a threat to city identity. Cities and urban areas lose their local identities and new social structures emerge in their place. City inhabitants feel the need to identify their personal identity and, even more so, the need to identify the common identity. There are three formative elements that shape the collective identity of a city: awareness of the common space, awareness of the common history, and awareness of the common culture. Creative industries play an important role in defining the identity of a creative city, helping to preserve and enhance the city's identity through cultural heritage and all other sectors. UNESCO defines creative industries as industries rooted in individual creativity, skill and talent, which represent a potential for making profit, opening new jobs, and exploiting intellectual property. As one of the creative industry sectors, cultural heritage is important in the development of the creative city concept, along with the processes of revitalisation and urban regeneration. Case studies of creative cities Graz and Zagreb are good examples of the extent to which creative industries facilitated the creation of symbolic, cultural and socio-economic identity of the two cities, not just for their inhabitants, but also for a much broader audience, thanks to their wealth of cultural heritage.

2. Cultural heritage - notion, meaning, concept

Cultural heritage is a complex notion, open to analysis from the viewpoint of a variety of sciences. It usually refers to specific tangible and intangible heritage that identifies a certain community, culture or nation. Cultural heritage can also be movable or immovable. As such, it represents a common resource of humanity in its diversity and in its particularity, and protecting cultural heritage is one of the more important factors in recognising, defining and affirming the cultural identity. Cultural heritage "upholds the identity of a specific human community while proving historical existence of certain human communities in a certain area (...); it may play a certain role in maintaining social cohesion in a society; it is an expression of artistic accomplishments; or it can serve an economic function for a certain human community" (Jelinčić, 2010, 13). As the backbone of the values of memory, heritage "becomes the element that contributes to the formation of the national identity" (Vecco, 2007, 17-18). Accordingly, cultural heritage is "a form of comprehensive activity of the human spirit, recorded in a materialized object, or a reflection of spirit in a materialized object, preserved in the flow of time; a reflection of that which is spiritually important and truthful for mankind, through which it wonders about its identity, its origin and its direction, and for this reason, this reflection has a permanent value for mankind" (Vuković, 2011, 97). Cultural heritage must be preserved from the deterioration that constantly threatens it so that we can learn the truth about ourselves. Heritage is passed down because it may be a "frozen" form in the materialized reality of a specific time. It is a sign because it communicates a message. It is,"in fact, a living image of the past reality and it is passed down as reflected-living-past things; it must be alive and active, because only life and living things are maintained and worth preserving" (Vuković, 2011, 105). Heritage secures its future through collective memory. It is a reflection of identity and an instrument of collective memory. Heritage should therefore be described as public memory, because "it is (almost) arranged as such, with a value underpinning in science and a guarantee of quality in its public mission (Šola, 2014, 32). While the conclusions of history and the historical science are based on historical sources, the collective memory is subject to different interpretations of the past. Since heritage interprets the past, "it must not be used for the purposes of revisionism and conflict; on the contrary, heritage should be a calling and a social commitment" (Sjekavica, 2013, 57-74). Defined in this way, heritage promotes cohabitation among nations, because "the cultural ID of a nation is not worth less if it is imbued with the influences of other nations and cultures and if it attests to the legacy of our forefathers, where we use the spiritual designation of cultural heritage to bring us together rather than push us apart" (Maroević, 2003, 12). Cultural heritage is the source of inspiration for the creation of new, modern products that serve the purpose of granting visitors access to it. If cultural heritage is seen as a bequeathed resource passed down from one generation to the next, it belongs not just to the family, but also to the community, which makes it a national resource. "Accordingly, we differentiate between different levels of association between consumers and protagonists of cultural heritage for every form of heritage. The levels of association between cultural heritage and a particular locality are global, national, local, and personal" (Jelinčić, 2010, 18).

Global heritage is a well-known factor in the sense of market economy that attracts broad masses of tourists from across the world. However, many foreign tourists regard these localities only as a part of a wider itinerary that can inspire a sense of awe, but not necessarily a sense of personal connection. On a national level, "historical monuments represent national ideals and national pride. They have a certain potential to generate income, not as primary tourist attractions, but from visitors who come to the destination for other reasons. Communities feel the need for common designations on a local level to stay in touch with their own collective past in the world of constant change. Personal heritage attracts people who have an emotional connection with a certain locality" (Jelinčić, 2010, 18). This category includes also the heritage associated with "special interest groups that the passenger belongs to, including religious communities, ethnic or professional groups" (Timothy, 1997, 753-754). Figure 1. presents the mutually interwoven types of heritage.

Figure 1: *The tiered and intertwined nature of heritage*

Source: Jelinčić, D.A. (2010): ***Kultura u izlogu***, Meandarmedia, Zagreb, p. 20.

The Ministry of Culture develops mechanisms and puts in place measures to protect cultural heritage and ensure its sustainability, including identification, documentation, research, maintenance, protection, exploitation and promotion of its values. Cultural heritage is composed of movable and immovable cultural resources of artistic, historical, palaeontological, archaeological, anthropological and scientific significance. In the context of creative cities, cultural heritage is the foundation to build the creative city concept on. Cultural heritage is the starting point in the creation of the creative city concept that will be attractive in terms of marketing. This makes heritage the most important creative industry sector and "the generator of development of local life in the modern community, provided that its economic valorisation is made possible. This transforms a cultural resource from static evidence of history into a driver of dynamic development" (Jelinčić, 2010, 14). Creative cities and creative industries with their subtext of heritage are the so-called driver of dynamic development. According to UNESCO's definition, cultural heritage encompasses the following segments:

- "monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
- sites**:** works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view" (UNESCO, 2005, 9).

2.1. The concept of cultural heritage management

Cultural heritage management is a "branch of cultural resource management that refers to systematic efforts to maintain the cultural value of cultural resources in order to allow the present and future generations to enjoy them" (McKercher and DuCros, 2002, 43). The concept of cultural heritage management includes conservation, restoration, museology, archaeology, history and architecture. Most countries have heritage preservation laws or policies in place to regulate the formal protection of their cultural resources. Cultural heritage management also includes identification, interpretation, maintenance and protection of cultural localities and tangible resources. Folklore, stories, customs, beliefs, festivals and other expressions of cultural tradition "are important elements of heritage management because they form the basis of many cultural products that can generate economic activities such as tourism" (Jelinčić, 2010, 26). The main objective of cultural resource management is to preserve the representative specimens of tangible and intangible heritage for the future generations. The science of cultural heritage management therefore strives to establish a formal system for the identification of heritage specimens that require conservation. Such a system includes not all, but only the best or the most representative specimens. Systematic and skilled cultural heritage management should be implemented to preserve cultural heritage for the future generations.

2.2. Approaches to heritage valorisation

Heritage valuation and valorisation are not synonymous: they are two separate processes of value allocation, where valuation refers to the assessment of the existing value, and valorisation to the addition of new value. Cultural and economic valorisation of heritage are complete opposites. The cultural approach starts by identifying heritage by means of professional evaluation and then moves on to conservation, by which it develops a number of associated products and services, and concludes with valorisation (e.g. information, marketing...) and heritage management. The economic approach uses valorisation and management to develop products and services that can be generated from the "cultural resource" and conserved only to the extent and in the manner required for the economic use of the heritage. Exploration of the heritage is undertaken at the very end. In other words, "research and protection of heritage are the main motivation for the cultural approach, whereas production and management are only carried out to the extent necessary to implement the cultural approach. In the economic approach, on the other hand, preservation of heritage is instrumental in the accomplishment of economic objectives" (Mrak, 2013, 150). Table 1 shows the differences between the cultural and economic approach to heritage valorisation.

Table 1: *Approaches to heritage valorisation*

	CULTURAL APPROACH TO HERITAGE VALORISATION	**ECONOMIC APPROACH TO HERITAGE VALORISATION**
1)	Identification of heritage	Valorisation and management
2)	Conservation	Production and diffusion (of products and services)
3)	Production and diffusion (of products and services)	Targeted conservation
4)	Valorisation and management	Identification of heritage – targeted, with a limited knowledge of heritage

Source: Mrak, I. (2013): ***Kulturna dobra kao nositelji kulturnih i ekonomskih vrijednosti,*** Vjesnik Državnog arhiva u Rijeci, No. **53-54**, pp. 151.

Furthermore, Table 2 presents the differences between the cultural and economic approach to defining the value of heritage.

Table 2: *Approaches to defining the value of heritage*

	CULTURAL APPROACH TO DEFINING THE VALUE OF HERITAGE	**ECONOMIC APPROACH TO DEFINING THE VALUE OF HERITAGE**
HERITAGE	Cultural heritage	Capital heritage
DIFFUSION	Educational services, inspiration for new creativity	Flow of services paid directly or indirectly
UNIQUENESS	Criterion of uniqueness and irreplaceableness	Replaceable with other cultural services
AUTHENTICITY	Conservation with few changes to preserve authenticity	Adaptation to production of services

Source: Mrak, I. (2013): ***Kulturna dobra kao nositelji kulturnih i ekonomskih vrijednosti,*** Vjesnik Državnog arhiva u Rijeci, No. **53-54**, pp. 151.

The cultural approach to defining the value of heritage starts with the heritage itself and is guided by the criteria of uniqueness and irreplaceableness, and it ends with the conservation process, which minimizes changes in order to preserve authenticity. The economic approach to defining the value of heritage sees heritage as a capital contained in a flow of services that are paid for directly or indirectly. Uniqueness is replaceable with other cultural services, and authenticity of the heritage is adapted to the production of services.

2.3. Cultural heritage as a part of creative industries

In the modern era, protecting heritage is a strategic matter in the development of society and its identity. Cultural and creative industries resting primarily on the act of creation contribute to the new ways of survival of heritage. "One of the most common definitions of creative industries is the definition by the British Department for Culture, Media and Sport (DCMS, 1998), which defines them as: those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property" (Buljubašić, Borić, Tolić, 2016, 111). Šola defines them as "industries originating in individual creativity, skill and talent, which have the potential to generate revenue and business by creating and exploiting intellectual property" (Šola, 2014, 27). Creative industry is a part of creative economy. Nives Tomašević systematically described the development of the creative industry, which is now in its institutionalisation stage in Croatia, driven by the global environment. The primary characteristic of this relatively new sector is that "it is based on copyright and it unites the cultural and creative potentials of a larger number of creative stakeholders" (Tomašević, 2015, 17). Tomašević explains that there is still no single definition of creative economy, since it is a subjective concept, but "industries that form the core of the creative industry are increasingly coming together and strengthening their bonds on the national as well as the international level" (Tomašević, 2015, 38). Tomašević suggests the definition of creative economy proposed by the United Nations Conference on Trade and Development (UNCTAD, 2010). Creative economy is a developing concept that uses creative potential as the key factor in generating economic growth and development. As such, "it promotes the generation of profit and the opening of jobs, encompasses economic, cultural and social aspects in interaction with technological and intellectual resources, represents an array of economic activities with a development dimension on the micro and macro level of the overall economy, and is a development factor encouraging innovation and a multidisciplinary approach" (Tomašević, 2015, 38-39). In the context of creative industries, heritage is one of the most important sectors. The cultural and creative sectors (CCS) include all sectors in which activities are based "on cultural values and/or artistic and other forms of creative expression. They include architecture, archives, libraries and museums, artistic crafts, audio-visual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design, festivals, music, literature, performing arts, publishing, radio and visual arts" (The Cultural and Creative Cities Monitor, 2017, 9).

It is considered dangerous to leave creative industries, especially heritage, only to profit. Cultural policies and measures therefore need to be put in place to protect heritage, identity and even one's own destiny. Many scientists and theoreticians have tried to exclude heritage from the creative sector, but Šola emphasises that "heritage also plays the role of commodity in the heritage industry. Such heritage is a commodity and a part of cultural industries, including the creative sector" (Šola, 2014, 31). Nives Tomašević made an excellent observation that "focus is shifted from art and heritage as the fundamental factors of the creative industry to innovation, infrastructural support to innovation, and transformation of novelties into a widely accepted way of life, culture and social activity (…)" (Tomašević, 2015, 62). However, heritage is considered a more noble product studied by public (heritage) institutions. Public memory institutions emerge that aspire to the same objectives, tasked with ICT application, customer orientation and the missions that they give themselves in the society. Recognition of the importance of cultural and creative industries is essential for coordinated and networked action because "hidden movements of powers, forces, history and culture become the foundations for clear ideas, creative connections between the old and the new, the past and the present" (Dešman, 2011, 7). Florida underlines that the growth of creative economy has changed the rules of economic development. "Creativity in all its forms therefore needs to be supported in the cities, and a community needs to be built that will attract creative individuals" (Florida, 2002, 283). "The development of democracy and the idea of participation in city development, especially through the prism of cultural and creative industries, today creates platforms for new approaches in understanding city identity" (Vukić, 2013, 7). Through the prism of cultural heritage of cities and creative individuals, creative industries shape a creative city concept that is available to everyone, and especially the creative professionals, i.e. the creative class.

3. Cultural heritage: the backbone of a city's identity

Any city, as an integral cultural heritage phenomenon, develops as a conditional structure. Such structure is the characteristic of the historical city, which should be viewed as an uninterrupted process that continues today and is a constituent part of the current structure. Cities have a memory and are reflections of past events. The appearance of cities is therefore rarely "a result of fortunate coincidences; they form an accumulation of evidence of the wishes, needs and actions of the societies living in them over the decades and centuries" (Chapman, Larkhman, 1994, 12), while all urban spaces are "a symbolic reflection of values, social behaviour and individual actions of people that represent a specific location at a specific time" (Uršič, 2011, 14). Ivo Maroević (1996) emphasises that the historical city is composed of notional, actual, historical or developmental, functional and real identity. They influence the symbolic, spatial, documentary and historical value of heritage. The historical city is therefore a part of heritage and a part of the process of the modern city. The structure of a historical city is composed of networks (roads), shells (buildings) and inhabitants. Networks protect the original spatial relationship and comprise the true identity of the city. Shells are a changeable category, especially buildings that have a symbolic or social role and whose role still impacts the actual identity. Inhabitants influence the notional and actual identity of a city. City identities must include their inhabitants because that will make them a constituent part of their urban structure. Heritage institutions within cultural and creative institutions help develop identity and shape the creative city by safeguarding and recognising the messages of the past that are recognised as cultural heritage today (Maroević, 1989, 191-196; Maroević, 1996, 65-72). We may conclude the following:

1) The cultural heritage of a city proves that:
   - a) the city is a tiered space as the exponent of different values (cultural, political, social...);
   - b) the city is a sacred place designed for a collective ritual within which individuals find and shape their moral ego;
   - c) the matter of heritage institutions is the space for memory and cultural memory.

2) Heritage institutions of collective memory:
   - a) manage the collective memory of a city;
   - b) inscribe memories into space;
   - c) reconstruct events relevant for the collective memory and official history;
   - d) participate in social and cultural construct of the city.

3) Heritage, or public memory, represent the building blocks of all cultural institutions:
   - a) they create the individual and group identity (can be shaped from a collection of city memories and the memory of its cultural and historical identities);
   - b) digitalised and catalogued, they directly serve the development of the society;
   - c) they serve the function of survival of identity;
   - d) they promote the creation of new products in creative industries.

A city is therefore "a complex product, with every value seeking its own place in the city's identity" (Jakovljević, 2000, 78). An analysis of a city's identity and the development of an identity policy must be based on modelling and projecting creative cities by creating strategies that will include the attractiveness and availability of public spaces and that will respect differences. New products are thus created in creative industries that will recognise cultural heritage, or public memory, as the key element in the development of the city's software, and that will create a new creative city concept.

3.1. Creative cities

Creative cities are a concept popularised by its namesake book by Charles Landry from 2000, whose author emphasises that cultural resources are the key to innovation in cities. He advocates "urban planning focused on finding and emphasising these cultural resources" (Švob-Đokić, Primorac, Jurlin, 2008, 156). Creative cities are gaining in popularity in the competitive globalised world because they represent dynamic cities, offering a variety of opportunities to creative professionals, cities that offer employment and promote cultural and socio-economic economic development; in other words, cities fitting for any person to live in - cities of the future. There are many definitions of creative cities, but UNESCO defines them as hubs that use creative industries to promote social, economic and cultural development in developed and undeveloped countries, and as social and cultural clusters networking different social and cultural communities in order to build a healthy urban environment. According to Andy C. Pratt, the creative city is presented as a "city that is attractive to, and populated by, a creative class who works in the new economy, or more likely in high-tech and bio-tech. The creative city is an in-town speciality shopping centre. Of course, it is simply a re-visioning of the liveable cities (via Quality of Life (QoL) indicators) that have been promoted for so long (to attract middle and higher management of TNCs who have to relocate staff)" (Pratt, 2008, 113). Creative cities are urban environments that normally possess the following: "heavier infrastructure, such as educational and research institutes, cultural offer, and high-level communication channels; capacities that allow policies to transform city history into image; urban culture, value systems and lifestyles appropriate for creativity within the boundaries of a city; receptivity; openness to learning and responsibility among citizens and their public and private cultural organisations; and the existence of cultural or even experimental spaces to research and promote cultural innovation in" (Cooke and Lazzaretti, 2008, 27). A number of other definitions of creative cities lay an emphasis on creative industries through the presence of living arts and the cultural sector and through the ability to create job opportunities and accomplish results in service industries and creative industries (Hartly, 2005, 333). When discussing creative cities, we must not forget to mention the very important document The Cultural and Creative Cities Monitor, emphasising the importance of creative cities and representing "a new tool to monitor and assess the performance of Cultural and Creative Cities in Europe vis-a-vis their peers using both quantitative and qualitative data" (The Cultural and Creative Cities Monitor, 2017, 15). This first edition from 2017 covers 168 cities in 30 European countries (the EU – 28, Norway and Switzerland):

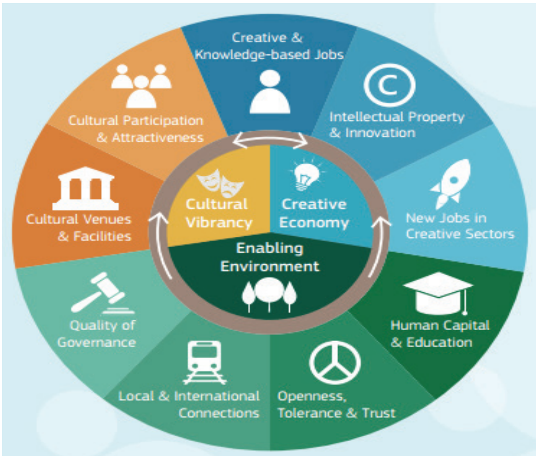
- 93 European Capitals of Culture (EcoCs);
- 22 UNESCO Creative Cities (UCCs);
- 53 cities hosting international cultural festivals.

The Cultural and Creative Cities Monitor's quantitative information is captured "in 29 indicators relevant to nine dimensions reflecting three major facets of cities' cultural, social and economic vitality:

- **Cultural Vibrancy** measures the cultural 'pulse' of a city in terms of cultural infrastructure and participation in culture;
- **Creative Economy** captures how the cultural and creative sectors contribute to a city's employment, job creation and innovative capacity;
- **Enabling Environment** identifies the tangible and intangible assets that help cities attract creative talent and stimulate cultural engagement" (The Cultural and Creative Cities Monitor, 2017, 17).

A city's culture policy defines the city, and the 4E model is the basis for the creation of the creative city concept because every city strives for further urban development, especially in the historical or heritage department. A new city art policy was therefore developed using the 4E model in the EUROCULT 21 platform, based on respecting four paradigms of development: Enlightenment, Empowerment, Economy Impact and Entertainment. All paradigms are interconnected and any paradigm can influence the others at any moment. We must also add the Experience paradigm to this concept (EUROCULT21 Integrated Report, 2005, 33). The above paradigms comprise the cultural policy of a city, particularly expressed in creative cities. The creative city concept promotes and reinforces all five development paradigms, from enlightenment and empowerment of city inhabitants (heritage capacity building) to economic impact and entertainment for tourists as well for inhabitants. The tourists' experience as the last paradigm of the concept is the key reason for their recurrent visits and for further development of the creative city's competitiveness and potential. Figure 2 below provides an overview of carefully selected measures grouped into nine areas describing Cultural Vibrancy, Creative Economy and Enabling Environment.

Figure 2: *The Cultural and Creative Cities Monitor's conceptual framework*



Source: ***The Cultural and Creative Cities Monitor*** (2017), in Composite Indicators (2017), pp. 17, http://hkkkki.eu/dokumenti/c3monitor2017.pdf, (accessed 09 March 2019)

3.1.1. An example of a creative city in the EU – Graz

Graz has held the creative city title since 2011, when it was declared City of Design, and it has been building its City of Design Strategy since 2003. Graz has been a UNESCO world cultural heritage site since 1999 and was European Capital of Culture in 2003. It has two historical monuments on UNESCO's World Heritage List: the Old Town in the city centre and the Castle of Eggenberg. The UNESCO City of Design award is thus a logical continuation of this path. Graz is known for its lively creative scene and internationally renowned educational and research institutions. There are also many innovative companies based in Graz that recognize design and creativity as unique opportunities for innovation. The future progress of Graz as a UNESCO City of Design is "based on a conscious strategic decision of the City of Graz. For this purpose, they established the dedicated City of Design Coordination Office. In terms of operation and concept, the Coordination Office cooperates with the network organization Creative Industries Styria, who – with their designated know-how – function as a centre of competence for design and a driving force for the City of Graz. According to the city's economic strategy, the topic of City of Design naturally goes with the manifold activities of the Dept. of Development of Economy and Tourism" (Graz, 2017, 24). As a Creative City of

Design, Graz envisages: strengthening cooperation with other cities from the UNESCO Creative Cities Network; notably during the Graz Month of Design, with a view to further developing the international component of the Network; increasing the visibility of the Cities of Design; reinforcing intra-network communication with a view to strengthening the creative community within a globalized economic context; enhancing knowledge exchange." As a City of Design, Graz has lots of successful projects and events such as: Designmonat Graz, Designforum Steiermark, Creative Industries Styria, Design City Guide Graz, Design Transfer, COD – Xchange Programm , Murinsel – the island in the river Mura. As a City of Design, Graz also launched the exchange programme for designers and creative professionals called "100 Days in a UNESCO City of Design". This programme "enables Graz-based creative professionals to work, make contacts, gather experiences and broaden their horizon for 100 days in a City of Design. The program actively supports networking among the creative communities of UNESCO Cities of Design. It opens up COD100 – Xchange Programm perspectives for companies and creative professionals and hence strengthens the competitiveness of the economic locations. As a first step, the Dept. of Development of Economy and Tourism provides the funding for two trips and stays in a UNESCO City of Design. In return, Graz-based creative businesses have the opportunity to become hosts to designers from other UNESCO Cities of Design for 100 days" (Graz, 2017, 29). By promoting its own identity and preserving its cultural memory, Graz becomes a place where heritage is not only defined by location, but also becomes a destination.

3.1.2. An example of a creative city in Croatia – Zagreb

Creative Cities of Croatia is an innovative network of cities assembling the representatives of local self-governments and communities as well as professionals from creative and culture industries "to together design management models for cultural and creative resources of cities in order to jump-start local economies and open new investment opportunities. The development of management models includes identifying potentials and opportunities in cities with the participation of the citizens as the representatives of different interest spheres who benefit from this activity and take part in the development of the local economy in order to create a unique identity of cities that will serve as the basis for focused investments in development for growth and jobs" (Creative Cities, 2017). Creative cities are one of the bases for the development of creative industries. Research shows that as much as 95% of the creative industry is based in cities. Audio-visual art, heritage, design, gastronomy, music, performing arts, literature, visual arts, crafts and computer games are the most common creative industry sectors that creative cities in Croatia actively participate in (Nikolić-Popović, 2018). The Creative Cities in Croatia project is a new concept first developed in April 2018. The project was launched because its founders realised the importance of creative cities as important drivers of urban revitalisation thanks to their wealth of cultural heritage and the existence of creative and cultural industries, which results in a number of benefits, such as: the creation of a long-term sustainable, inclusive and smart development model, with specific impact and measurable results; networking of cities through content and projects; systematic training of the cities' employees and exchange; active communication and increased visibility of member cities; creation of new innovative approaches to projects and services; greater recognisability of cities in Croatia and in the EU; integrated access to funds; development of a common development strategy for the Creative Cities Network; development of city identity and diversity (heritage culture) and their offer; development of shared projects with other EU networks and cities to apply for EU funds. One of the objectives of the project is also to find a model for the management or resources from the creative and cultural industry, cultural and historical heritage, that will allow local communities to activate the resources of the city units to serve the purpose of their own socio-economic development through participative models, which promotes the organic development of urban historical town centres. A strong culture and tourism accent as an underpinning, but also as an objective, helps revitalise and advance urban environments and shape identities to develop recognisability of individual creative cities. Heritage and local creative and cultural potentials are understood as resources that the local community can use to preserve local specificities and cultural diversity and to generate new value – increase the visibility of local protagonists from creative and cultural industries by opening new jobs in the economic, creative and tourism sector, and increase the quality of life for the inhabitants.

Zagreb was the first Croatian creative city to include creative industries in its Development Strategy. The Strategy of Cultural and Creative City of Zagreb was defined for the period 2015-2022. The purpose of the Strategy of Cultural and Creative Development of the City of Zagreb is to "empower and grow arts and culture, but also contribute to the development of creative industries in the City of Zagreb in this eight-year period to improve the quality of life for the city's inhabitants, contribute to regional development, and secure international recognisability of the city's arts, culture, and creative industries" (The Strategy of Cultural and Creative Development of the City of Zagreb, 2015, 4). A number of events and projects organised to raise public awareness of the importance of the above industries attests to the fact that cultural and creative industries are the most widely represented and most popular in the City of Zagreb. Some of them are "Zagreb as a Cultural Product" from 2010, the action plan to promote cultural and creative industries in the City of Zagreb from 2012, the establishment of the first Croatian Cluster of Competitiveness of Cultural and Creative Industries in 2013, the project "Cool industries for Creative City", the establishment of the Network of Creative Cities of Croatia in 2018, the Month of Creative and Cultural Industries in 2016, and the project "Ilica: Q'art – City Centre Revitalisation" from 2018.

The project Ilica Q'art, comprising the revitalisation of the heritage city centre in Ilica, and Cool industries for Creative City, a project that mapped cultural and creative industries in the City of Zagreb and shaped Zagreb as a creative city, stand out especially among these projects.

Cool industries for Creative City was implemented from September 2013 to April 2014 by the Institute for Development and International Relations in cooperation with UNESCO. It was focused on building cultural/creative industry capacities in the City of Zagreb. It was a research and consulting project building upon the previous activities of the Institute for Development and International Relations and the Department of Culture and Communications in cultural/creative industries, which represented the phase of introduction of cultural/creative industries in Zagreb's public policies. The project presented Zagreb as a creative city, with a subtext of heritage, within the scope of cultural and creative industries. The theory and the practice differentiate between the following city development models based on cultural/creative industries:

- A city with a new face: includes all levels of government (national, regional, city) in the development of the urban space and cluster. National and regional policies have a substantial impact on decisions related to the policies of cultural/creative industries.
- Cultural/creative city**:** this type of city is common in case of larger cities, and their development aims to establish a cosmopolitan atmosphere and provide an inspirational urban environment to the citizens. It encourages cultural diversity (heritage and city identity) and the development of an international cultural image. City and regional governments are the main exponents of cultural policies.
- Entrepreneurial cultural-creative city**:** the city government is in charge of policy development, and its role is to create an adequate business environment and to connect creative professionals with companies that will develop business-oriented models in

which the approach to the policies of cultural/creative industries is concentrated on the sector itself. (Cool industries for Creative City: http://irmounesco.azurewebsites.net/Nav/PageZagrebAbout?Length=3)

Zagreb is a European creative city with an active and open urban scene, with cultural and creative industries enhancing the urban space, revitalising heritage, improving the quality of life for the citizens, and increasing the city's competitiveness.

The Ilica project was started in 2017. It was first called "Readymade", but in 2018 it changed its name to "Q'art – City Centre Revitalization". It is a festival of cultural and creative industries restoring life to the city centre and revitalizing the urban heritage of Ilica. Aleksandar Battista Ilić and Ivana Nikolić Popović were the originators of the project. The Academy of Arts, the City of Zagreb, and the Croatian Cluster of Competitiveness of Creative and Cultural Industries also participated in its organisation, and the Ministry of Culture and the Ministry of State Property, the University of Zagreb, and the Tourism Board of the City of Zagreb acted as sponsors. The objectives of the Ilica project are to develop a cultural content platform as the multiplier of tourism and economic development of the city; culture as the antibiotic of the city; expansion of the narrow city centre in terms of content and quality; activation of neglected spaces (heritage spaces – sleepers) through the development of a sustainable use model; improvement of the quality of life for the local population and the city's tourism offer; sustainable development through the affirmation of craft and entrepreneurial projects, connecting them with creative and cultural industries; raising awareness of the historical development and significance of the longest and formerly very busy commercial street – increasing the visibility of Ilica and the brand of Zagreb through the activation of spaces; solution of environmental and energy problems of the population and tenants, which will indirectly increase the value of real estate properties (Project Ilica - City Centre Revitalisation, 2017, 9). The Ilica project is an excellent example of revitalisation of the urban city centre thanks to the innovative concept of cultural and creative industries, because the city and its fragments, the streets and the squares, are full of "certain values significant for the local community. They are treated emotionally and thus become 'our places', linked with personal experiences and adventures" (Klosek-Kozlowska, 2002, 88). From the viewpoint of protecting historical city centres, streets or urban cultural heritage, such values have important socio-economic functions and are therefore worth identifying, preserving and promoting by using the innovative concept of cultural and creative industries mentioned above. This contributes to the satisfaction of the population with their everyday lives, identification with their birthplace, individual and collective memory, and local traditions, and plays an important role in cultural and creative transmission of values through generations.

4. Conclusion

The phenomena of heritage and creative cities face new challenges arising from globalisation and the development of the modern society and technology. Cultural heritage builds and protects national identity through the development of creative cities. The missional responsibility for the enhancement of cultural, artistic and heritage creativity for the sake of necessity and continuity in relation to the binding cultural and historical heritage is in the focus of the creative city within the concept of cultural and creative industries. The cultural identity of a city is the foundation of its urban identity. Socially relevant values associated with city locations constitute their unique, individual characteristics and build the balance between the city's material and social resources as an important element of heritage within the common experiences of the city's inhabitants. The role and the importance of heritage as a strategic resource in the development of creative cities is unquestionable. The path to the creative city title is complex for cities on national and on regional level alike. Receiving the creative city title is a not an easy process. In order to get the title, cities must meet requirements such as the existence of cultural and creative industries, the establishment of conditions for creative professionals to find employment and work, extensive cultural heritage, and many others. Graz and Zagreb, as examples of creative cities, prospered after having received the creative city title. They enhanced and reinforced their identities on the creative cities map and became popular and globally recognisable thanks to a number of events and projects and to urban revitalisation of parts of their respective cultural heritage, which resulted in considerable cultural and socio-economic development. The creative city title imbues cities with a spirit of creativity and culture, impacting the long-term development of the city's cultural identity, as it is the case with some of the most popular cities worldwide that have strong cultural and creative identities and act as tourist attractions and interest multipliers. Creative urban revitalisation of cultural heritage items protects the historical identity and the social memory of the city. Cultural heritage items therefore offer a potential for the development of cultural and creative industries. Edward Soja underlines that "the space might be pre-existent, but the organisation and the importance of the space are the product of social interpretation, transformation and experience" (Soja, 2003, 80).

Like Graz and Zagreb, Osijek needs to be recognised as an intersection of creativity, intertwined with the heritage framework, and it needs to mature into a space for mutually encouraged communication and sharing of creative ideas. By developing its creative potentials, Osijek will become even more visible on the creative cities map and will transform into a modern Central European and Pannonian cultural centre of creative events. This is proven by the fact that Osijek has preserved its oldest Baroque city centre – the Inner Town Tvrđa – and that it contributed as many as two Nobel Prize winners to the European and global scientific and cultural heritage, Lavoslav Ružička and Vladimir Prelog, as well as Julije Knifer, the greatest modern Croatian artistic genius with an international reputation, who was born in Osijek, and whose meander has become a recognisable symbol of the city's creative identity.

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TOURIST EVENTS BASED ON HERITAGE AS A FACTOR OF SUSTAINABLE GROWTH OF EASTERN CROATIA

ABSTRACT

Non-material heritage represents the foundation of an identity of Eastern Croatia. Its richness is jeopardized under the influence of poor socio-demographic and economic movements which have caught the area of Eastern Croatia. Developmental possibilities of tourist offer and preservation of non-material heritage while ensuring positive economic performances will be presented on the example of Đakovački vezovi, as a recognizable element of tourist offer of the region of Eastern Croatia with a long-term tradition. The purpose of the paper is to point to the importance of determining the motives of visit and level of satisfaction with the visit in order to determine the stadium of tourist product on the tourist market and explore possible directions of further sustainable growth and development of an event as a basic tourist product of Đakovo as a tourist destination. In the paper the author will present the results of a survey conducted during this event in 2016 and 2018. Based on the results, the author will present the proposition of developing guidelines through rethinking of standards for achieving higher recognizability and quality of Đakovački vezovi, with a particular accent on use of contemporary IT technologies in promotion and tracking of all elements of a tourist event, along with the application of contemporary knowledge and skills. Proposed model will contribute to the growth of the competitive positioning of Eastern Croatia, the city of Đakovo and Đakovački vezovi on the tourist market. Also, usefulness of the research for the destination stakeholders will be emphasized as well as its lacks like non-existence of the statistical data about the precise number of visitors which makes creation of developmental and marketing strategies of Đakovački vezovi more difficult. Within the paper the following scientific methods will be implemented: desk research, statistical methods, historical method, methods of induction, deduction, and others.

Key words: *non-material heritage, Đakovački vezovi, competitiveness, sustainable development, management*

1. Introduction

Eastern Croatia is rich with natural, cultural and economic resources, and is a region for which it can be stated that it has the biggest developmental potential in the future. Ensurance of development needs to be based on sustainability and developing a bigger number of mutually complimentary economic branches which will, with mutual synergy, strongly contribute to the economic growth and socio-demographic renewal of the region. Tourism represents an economic activity which provides the possibility of creation of synergy between the offer and demand (offer of products of family farms in tourist offer), and among the local community and businessmen and product users (strengthening of identity, heritage preservation, improvement of quality of life). Those are just some of the elements which guarantee the achievement of sustainable development and growth of competitive advantages of Eastern Croatia in the future. Heritage represents one of the strongest guardians of nation´s identity, and its inclusion into the tourist product enables creation of a sustainable strategy for preservation, improvement and revitalization of heritage through tourism and achieving sustainable development and economic renewal of Eastern Croatia. Đakovački vezovi represent a tourist event of a long tradition whose basis is made of non-material heritage which is endangered with globalization and demographic and social weaknesses in Croatia in particular, so attention needs to be given to the preservation of non-material heritage.

2. Tourist events as an element of sustainable growth of competitiveness of Eastern Croatia

Tourist events enable formation of unique tourist products which will, with the elements of its offer, contribute to the satisfaction of needs of all stakeholders in a destination. They represent a key element for achieving success for tourism. For tourism the event is an important motivator for visiting a destination and serves as a foundation for creation of new products and services through which economic usefulness is activated for all destination stakeholders, considering that events have a big role in planning and developing marketing plans of the majority of tourist destinations. Events represent one of the key elements of attractiveness of tourist offer of a particular destination, which is particularly pronounced in the contemporary world in which competition is extremely heterogenous and strong, and events are used as a basic element of increasing competitiveness of destination and growth of tourist consumption (Leiper, 1979, 1995; Milohnić and Smolčić Jurdana, 2008, Getz 2012; Ivančić, 2015; Drpić 2017). For a tourist system, according to the analogy of Leiper´s understanding of that term, tourist events are a key element within a destination which connect numerous services within itself (accommodation, particularities, transportation and additional services) which need to be completely exploited or particularly developed for an individual tourist product (i.e. ensuring the infrastructure of a mega-event) in order to improve the destination´s tourist offer which strengthens the tourist potential and destination capacity outside the tight focus on which tourism of free time is based (i.e. a holiday). From the economic side, the event is based on tourist offer which is placed on the tourist market with a goal of satisfying tourist´s needs for new experiences and knowledge. Considering that tourist´s needs are mostly heterogenous and specific, respectively, they are diverse from an individual to an individual, a very demanding task of satisfying new and different needs of contemporary tourists has been placed on event management (Leiper 1979, 1995; Getz 2005, 2008; Drpić 2017).

While determining the shape and form of a tourist event, it is necessary to conduct the analysis of market´s needs, and determine its value for the destination in whole. There are numerous ways of measuring the value of tourist events. According to Getz (2005), measurements are differentiated according to the:

- Potential growth;
- Market share;
- Quality;
- Image;
- Acceptance by the local community;
- Sustainable income;

- Economic benefits for the event organizers, sustainability and suitability of the tourist event itself.

Besides measuring the success of an event, for its successful establishing particular attention needs to be given to the planning of its creation and conducting. In their theoretical rethinking Van Der Wagen and Carlos. (2008) created a model through which it is possible to track the process of event formation. Here mentioned process can be divided in 11 steps. If the stated events are supplemented with the formation of permanent procedures of supervision of quality of organization, planning, controlling, promotion and other steps from the chain, a greater level of quality of tourist events is achieved, which strengthens the satisfaction with the tourist offer and achieves the possibility of lifting the tourist event from the local level to the level of regional or Hallmark event, which by choosing the proper marketing tools, managerial knowledge and skills can become a destination´s mega-brand (Drpić et al., 2014). According to that, the goal of Destination Management is to achieve competitive capability of a destination in a way that it tends to gain the user´s trust, and preserve it in order to achieve higher destination´s attendance in which tourist event based on heritage is organized, and through that a bigger market share on the tourist market is achieved, as well as greater economic use (Ezeala-Harrison 1999, 64). In order to achieve that, Destination Management needs to determine the market niche to whom its tourist offer will be intended, respectively, for which the tourist event based on heritage will be created. Hunt (2000, 137) defines the market segment as what includes the internal groups of users of a tourist product (event), and whose motivation and preferences are relatively homogenous in relation to the result of the tourist offer.

Satisfying the tourist´s needs, motives and interests is one of the most important elements of success and sustainability of a tourist product on the tourist market, for which it is important to conduct a good selection of the target market and market segmentation. Segmentation of tourist offer is of tremendous significance for achieving competitive advantages, but endeavour to satisfy different market segments (tourist groups) is a very demanding process which demands from Destination Management creation and detailed elaboration of various strategies and special knowledge and skills (Porter, 1980, 1985, 1990, 1998).

Through market segmentation, Destination Management can conduct the selection of the target market in the most efficient way, and that way it can create its tourist products and services in a way that it adapts them completely to the needs of its target market (Poon, 1993, 245). It is possible to diversify two market segmentations (Poon, 1993, 246):

- Demographic (age, income, level of education, place of residence);
- Psychographic (way of thinking, behavior and sentiments).

During the creation of tourist event based on heritage through indicators of age, income, level of education and state of origin, Psychographic segmentation will enable easier determining which are the specific needs and desires of future visitors of a tourist event for the Destination Management, through which it will be easier to create a specific offer for the targeted tourist market. With the use of innovative techniques and through creation of unique products (tourist events) Destination Management will successfully fulfil the demands of its market niche. Precisely these principles were the guide for the author during the formation of a questionnaire research on the tourist event Đakovački vezovi, which represents the framework for further tourist and economic development of Eastern Croatia.

However, the segmentation itself does not guarantee sure success in tourist offer creation; it is necessary to form a model which will enable a combination of various procedures and strategies which need to be undertaken in a tourist destination with a goal of satisfying the needs of its consumers, during which it is important to take into consideration the needs of the local community (Poon, 1993, 249). Besides tourist offer, during the formation of a tourist event, and with a goal of achieving its long-term sustainability and success, particular attention needs to be given to the choice of the target market, which represents an extremely demanding and challenging task for the Destination Management. Creation of the offer for the new target market segment is very unsafe in the situations when a new tourist event based on heritage is created for the first time, respectively when there is still no feedback from the new market (Laws, 1995, 108–110), but in that case it is necessary to go from the experiences of the competing destinations which have similar elements of the offer on the target market, and all steps need to be based on previous research of needs and desires of visitors with the use of contemporary technologies, knowledge and skills of the management.

Destination Management needs to conduct the segmentation of the target market in a way that a potential market is divided into certain sub-groups of potential tourists, and based on that to choose one or more target groups of users (Laws, 1995, 108–110). In order to enable the success of placing a new tourist event based on heritage on the tourist market, it is necessary for a target segment to have the following characteristics (Laws, 1995, Getz, 2005, Drpić, 2017):

- It has to be measureable and clearly determined;
- It needs to be simple for promotion and distribution system;
- It needs to contain a permanent source of employment which will ensure sustainability of a new tourist event based on heritage;
- It needs to be acceptable for the local community.

In order to ensure the choice of target market which will enable success of a tourist event on the tourist market, respectively to conduct the target segmentation, it is necessary to conduct the research about the habits, desires and motives for traveling to a destination of potential users of products and services which will be offered within the tourist event based on heritage. This can be done in a way that destination management determines which are the primary and secondary characteristics of a destination about which the potential event visitors will be questioned (according to the specific socio-demographic characteristics). With the use of a questionnaire clear attitudes of potential visitors about the destination will be obtained (interests, opinions, attitudes, preferences) (Vodeb, 2014, 157-158). From the previously stated arises that destination´s tourism management and event management must give additional attention to the diversity of tourist events and their compatibility with the needs and desires of tourists. Also, it is essential to establish constant tracking of the movements of number of visitors, financial indicators and additional values that are achieved through creation of tourist events. The stated must be harmonized with the strategic guidelines of development of destination´s tourism and the state, and it must be stimulated with the financial funds of the local government, ministry of tourism or through European Union Cohesion Funds, with a goal of successful repositioning of the Republic of Croatia as a destination of a unique (different) tourist product (Alkier et al, 2015, 183). Đakovački vezovi can be emphasized as an example of a tourist event that was formed on an original non-material heritage. They are being organized by the Tourist Board of Đakovo and include three forms of tradition characteristic for Đakovština: Folklore, Enogastronomy and horse breeding.

3. Đakovački vezovi in function of sustainable development of Eastern Croatia

Đakovački vezovi are an unavoidable symbol of Đakovo. They were held for the first time in July 1967 under the supervision of Dr. Zvonimir Benčević as a specific, appropriate tourist-cultural manifestation on the occasion of the International year of tourism titled Festive games of Slavonia and Baranja Đakovački vezovi. Jubilee 50^{th} Đakovački vezovi were held in 2016. According to the estimates stated in the cultural strategy of the city of Đakovo, this event gathers over five thousand of participants from all parts of Croatia, but also from abroad, and visitors can enjoy the beauties of customs, tradition, costumes, songs, dances, craft work, gastronomic specialties, etc. (Tourist Board of Đakovo, 2017). This event was formed and held on significantly strong foundation, care for people´s heritage in Đakovo, which is according to many things one of the most significant centres of Croatian Folklore. UNESCO enlisted on the list of World Cultural Heritage Ljelje, which represent one the symbols of Vezovi, and Slavonski bećarac which harmoniously echoes the streets of Đakovo in the period of Đakovački vezovi, the golden ones, because they are being held in the period of the harvest of the Slavonian gold, the wheat, and golden because of the golden embroidery on the most beautiful traditional costumes in the world (Zlatovez in Croatian) is the symbol of Đakovo and Đakovština.

All the events on Đakovački vezovi are represented in the Revue of Đakovački vezovi which is being published since 1970. Đakovački vezovi are a manifestation within which richness of folklore customs of Croatia and the world are being presented, as well as the protected non-material cultural assets of the Republic of Croatia, and non-material cultural heritage under the protection of UNESCO (City of Đakovo, 2015). Fifty different shows are being organized within the Đakovački vezovi, of which eleven are folklore:

Table 1: *Characteristics of the Đakovački vezovi program*

PROGRAMS	CHARACTERISTICS
Small "vezovi"	Procession on the city streets and performance on stage in Strossmayer Park; Performance of about 30 folklore groups with approx. 1,300 participants from all parts of Croatia-children dressed in traditions costumes of their place of origin.
Public church singing	Convent Church of the Holy Heart of Jesus in Đakovo; Performance of about 10 groups with approx. 150 participants; Performance of the Folklore ensemble.
Ceremonious opening of Đakovački vezovi	In the scene picture participate actors from Zagreb and Osijek, vocal solists and tamburica bands (5 groups, 200 participants)
Đakovština in a song and dance	15 groups, 700 participants
Performance of guest groups	20 groups, 700 participants
Festive Procession in the streets of Đakovo	Performance of approx. 60 groups, 50 wedding coaches, 70 horsemen, with approx. 3,500 participants
International Muster of Folklore	Performance of approx. 20 groups with over 700 participants

PROGRAMS	CHARACTERISTICS
Muster of Folklore of Croatia	Performance of 20 groups with approx. 900 participants
Folklore Muster of Slavonia and Baranja	20 groups with approx. 600 participants
Slavonijo, noble country	5 groups with approx. 200 participants; Traditional pageant for the best worn traditional costume (girls, women, men) along with participation of approx. 30 individuals in traditional costumes.
Other programs	Ethnographic exhibitions in the Museum of Đakovština; Concerts of sacral music in the cathedral; Bonavita exhibition, and wine and brandy tasting; Gastro fest: Kulinijada, tasting of fish stew and čobanac stew, etno-fashion show; Fair of traditional business and handicrafts; Art exhibitions in the Memorial Museum of Bishop Strossmayer; Concerts of famous and acknowledged singers; Jazzvez Festival; Festival of Etno-film; Đakovo meetings of Croatian Literary Critics; Welcoming the half of the New Year; International equestrian competitions on Đakovo race tracks; The windows of Đakovo stores are appropriately decorated before the manifestation and become small ethnographic exhibitions.

Source: Tourist Board of Đakovo, 2017

Đakovački vezovi are one of the biggest and most representative cultural events of folklore type in the Republic of Croatia and they combine three traditions of Eastern Croatia: folklore, enogastronomy and horse breeding. Due to their importance Đakovački vezovi were enlisted in the Statute of city of Đakovo as an event of particular significance for the city due to preservation and promotion of folklore, folklore customs, population´s creativity, cultural heritage and tourist promotion of the city. Đakovački vezovi strengthen the sense of local pride and community of the local population, but also the international recognizability of the place. Đakovački vezovi were incorporated in the Developmental Strategy of the County of Osijek-Baranja 2011-2013 (County of Osjek-Baranja, 2013) and the Strategy of Development of Tourism of the Republic of Croatia 2020 (Ministry of Tourism, 2013) as a "Hallmark Cultural Event" (characteristic event-trademark). They are being identified with the spirit and being of the place in which they are held, and that way they are becoming the synonym for the name of the city of Đakovo, which is widely spread in the conscience of the visitors. Success of Đakovački vezovi is founded on uniqueness, status and high capability of waking interest and attracting attention. This event symbolizes the soul of the city and its inhabitants, to which it brings also certain use. Cooperation between the Tourist Board of the city of Đakovo, the units of local self-government, and the city of Đakovo is determined by the Statute of the City of Đakovo (City of Đakovo, 2018). The value of this manifestation for the city of Đakovo and the entire Republic of Croatia has been recognized by the President of the Republic of Croatia, the President of the Croatian Parliament, Ministry of Culture, Ministry of Tourism, Ministry of Agriculture, Croatian Tourist Board, County of Osijek-Baranja, Tourist Board of the County of Osijek-Baranja and many others. Success and the importance of this tourist event for Eastern Croatia and the city of Đakovo can also be evaluated according to the number of achieved arrivals and overnights of visitors during the event itself, when Đakovo becomes the center of the event and true heart of Slavonia.

Table 2: *Number of arrivals and overnights in Đakovo 2010–2017*

	The entire year		During Đakovački vezovi	
Year	Overnights	Arrivals	Overnights	Arrivals
2010	6,898	3,417	1,063	567
2011	7,290	3,815	1,422	782
2012	7,336	4,153	1,228	662
2013	9,315	5,206	1,818	996
2014	11,021	5,690	1,607	868
2015	14,027	6,597	2,239	1,228
2016	14,489	7,518	2,602	1,521
2017	19,518	8,965	4,137	2,040

Source: Tourist Board of the city of Đakovo, 2018

According to the estimates of the Tourist Board of the City of Đakovo, in the period 2010-2017 the number of visitors of Đakovački vezovi registered a continuous growth. In the observed perod it is estimated that the event was visited by 290,000 visitors. On year leve
l the estimated number of visitors differs from 80,000 to 110,000. The number of participants of Đakovački vezovi is slightly different in the observed period, and the greatest number of participants was registered in the period of holding of jubilee 50th Đakovački vezovi when 3,363 participants visited the event. In the period of the event the number of arrivals and overnights registered growth with minor oscillations. 567 arrivals and 1,063 overnights were registered in 2010, while in 2017 there were 2,040 arrivals and 4,137 overnights, respectively a growth of 259,79 of arrivals and 289,18 overnights. The number of arrivals in 2017 makes 21,20% of total arrivals, with achieved 22,76% of total overnights, which makes a significant growth of share in relation to 2010 when it amounted 15,41% of total overnights and 16,59% of total arrivals. Considering that Đakovački vezovi, as a tourist event, are a successful promoter of Đakovo as a destination for many years now, it is necessary to form new elements of tourist offer on it, which will enable growth of the number of tourist arrivals and overnights in the city, and through that it will contribute to the economic and socio-demographic revitalization of the area. In order to approach more easily to the creation of upgrading the existing tourist product, it is necessary to explore the structure of current visitors and their satisfaction with the individual elements of tourist offer.

4. Empirical research

With a goal of researching the level of satisfaction of visitors with the certain elements of tourist offer of Đakovački vezovi, an empirical analysis was made by using the random sample method and using the Likert scale from -5 (I am completely unsatisfied) to 5 (I am completely satisfied). An empirical research was made during the Đakovački vezovi in 2016 and 2018 on a random sample. In 2016 there were 57 respondents, while in 2018 there were 62 respondents. The main characteristics will be presented following in the paper. In 2016 the structure of the respondents was according to the gender 52,6% women and 47,4% men. Approximate age of the respondents was 39,11 years, while according to the educational structure 36,8% of the respondents had high school education, 57,9% faculty education, and 5,3% a doctorate. The highest number of the respondents was from Croatia (36,8%), followed by Slovenia (31,6%) and Germany (15,8%). More than half of the respondents visited Đakovački vezovi for the first time (63,2%). As a form of accommodation they preferred to stay in a hotel (42,1%) followed by private accommodation (31,6%). 84,2% of them visited the event individually and stayed in a destination in duration 1-2 days. Cultural heritage was registered as a primary motive of visiting Đakovo (36,8%), while the primary motive of arrival to Đakovački vezovi was the recommendation of acquaintances (36,8%) and the image of a tourist event (21,1%).

In 2018 the structure of the respondents according to the gender was 55,8% women and 44,2% men with an average age of 39,54 year. The highest number of respondents had a faculty education (54,5%) followed by the high school education (40,3%), and the majority of them was from Croatia (38,3%) and Slovenia (30,5%). They visited the destination individually (86,3%), and stayed in a hotel (38,1%) and in private accommodation (23,8%). The duration of their stay in a destination amounted 1-2 days.

For bringing the right decisions about improving the existing tourist offer, the Destinaton Management needs to be familiar with the visitor´s level of satisfaction with the certain elements of tourist offer, in order to, by removing its weaknesses, strengthen its competitive position on the tourist market.

Table 3: *Level of satisfaction of the respondents with the offer elements of Đakovački vezovi*

Groups of characteristics	Elements	Level of satisfaction of the respondents - Average		
		2016	2018	Growth+/ Decline - 2018/2016
Recognizability and quality of facilities	Recognizability/Image (before the arrival)	3,53	3,64	+0,11
	Information availability	2,21	2,19	-0,02
	Quality of information propaganda materials	3,21	3,35	+0,14
	Quality of organization of events	4,00	4,30	+0,30
	Originality of events	4,11	4,35	+0,24
	Event being interesting	4,26	4,34	+0,08
	Quality of interpretation of participants in programs/moderators-program hosts	4,42	4,53	+0,11
AVERAGE GRADE		3,68	3,75	+0,07
Infrastructure facilities	Traffic availability	4,37	4,39	+0,02
	Safety	4,79	4,85	+0,06
	Tidiness of the attraction´s locality	4,16	4,23	+0,07
	Satisfaction with the tidiness of the toilet facilities	3,42	3,40	-0,02
	Diversity of additional facilities	1,89	2,15	+0,26
AVERAGE GRADE		3,73	3,85	+0,12
Staff, prices, facilities	Work hours of restaurant and hospitality facilities	2,58	2,50	-0,08
	Prices of beverages, drinks and additional facilities	3,95	4,05	+0,10
	Souvenirs	3,95	3,80	-0,15
	Kindness of personnel	3,53	3,75	+0,22
	Knowledge and professionalism of personnel	3,11	3,20	+0,09
	Relation of Value for Money	3,68	3,75	+0,07
AVERAGE GRADE		3,47	3,60	+0,13
GENERAL LEVEL OF SATISFACTION WITH THE VISIT		3,53	3,68	+0,15

Source: Authors´s research

By comparing the results from the previous table, an improvement of total satisfaction of visitors has been registered in 2018 in relation to 2016 for 0,15 points, and it can be considered as satisfactory (3,68). The highest growth of satisfaction of visitors in 2018 had been registered for the group of indicators related to personnel, prices and facilities of events for which growth of satisfaction of 0,13 points has been registered (3,60), of which the highest positive growth has been registered for kindness of personnel (0,22), while a decrease has been registered for the indicators of satisfaction with souvenirs (-0,15 points, respectively 3,80), and for work hours of restaurant facilities which was slightly reduced (0,08 points, amounting 2,50). Recognizability and quality of facilities was graded higher for 0,07 points (3,75) in which the highest positive influence was achieved by the growth of the respondent´s satisfaction with the element of event originality which was evaluated as very satisfactory with the growth of 0,24 points (4,35). Satisfaction of respondents with infrastructure facilities in 2018 registers growth of 0,12 points (3,85). The highest individual growth registers the diversity of additional facilities for 0,26 points (2,15) which is unsatisfactory considering the low average grade of satisfaction in the previously conducted research when it amounted 1,89.

5. Certissa–Model for Sustainable Managing of the Tourist Offer of the City of Đakovo and Eastern Croatia

In order for Đakovački vezovi to be recognized as an individual brand, properly valorised on the tourist market, and in order to ensure sustainable development of product and heritage preservation, they need to become a part of a wider product which will contain all the existing elements of city´s tourist offer, and in which all the destination stakeholders will participate (businessmen, citizen societies, cultural institutions, religious communicates, etc). Elements which would be incorporated into the top tourist product are: New Years Eve nights, Đakovački vezovi, Đakovački rezovi, Đakovački bušari, Half of the New year, Musters of old city dances and songs, Ivanjski krijesovi, Musters of public church singing, Đakovo meetings of Croatian Literary Critics, etc.

Based on the previously stated and on the results of the empirical results, the author was able to prepare a S.W.O.T. analysis matrix in which he determined all the advantages and weaknesses of the events, as well as the opportunities and threats for its future sustainable development, all with a goal of creating new elements of tourist offer and incorporating them in a new, top tourist brand Certissa.

***Table 4:** S.W.O.T. analysis of Đakovački vezovi*

STRENGTHS	WEAKNESSES
• Long tradition of event organization; • Preserved traditional costumes, songs, dances; • Bećarac and Gorijanske ljelje on UNESCO list; • Awareness of the local community and local government about the importance of Đakovački vezovi for the city; • Đakovački vezovi-the basis around which additional tourist events were formed; • Contribution to the cultural diversity; • Affirmation of Croatian identity in the world; • Preservation of national tradition by transferring folklore heritage on younger generations; • Stimulating cultural and artistic work; • Presentation and preservation of traditional crafts; • Stables of horses Lipicanci (500 years of existence).	• Statistical data are not precise, but based on assumptions; • Insufficient number of accommodation capacities; • Dependency on weather conditions; • Insufficient marketing attractiveness-tracking the event; • Non-existence of synergy between different economic branches.

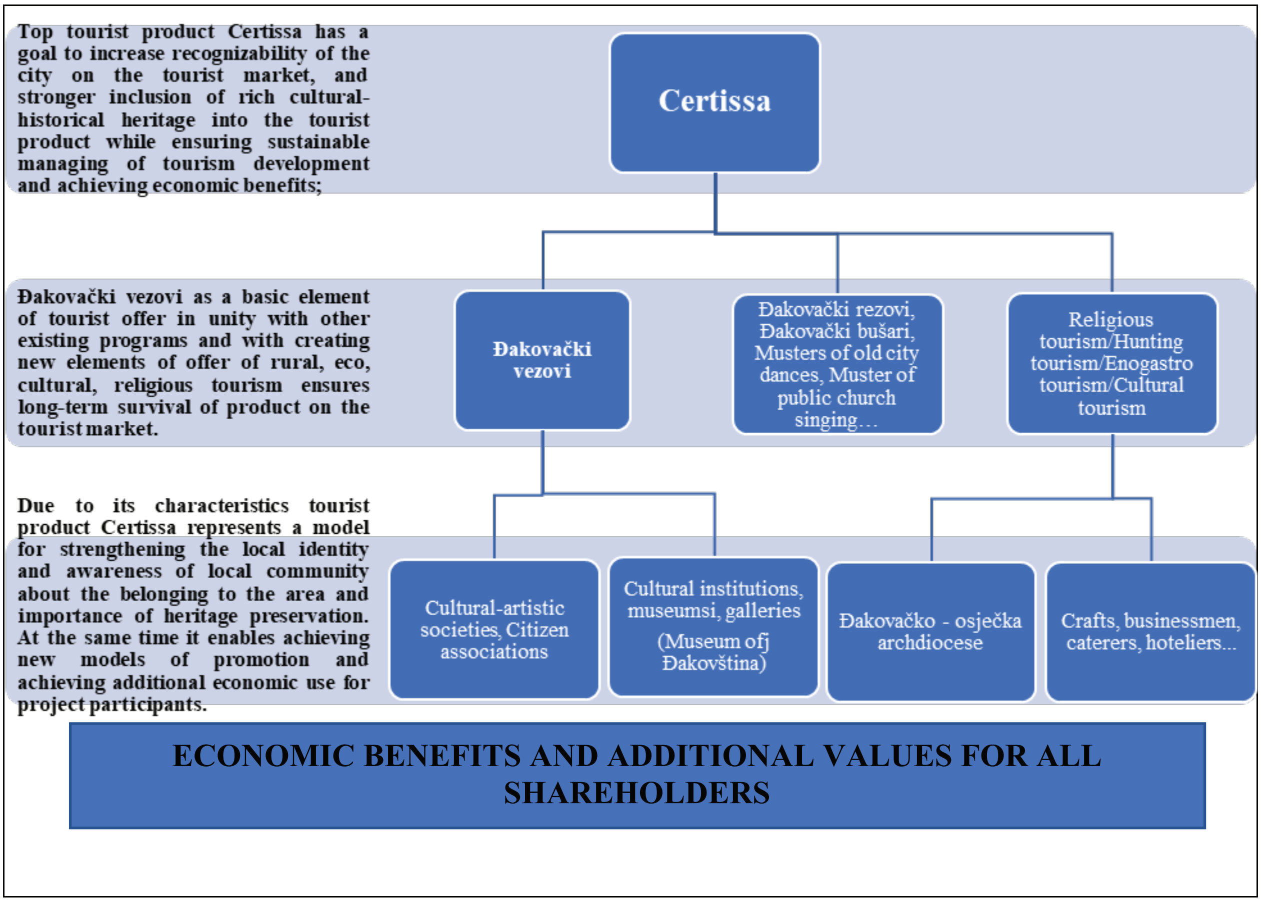
THREATS	OPPORTUNITIES
• Emigration of the local population due to the poor life conditions; • Globalization; • Helding similar events in the competing destinations; • Availability; • Safety threats; • Disturbance of originality; • Pap and false "stories"; • Pollution; • Disappearance of horse stables.	• Stronger economic development; • Tourist valorization of Đakovština; • Promotion benefits; • Creating the brand of the city of Đakovo; • Financing through European Union Cohesion Funds; • Creation of additional elements of tourist offer; • Creation of a top brand-product; • Creation of a website; • Creation of an application for mobile devices which will enable tracking the desires and needs of visitors and point to their habits during their stay.

Source: Authors´ research; Draft of the Cultural Strategy of the city of Đakovo, 2015.

From the previously conducted analysis it is visible that tourist event Đakovački vezovi possess an exceptional significance for tourist development of Đakovo and Eastern Croatia and represents an important element for preservation of rich non-material heritage of the area which could, due to economic and socio-demographic indicators, be permanently endangered.

With a goal of improving the existing tourist offer of the city of Đakovo and the Region of Eastern Croatia, the author proposes the introduction of a new, integrated product Certissa which has a goal to remove all the lacks of the existing tourist offer, and to improve the model of managing tourist development of a city with a goal of achieving positive economic and socio-demographic movements.

Picture 1: *Scheme of the organization and coverage of top tourist product Certissa*



Source: Authors´ analysis

Certissa marks an old Roman name of the city of Đakovo from the 3rd century BC when Đakovo was recognized as an important centre especially for growing grapewine. This can be used for creation of additional programs which will enrich the existing tourist offer with a goal of achieving whole year business in Đakovo, which will significantly contribute to the employment and economic prosperity of all destination stakeholders. Đakovački vezovi were determined as the most important and most recognizable event within the program, on which other elements of tourist offer of the city and the region are upgraded in a unique tourist product Certissa which achieves additional value for the destination and all the stakeholders in the same, due to which recognizable elements of Vezovi and non-material heritage become permanently protected and recognizable symbols of Đakovo and Eastern Croatia. Within the Dionis program it would be possible to offer for the visitors services of wine tasting, wine processing, participating in the customs of the area connected with grapewine growing, wine tasting, food and drinks characteristic for that region and similar. Besides the program which presents the epoche of the Roman ruling in the area, program of St. Jacob is also proposed, which represents the period in which the city operated under the Turkish authority which points to its tolerance and multiculturality throughout the centuries.

Two cultural-artistic societies Sklad and Tena operate in the city and nurture traditional dances and songs of Đakovo and other parts of Croatia, and which can, along with participation with the Museum of Đakovština, become carriers of tourist programs and promotion of the city. The museum exhibits can, along with professional guiding and animation become the elements of live history on the streets of the city and the part of the tourist story which guides the visitor through these streets, Korzo, churches, old houses and convents as a unique unit. All the interested Destination Stakeholders, local population in particular, need to be included in the organization and creation of a top product. Its inclusion in the tourist product will achieve stronger sense of identity and belonging to the area of the local population, which will through its direct inclusion in the tourist event stimulate visitors on creation of sense of belonging to the city and the region. Certissa represents the top tourist product of the city of Đakovo which, with its name, points on long-term and turbulent history of the city as a centre of historical region of Slavonia. With this tourist product the intention is to point out all the advantages provided by the joint placing on the tourist market under the brand Certissa, and it would be based on upgrading the most famous tourist product of the city of Đakovo-Đakovački vezovi.

With unified placing on the tourist market strengths and advantages of the destination will gro/w (knowledge, skills and competencies of human resources), and risks will be reduced (recognizability on the tourist market, capability of reacting on crisis and similar) as well as the costs of managing the product, through which additional funds will be achieved for strengthening the competitive positioning of Đakovo on the tourist market which is possible to achieve through formation of an individual website of tourist event Đakovački vezovi and top product Certissa, and applicative solutions for mobile devices by which it is possible to track wishes, desires and needs of visitors of Đakovo and its events in a simple way and throughout the entire year, all with a goal of timely reaction of Destination Management on noticed threats and opportunities on the tourist market.

As measures for evaluation of success of tourist product Certissa it is possible to determine the following ones:

- Number of visitors;
- Number of participants in programs;
- Economic benefits (selling tickets, food, drinks, etc.);
- Managing costs component of the event;
- Number of employees in preparation and conducting the programs;
- Marketing potential of the event and others.

Certissa enables tracking of permanent success of a tourist product according to the feedback principle, especially with the use of contemporary technological solutions such as applications for smart devices through which it is possible to achieve permanent and continuous connection between offer carrier and demand, and it enables fast and successful actions towards removing the noticed lacks of the model. Joint product Certissa enables more efficient managing of the cost component of the product, while maximizing the use of human knowledge and skills, and by removing risks which mark small and individual events along with price reduction of managing and marketing promotion on the tourist market.

6. Conclusion

Within this paper, the author presented the importance of tourist events that are based on heritage and how they contribute towards sustainable growth of Eastern Croatia. An empirical research was conducted during the tourist event Đakovački vezovi in 2016 and 2018, with a goal of determining the state of tourist offer of the city of Đakovo, and the level of satisfaction of visitors with the elements of its tourist offer. In both cases the visitors have shown a relatively high level of satisfaction with the offer, and a mild growth was registered. The results indicate the necessity of formation of an improved model of informing the visitors about the city of Đakovo and Đakovački vezovi, and the tourist offer of Eastern Croatia, which is of exceptional significance considering that those were the only elements what were evaluated with a lower grade in the research conducted in 2018. Previously stated is possible to achieve by including and implementing contemporary technologies in tracking the success of Đakovački vezovi and in their presentation on the tourist market, and successful formation of a recognizable brand of the city of Đakovo is possible by forming a synergy between all the stakeholders within the destination and all the elements of the city´s existing offer into the top marketing product. The city of Đakovo can, by applying the presented model of unification of tourist offer in a top product Certissa, become the leading tourist centre of Eastern Croatia, guaranteeing long-term economic and socio-demographic success of tourist product, which will enable greater quality of life for the entire community. Certissa enables better managing of cost component of tourist product and easier marketing positioning of Đakovo and its tourist offer on the demanding tourist market. Use of contemporary technological solutions (Internet, smart telephone applications and similar) enable direct connection among tourist offer and demand, and constant feedback which enables timely reaction on all disturbances and changes in the demand system. Application of Certissa model guarantees achieving business success for all Destination Stakeholders, and at the same time provides possibility for further scientific research of possible developmental models of the city of Đakovo and entire Eastern Croatia. Conducted research can be used as a pilot for future research with a goal of improving the existing level of satisfaction of visitors and improvement of tourist offer of Đakovo. The limitations of the research are determined in a relatively small sample of the respondents which was conditioned by the time and financial limitations, and in the non-existence of precise statistics about the number of visitors to the tourist event Đakovački vezovi, which disables setting of clearer guidelines. The author´s recommendation is to repeat the similar research on a bigger statistical sample and with the previously conducted panel discussions of all stakeholders in the tourist destination Đakovo.

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CULTURAL AND SOCIAL INFLUENCES OF ZABAVNA BIBLIOTEKA [ENTERTAINMENT LIBRARY], CROATIAN PUBLISHING SERIES FROM 1978 TO 1988

ABSTRACT

Paper deals with the cultural and social impacts of the Zabavna biblioteka [Entertainment Library], a publishing series that the publisher Grafički zavod Hrvatske has been publishing from 1978 to 1988. This publishing series has been molded, to the certain extent, to the Zabavna biblioteka (1913- 1942), publishing series with the same name, which was edited by editor Nikola Andrić. Zabavna biblioteka (1978-1988) is an important part of Croatian cultural heritage of the 20th Century and this paper analyzes the contents, cultural influences and reception of the series.

Key words: *publishing series, Zabavna biblioteka, cultural heritage, audience*

1. Publishing series

The analysis of publishing series in Croatian context was never a subject of particular scientific interest, neither in theory nor in reviews. In the lexicographical and encyclopaedic presentations of publishing, the concept of publishing series was treated only sporadically. In *The Graphic Encyclopedia* (*Grafička enciklopedija*) (Franjo Mesaroš, 1971) the publishing series is defined as "a common name for a series or a cycle of editions from a specific field of activity or of a particular literary genre" (Mesaroš, 1971, 348). In the *Croatian Encyclopaedia* (*Hrvatska enciklopedija*), the publishing series is referred to as the "publishing unit", meaning "a series of books issued by the same publisher, usually written on the same or related subject, sharing a common, so-called *group* title, along with having their own specific ones." Books issued as volumes of the same publishing unit became recognizable by the way of a unified bond and print and are often numerically marked as volumes within the whole. For certain publishing units (e.g. the complete works of a certain author) the publisher determines the number of volumes in advance (the so-called limited publishing unit), and for others, the number of volumes is not specified in the beginning (the so-called open-ended publishing unit or series)." (Hrvatska enciklopedija, 2005, 569)

In this article, the publishing series is understood as a result of various levels of activity and regulation of literary, editorial, and publishing decisions and contents, as well as cultural processes related to the activity of reading, reader's competence and, finally, strategies to create and develop audiences. In other words, a publishing series could be interpreted as a unit created out of all the particular titles and their paratextual elements within the publishing unit as a whole.

2. *Zabavna biblioteka* (1913- 1942), edited by Nikola Andrić

The historical context of publishing series in Croatia had been set up by Nikola Andrić's Zabavna biblioteka [Entertaining Library] and, to a certain extent, by publishing models which were established through this series, including the notion of heterogeneity of the reader as the fundamental regulator which was incorporated in Andrić's editorial/publishing strategy.

Zabavna biblioteka is a publishing project undertaken by Nikola Andrić (1867 - 1942), a prominent philologist and playwright, formerly a theatre intendant and a literary historian, and a long-time president of the Society of Croatian Writers (Društvo hrvatskih književnika). He started Zabavna biblioteka as his own personal project in 1913, with the intention of publishing "a selection of the best of world literature" (Mandić-Hekman, 2014, 26). During the next thirty years, Andrić has gradually shaped the idea of publishing series with a sum of 442 volumes, as well as with literary and extra-literary functionality added to it. The books were published in cycles, with Zabavna biblioteka having reached the number of fifty cycles in total, whereas the last published book was marked by the number 603 in the year 1942 (Mandić-Hekman, 2014. 7). Given the existing circumstances in publishing at the time when Andrić launched his project, there was no such paragon on the publishing scene in Croatia, which meant that Zabavna biblioteka had in fact created a framework for understanding the concept of publishing series. Andrić's idea included, primarily, the notion of literary audience, but in a way, as indicated by Ivana Mandić-Hekman, that this targeted audience should be perceived as heterogeneous not only in terms of education and interests in literature, but also in terms of age, gender and class, wherein each segment of this heterogeneous audience was to be taken as a sufficient reason for making strategic adjustments of his editorial and publishing concepts. (Mandić-Hekman, 2010, 8). Zabavna biblioteka has published works of 13 Nobel laureates and a number of important works of world literature, while also publishing adventure novels and other popular fiction.

Given the explicit theme, style, and variety of titles in terms of genre within Zabavna biblioteka, the key factor of coherence can be seen both in the editorial principles and the paratextual elements of the publisher. These editorial principles, according to Ivana Mandić-Hekman, are founded upon the highest standards of translation, the selection of the most renowned authors of world literature and, finally, the concept of literature as entertainment (Mandić-Hekman 2014: 105-106), while the graphic design, utilizing predominantly (albeit not exclusively) green color, stands out as the key para-textual element of the included literary volumes (Mandić Hekman, 2014, 7).

By the way of its very name as well as its contents, it is clear that Zabavna biblioteka's primary motivation for publishing was to entertain. Still, Aleksandar Stipčević notes a secondary motivation: "This great publishing feat had no other intention but to entertain the public but also to make available German and Italian works of literature that were still widely read among the high society. The one thing that is widely noted among those who had written about the collection is the impeccable Croatian translations all books had" (Stipčević, 2008, 39).

3. Publishing series in 1970s and 1980s

The necessary precondition for establishing modern literary publishing series was the rise of consumer society in Croatia and Yugoslavia where the socialism and consumerism were in co-existence, since the market mechanisms could partially operate within the frame of Yugoslavian self-managing socialism. The late 1960s and 1970s were the years of social and economic progress as well as the expansion of consumerism and shopping fever, while the same process during the 1980s was bound to take place under circumstances of a rising political crisis and under the economic conditions struck by inflation and reduced purchasing power. The process of modernization of the consumer society influenced the transformation of the concept of free time and leisure, which had been shaped and understood quite differently during the previous epochs. Leisure is a result of formalizing free time in modern society, unlike free time in traditional, pre-industrial societies that had not been formalized. The new consumer class in Croatia after 1958 had a surplus of free time at their disposal: the week would last for 42 working hours and the workday ended at 2 pm, not to mention weekends, leave of absence, and almost a month of vacation. (Duda, 2005, 11)

The fast development of the consumer society has accelerated the availability of cultural products: consumers could easily choose a book, film or a gramophone record. They could also visit the cinema, listen to the radio, watch television, etc. The rapidly developing cultural industry was a consequence of the upswing of the consumer society. In Croatia as well, the cultural industry provided a drive for production of mass- and/or entertainment culture, primarily oriented towards satisfying market dynamics. According to Martin Znideršić, the publishing industry, having quickly reached European standards, should also be counted in with both the record and film industry, both of which were experiencing an unexpectedly rapid development during the late 1960s and early 1970s.

Thus, in the new literary publishing series, there was more room for translations of literary fiction falling under the category of a certain genre: detective novels, including gangster and spy novels and political thrillers, science fiction, action and adventure novels, love, erotic and pornographic novels, as well for the so-called novelization of movie scripts or popular films, which was a phenomenon in its own right. Since the editors were at the same time and in an equal amount publishing art fiction, the publishing series had the opportunity to influence and form the tastes of "professional" readers such as literary critics, theorists and professors of literature, as well as the tastes of the broader audience, including even those readers or cultural consumers for whom books and reading may not have been the first choice. This twofold role of the traditional publishing series can be observed in the example of Zabavna biblioteka (1978-1988, Graphic Institute of Croatia, Zagreb), which was partly following the criteria of commercial success, while at the same time developing an exceptional literary fiction program. The conclusion of Terry Eagleton's *Idea of Culture* is that the difference between high and popular culture has been transformed into a hybrid culture and that the market, still functioning as a reactionary mechanism, allows cultural products to have their own free space. High culture today is no longer just a culture of traditional bourgeois art, nor is it synonymous with anti-commercialism, in the same way that mass culture does not necessarily designate the absence of radicalism. High culture is neither purely reactionary, nor is it hindered by mere market dynamics, while popular culture is often conservative. Boundaries between high and popular culture have been abolished by art genres themselves, such as filmmaking, after they have succeeded in producing a certain number of broadly accepted masterpieces (Eagleton, 2002, 68). This sort of culture, commercialized and disciplined by markets, necessarily leads producers towards adopting more conservative values and approaches that are distrustful when it comes to innovation. The market is the best way for both society and culture to be liberated and deeply reactionary at the same time. The commercial culture supports many of the high culture values that would have otherwise been despised as elitist, while succeeding in wrapping these values in a seemingly anti-elitist package, which has never been the case for high culture. The distinction between high and low culture is largely transformed into a hybrid, pervasive culture able to expands its influence equally in all areas of society.

Postmodern culture is said to be beyond social classes but only because consumerism knows no distinction between them, while the consumption of this *class-free* culture is increasingly becoming a feature of today's middle class. The public can, however, no longer be reduced to obedient recipients who will blindly fulfill what the authors and markets dictate. Instead, they are encouraged to rely on their own interpretation as a means of exercising "semiotic democracy", or in other words, developing different interpretation and re-creating the meaning of popular texts that may neglect or even outreach the initial ideologies of their authors (Duda, 2002, 44).

The book, taken as a reproducible commodity product, no longer belongs to either the high or the popular culture. Instead, it has become a hybrid product equally accessible to all social layers. Publishing is an integral part of the culture industry in which the so-called "mass, popular or trivial literature" has legitimately won its important place. Literary genres such as detective and love novels, as well as science fiction, were also initially published in Croatia within the so-called "roto-libraries" (Trag, Sirius etc). Change of perception towards the genre and/or trivial literature and popular culture in general has also influenced the editorial criteria by which the publishing series were formed. Even in the 1960s, the literary editions were edited uniformly and according to strict conservative criteria - predominantly classics of foreign literature, selected on the basis of national literary canons (series such as *Njemački roman*, *Engleski roman,* etc.) - while, in the meantime, literary genres had received both social and critical recognition: one of the most prominent Croatian literary historians, Stanko Lasić, published his *Poetics of the Detective Novel* (Poetika kriminalističkog romana) in 1973 and the Italian theorist Umberto Eco wrote a detective novel *The Name of the Rose*. Therefore, the feeling of discomfort about popular literary genres had suddenly faded.

The editorial criteria of the Croatian publishing series in the 1970s and 1980s (HIT, Zrcalo, Bestseller, Zlatni Paun, Gama) included both entertaining literature and artistically- demanding novels, meaning that commercial hits were published side by side with modern novel classics such as Blaise Cendrars, Vladimir Nabokov, Joseph Conrad or Jean Genet, as well as historical, war, love, and autobiographical novels, suggesting the hybrid nature of these publishing series.

Literary and media competence was also expected from the readers: the reader had to be well-read, but also actively informed about the latest media production, especially with regards to cinema, TV series and the press. One of the most important pathways in search for commercial success was to publish a novel on which a cinema-blockbuster was based, and occasionally even those novels that were based on the screenplays of (or adapted from the screenplays) successful movie hits. This shows that the cultural industries were cooperating with each other - the cooperation of the film and publishing industry being the most important in this particular context.

4. Zabavna biblioteka (1978 - 1988, Grafički zavod Hrvatske, Zagreb)

Grafički zavod Hrvatske launched in 1978 a completely new edition of the Zabavna biblioteka, which is indisputable proof of the influence of Andrić's concept in a new age and context. The forty-two titles published in Zabavna biblioteka were edited by three editors, and the visual design was changed not less than five times. The editorial program involved different concepts that editors Zvonimir Majdak and Nenad Popović developed independently in their editions. Nenad Popović edited most of what will become the final series (25), but most of the books were chosen by Zvonimir Majdak. This new Zabavna biblioteka was founded in 1978 and the last two books came out in 1988. Between 1982 and 1985, there were no new releases in this publishing series.

Although Zabavna biblioteka predominantly published explicitly commercial content, the novels of well-known literary names such as Vladimir Nabokov, Philip Roth, Umberto Eco, Bernard Malamud or William Styrus were included as well.

The ninth edition of Irwine Shaw's (1913-1984) novel *The Young Lions* about World War II was published within the program of Zabavna biblioteka 1978. The fourth edition of the novel *The Best of Husbands* written by Cuban-Italian writer Albée Céspedes (1911-1997) was published in 1980. Books that will later become bestsellers such as Umberto Eco's *The Name of the Rose* (1986) or Erica Jong's *Fear of Flying* (1978) were also part of the program. The most important feature of Zabavna biblioteka was the variety of popular literary genres, which promised literature as entertainment: the central segment of this program were detective novels, espionage and political thrillers, science fiction, action, adventure, gangster stories, love novels and the aforementioned novelizations of film scripts or popular films. There was also room for a number of non-fiction titles, such as journalistic or documentary books (Frank McDonald, Willy Ch. Brou, Wolfgang Ott, Jurik L'Uboš, Bruno Profaca, etc.).

Irwine Shaw's *The Young Lions* - first published in 1948 - signaled that the reader's interest in historical fiction novels, dealing with the topic of World War II, was still existent, but it is also symptomatic that the editorial focus in Zabavna biblioteka had shifted from Anglo-Saxon and French war novels written on this topic to genre-strict commercial novels, written and published in Western Germany at that time, which were, in their own right, questioning Nazi war crimes: an example of this is the extensive trilogy *08/15* written by a once popular Western German writer Hans Hellmut Kirst, today remembered for his novel *The Night of the Generals*, later filmed under the same title by director Anatol Litvak in 1967, as well as novels such as *Sharks and Small Fishes* by Wolfgang Otto (1979) and *The House of Lost Hearts* by Heinz Günther

Konsalik (1980). The leading author of this genre in case of French literature was a historian and politician Max Gallo with his two-part novel *All people are born on the same day* (1981), along with the Croatian writer Feđa Šehović with his novel *De bello Ragusino* (1980), whose story takes place in Dubrovnik during the World War II. To this publishing niche also belongs a non-fiction book with abundant photographic illustrations written under the title *The War Beneath the Sea* (1978) by a French author named Willy Ch. Brou, but equally worthy of mentioning is Bruno Profaca's book about maritime accidents leading to deaths of Croatian sailors, written under the title *Occupation Sailor* (*Zanimanje pomorac*) (1982).

Zabavna biblioteka included number of detective novels: *The Blue Hammer* (1978), the last novel by Rossa McDonald and *The Investigation* (1981) by Dorothy Uhnak, written in Raymond Chandler's style. Ira Levin's *The Boys from Brazil* (1978) is certainly the most famous political thriller published in this edition, although others have also dealt with commercially-attractive topics. *The Wind Chill Factor* (1975, translated in 1981) by Thomas Eugene Gifford dealt with the rise of neo-nazism and the extreme right. Structurally-rigid action novels, such as *The Diamonds of Loreta* (1985) by Ivor Drummond, which was the pseudonym of the English writer Roger Erskine Longrigg, also appeared in Zabavna biblioteka. Editor Zvonimir Majdak also tried to develop a program for modern commercial literature by publishing novels such as Paul Broonstein's *The Savage* (1985), David A. Kaufelt's *Spare Parts* (1980) or Frank McDonald's *The Origin* (1987), but it seems that these have not received any major commercial response in Croatia.

Zabavna biblioteka began by publishing more ambitious titles in the commercial sense of the word, or, in other words, by focusing on books that were anticipated to become best-sellers. Most of them are related to film-based cultural industries, meaning that the book was expected to become a profitable hit, which sometimes did in fact happen. Here are some notable examples: *Close Encounters of The Third Kind*, *Jaws 2*, *Airport '77*, *The Boys from Brazil*, *F.I.S.T.* and the TV series *Roots*. It is important to note that the translations of these novels appeared alongside Croatian premiers of their film counterparts, or when these were broadcast on television, suggesting that the rights to these titles were purchased before the world premiers. Such attractive titles disappeared in the first half of the 1980s, so the editors were inspired to fill the gap within their publishing programs. The end of the 1970s was the culmination point when it came to the trend of novelization of film content, and it is not surprising that among the best-selling books in Zabavna biblioteka were the titles such as the *Close Encounters of the Third Kind* (1978), *Jaws 2* (1978) or *Airport '77* (1978). *Close Encounters of the Third Kind* and *Jaws 2* were symbolically linked to the film career of American director Steven Spielberg. The film was his first major international success, and also one of the greatest cinema hits of the mid-1970s, which during the time became an example of a successful film series. A total of four sequels was recorded, of which only the first was directed by Steven Spielberg: *Jaws* (1975), *Jaws 2* (1978), *Jaws 3-D* (1983) and *Jaws: The Revenge* (1987), making a profit of over $800 million. Peter Benchley's novel *Jaws* (1974) - was already known to Croatian readers because of the translation of this novel which was published in 1976, in the eighth round of the HIT library. Novel *Jaws 2* was an exceptional release in *Zabavna biblioteka* because the original movie poster was used as a book cover with the four authors´signatures: in the upper-right corner of the cover were the names of Hank Searl, novelist and screenwriter Howard Sackler, while in the top-right corner were the screenwriters names, Dorothy Tristian and Peter

Benchley, under whose names the characters were listed. To make the readers fully informed, the following information was added: "Author Hank Searl, screenplay by Howard Sackler and Dorothy Tristian, based on the characters from Peter Benchley's novel". Scriptwriter and novelist Hank Searl (1922) had, thus, novelized Sackler's and Tristian's screenplay, while the characters were "borrowed" from the novel originally written by Peter Benchley who might have claimed the copyright. In his career, Hank Searls did not frequently pursue the method of the novelization, and had only embarked on one other project of this sort - the movie screenplay *Jaws: The Revenge* (1987). Interestingly, the comedian Carl Gottlieb, despite contributing significantly to the screenplay for *Jaws 2*, was not signed as a screenwriter, which is not a rare case in cinematography. Furthermore, the dramatist and screenwriter, also the winner of the Pulitzer Prize in 1969, Howard Sackler who was, unlike Carl Gottlieb a collaborator on the first *Jaws*, was not signed as a co-writer then. Instead, his name was written on the poster of the second part. The side-note on *Jaws 2* clearly indicates that the release made by Zabavna biblioteka was published before Jeannot Szwarc's movie had arrived to Croatian cinema. There was no comment on the back cover of the book, nor did the book have the editorial board signed, which is indeed a rarity. *Close Encounters of the Third Kind* (1977) was Spielberg's next major film hit, a commercially as well as artistically successful science-fiction drama awarded with an Oscar for Photography and Sound Effects. Although it is known that at least six scriptwriters had collaborated in writing (Paul Schrader, John Hill, David Giler, Hal Barwood, Matthew Robbins and Jerry Belson), only Spielberg himself was signed as the author of the script. Spielberg was also signed as the only author of the novel, despite the fact that it was Leslie Waller who made the novelization of this film's screenplay, and who, among other things, later novelized the script for *Dog Day Afternoon*, under the pseudonym Patrick Mann. In 1970, Spielberg wrote the story *Experiences*, which will eventually become the material for a scene found both in the script and the film, and, finally, in the novel *Close Encounters of the Third Kind*, translated to Croatian by film critic Vladimir Vuković and musician Aleksandar Bubanović.

The works of English writer Arthur Hailey were published in forty countries, translated to thirty-eight languages and sold in more than one hundred and seventy million copies. Four of his novels were ranked first on The New York Times top list: *Airport '77* (1968), *Wheels* (1971), *The Moneychangers* (1975) and *Overload* (1979). In 1976, the publisher Zora released two of Hailey's bestsellers, *The Moneychangers* (1971) and *Wheel* (1976) in a library called *The Extraordinary Editions*, while the translation of the *Overload* or *Preopterećenje*, which deals with the electricity industry in California, appeared in Zabavna biblioteka in 1980. George Seaton wrote a screenplay and recorded a hit-film in the 1970s according to the most famous and most successful of Hailey's novels, *Airport '77*, and the translation of this novel appeared in the third round of the HIT library in 1971. The success of this "disaster movie", as well as the novel, led to further sequels: *Airport 1975*, *Airport '77* and *The Concorde… Airport '79*. Michael Scheff and David Spector novelized their own screenplay for the movie *Airport '77*, based on the motives of the story authored by H. A. L. Craig and Charles Quentin, who was also inspired by Hailey's *Airport*, as stated on the seventh page of the book.

The scriptwriter Joe Esterhas (1944) novelized his first film screenplay *F.I.S.T.*, the story of the rise and fall of a union activist, written in collaboration with Sylvester Stalone. Before having written *Roots*, a non-fictional family saga, the journalist and writer Alex Haley (1921 - 1992)

worked as a ghost-writer on *The Autobiography of Malcolm X. Roots - The Saga of an American Family* had spent 22 weeks on the top spot of the New York Times list in 1976. The same TV series, premièred in January 1977, was seen by more than 130 million viewers and won nine Emmy TV awards. As a double-volume edition, *Roots* was published in the Croatian language in the first round of Zabavna biblioteka during 1978 with a portrait of actor John Amos (playing the role of the main character called Kunta Kinta), on the cover. The thriller *Boys from Brazil* (1976), written by playwright and novelist Ira Marvin Levin - translated to Croatian as *Dječaci iz Brazila* - was published in *Zabavna biblioteka* in 1978, the same year when director Franklin J. Schaffner recorded the film. In 1972, Mladost from Zagreb published Levin's best-seller *Rosemary's Baby*, based on which Roman Polanski recorded his film in 1968.
The Croatian literary audience was already well acquainted with the works of Vladimir Nabokov, Philip Roth, and Bernard Malamud. *Transparent things*, *The Ghost Writer* and *Pictures of Fidelman* came out in Zabavna biblioteka, but the real discoveries of this library were William Stryton and Paul Scott. Stryton's *Sophie's Choice* is nowadays considered a classic of American literature, and director Alan J. Pakula directed a film based on the novel in the same year. *The Ghost Writer* - originally published in 1979 and translated to Croatian in 1985 - was a sequel to Philip Roth's trilogy about Nathan Zuckerman. *Pictures of Fidelman* by Bernard Malamud (1980) was the example of the so-called "composite novel": six framed stories with the same hero named Arturo Fidelman. Paul Scott (1920 - 1974) was the winner of the Booker Prize for the novel *Staying On* in 1971, and *The Jewel in the Crown* was published in Zabavna biblioteka in 1988, as a part of the so-called *The Raj Quartet*, that also included *The Day of the Scorpion* (1968), *The Towers of Silence* (1971) and *A Division of the Spoils* (1974), which were never translated to Croatian.
The Siren (1985), a novella written by a German writer, a member of group 47 and academic Dieter Wellershof is a story about seduction without any narrative events taking place. *Heritage* (1978, 1986) by Siegfried Lenz is a part of the great author's tetralogy also including novels *The German Lesson* (1968, 1979), *An Exemplary Life* (1973) and *Training Ground* (1985). "By utilising the technique of merging perspectives, or, in other words, by confronting different destinies, Lenz builds his own unique interpretation of particular contents of experience, among which are the relationships between modern Germany (the Federal Republic) and the dread of the past from Hitler's tyranny, and, finally, the overthrowing of ideological concepts from the historical tradition in general." (Žmegač, 1999, 436) Friedrich Christian Delius's novel *A Hero of Internal Security* (1988) is an ironic narrative about the abduction of a capitalist tycoon. *How Much Shatzie*? or *Pošto daš*? (1982) written by an Austrian writer Hans Carl Artman is an atypical, yet legendary book of humoresques.
Finally, Zvonimir Majdak appeared in Zabavna biblioteka as an author, where his two books were published: his eighth novel *Bathing with Catherine* (*Kupanje sa Katarinom*) in 1975 and, again, 1981, in a joint edition with his fourth novel *Kužiš, stari moj*, and a sequel of *Stari dečki*. "Majdak is one of the founders of the so-called *jeans-prose*. In what is today considered a cult novel, *Kužiš, stari moj* (1970), which had both a successful theater staging and a film premiere, the vernacular of Zagreb was introduced for the first time." (Matanović, 2000, 553)
The other two Croatian writers published in Zabavna biblioteka were Feđa Šehović and Bruno Profaca. Feđa Šehović had published *De Bello Ragusino* (1980), the fourth novel of the cycle called *Dubrovačka trilogija* (1974-1977), and the neo-historical novel *Oslobađanje duše*

(1987), written under the pseudonym Raul Mitrovich. In Mitrovich's *Oslobađanje duše* (1987), the events before the devastating earthquake on April 16, 1667 in Dubrovnik were described, and here "Mitrovich collects a whole gallery of personalities from the old Dubrovnik Republic, thus creating dramatic suspense out of thick narrative material." (Mandić, 1996, 305)
Zabavna biblioteka had no sensitivity for gender balance: only four out of thirt-nine names in total were female authors, but all of them can yet be proclaimed feminist or at least proto-feminist. After the second edition of *Fear of Flying*, Erice Jong's newer novel *How to Save Your Own Life* (1977, 1978) was published in Zabavna biblioteka, where "the endless series of erotic events from the first book are now associated with lesbianism and described with utmost precision - followed by a happy ending" (Tenžera, 1992, 164). The French author of Polish origin, Francine Du Plessix Gray (1930 - 2019) wrote a dark family chronicle in *Lovers and Tyrants* (1976, 1980). A proto-feminist novel by Albe de Céspedes, *The Best of Husbands* (1949, 1980) is actually a collection of memories of a disappointed and depressed wife, finding herself in a situation of wanting to murder her husband. The work of Albe de Céspedes has not attracted particular attention when it came to literary critique, and was often written off as a melodramatic romance, but today she is recognized as a feminist writer and an intellectual whose literature offers valuable insights in relations between men and women in Italian cultural and political life. *The Belly Dance* (1977, 1980) by Daniele Gioseffi (1941) is a feminist reckoning with the American macho-culture.
Among the forty-two published novels, twenty-five were translated from English, seven from German, two from French and Italian, and one from Slovak, with a remark that the French novel was translated from English. The total number ought to include the five mentioned Croatian novels. Thirty-nine authors altogether were published in Zabavna biblioteka. Twenty-one of them were American, seven German, three French and three Croatian writers, two English and one Italian, while only a single writer was a Slovak.

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THE ROLE OF CULTURAL POLICY IN SUPPORTING THE STRATEGY OF CULTURAL DEVELOPMENT OF THE CITY: EXAMPLE OF OSIJEK

ABSTRACT

The paper aims to prove the importance of the cultural policy as the key determinant of strategic cultural activities and cultural development, based on the case study of Osijek. The culture and cultural heritage have been investigated by many authors, resulting in different definition approaches. Definitions of culture and cultural heritage depend on the aspect of analysis but there are different approaches to cultural policy, too. In its core, cultural policy involves taking certain actions, activities and steps within the community, in order to meet cultural needs with the optimal use of all available resources at a given moment. The paper focuses on the models of cultural policy - the liberal model, the parastatal model, the bureaucratic enlightment model, the national emancipatory model and the regional / linguistic / ethnic model of cultural policy. For the purpose of cultural policy designation, authors have appreciated the basic principles of cultural policy, primarily the principle of continuity or traceability, the principle of self-determination and the principle of selectivity. In order to test starting research assumptions, relevant scientific literature regarding culture, cultural policy and cultural heritage has been explored. Additionally, strategic documents, especially Strategy of Cultural Development of the City of Osijek 2014-2020 have been analysed in order to learn the management principles of the cultural development of the City of Osijek, the fundamental values of Osijek's cultural policy as well as its strategic goals and priorities in the field of culture. Finally, empirical part of the research relied on the in-depth interview conducted in the City of Osijek, Department of Culture. The study findings suggest that Osijek's cultural policy shapes strategic activities which foster sustainable use of the City's cultural heritage and promote the development of contemporary cultural creativity.

Key words: *culture, culture policy, cultural heritage, strategy of cultural development, City of Osijek*

1. Introduction

The history and the widespread use of the term culture in various fields suggests that there are different concepts of culture, that is, that the concept can be observed from several aspects. Namely, different authors interpret and define the concept of culture differently. Thus, there is no unified definition but it is a multidisciplinary term (O'Sulivan et al., 1994).

Marasović's definition of culture outlines a direct connection but also the distinction of the term culture to the concept of heritage: culture encompasses the totality of creation in the material and spiritual life of each nation and of humanity as a whole, while the heritage is a legacy inherited from the ancestors (Marasović, 2001).

Authors focusing on the explanation of the concept of culture are divided into those for whom the culture is a social legacy, and those for whom it is learned behavior. Culture represents the totality of moral, social and productive action of the society (Anić, 1994). Also, culture is the entirety of education, knowledge, skills, ethical and social feelings, social perception, and behavior of an individual in relation to others (Janičijević, 1997). Perhaps the broadest definition of the culture describes it as the elaboration and perfecting of some material for a particular purpose, and its narrow understanding says the culture means the realization of human values in a man and his work (Žugaj et al., 2004).

Due to so complex definitions of culture, also the scientific dialogue on the topic has been interdisciplinary. Economists suggest that incorporating cultural notions within an economic framework can lead to new ways of linking economic and social thought that go beyond simplistic notions of culture as a constraint on development. The anthropologists and sociologists are more concerned by demonstrating the potential for a more practical social science that engages constructively with policy and public action, providing both competing and complementary perspectives to more conventional development policy frameworks (Rao, Walton, 2004).

Concerning heritage, scholars define it as an image of the life of a certain social community that has arisen as a result of many historical turbulences. As such, it is a subject of the study of many scientific disciplines (Kuščević, 2015). Cultural heritage is also the totality of the value of a certain milieu that is consisted of material goods that have cultural, scientific and historical significance, as well as the non-material forms of man's creativity in the past. Obviously, cultural heritage includes the totality of man's creativity, which has been awarded memorial characteristics afterwards and is therefore being protected and preserved (Antolović, 2009).

Due to the width of understanding of the cultural heritage, there is a need for appreciation of specificity and different protection of certain aspects of cultural heritage. Because of that, in terms of the international legal protection of cultural heritage, it is a subject of the national as well as multilateral international treaties, primarily adopted under the auspices of UNESCO (Šošić, 2014).

Thus, the appearance of cultural heritage i.e. its individual parts, represent individually protected cultural goods. According to the Law on Protection and Conservation of Cultural Goods, cultural goods in the Republic of Croatia are (Zakon o zaštiti i očuvanju kulturnih dobara, 2018):

- movable and immovable objects of artistic, historical, paleontological, archaeological, anthropological and scientific significance,

- archaeological sites and archeological zones, landscapes and their parts that testify the human presence in certain area, and in the same time have an artistic, historical and anthropological value,
- he non-material forms and phenomena of man's spiritual creativity in the past as well as the documentation and bibliographical heritage,
- buildings or areas where cultural goods and documentation are permanently preserved or exhibited.

The importance of cultural heritage can be argued by the fact that each country defines a regulatory framework whose task is to preserve and promote cultural heritage as well as cultural activities. A part of every public policy that concerns culture and encompasses issues of cultural heritage and contemporary artistic creativity is called cultural policy.

2. Theoretical framework

2.1. Culture policy

In order to define cultural policy, it is necessary to state that there are three types of definitions. That fact itself demonstrates the difficulties that arise when attempting to uniquely define so complex field.

The first type of definitions is a broad approach saying: "Cultural policy represents the totality of conscious and deliberate actions or the absence of these actions, aimed at meeting certain cultural needs by optimizing the use of all potentials, available at a certain moment within a certain community“ (UNESCO, 1967, 76).

This UNESCO's definition of cultural policy has been set widely. In recent times the trend is to narrow the definition of the concept because of the two main reasons. Namely, the essential feature of cultural policy is seen in one of its tasks - to determine what are cultural needs, more specifically desired volume and quality of those needs. In addition to that, cultural policy needs to be correlated to cultural life. Almost every cultural policy leaves the issue of cultural needs open because it is otherwise exposed to a double risk (Dragojević, 2006):

- to put on an excessively rigid understanding of taste, desire and behavior of the population related to cultural activities,
- to levy too precise definition of cultural goals that can not be fulfilled without a significant reduction of both cultures flexibility and dynamics.

The second type of cultural policy definitions is technocratic, the one whose focus is on the institutional and administrative dimension of cultural policy. From this point of view, cultural policy implies an organizational and technical role within the cultural life of a society or community, while the area of establishment and definition of cultural goals, priorities and overall cultural strategy is being left behind (Dragojević, 2006). Such a stand on cultural policy assigns the priority to procedural aspects.

Cultural policy is an activity aimed at defining cultural subjects and cultural objects within the process of their institutionalization (Car, 1991). In the context of this administrative approach to cultural policy, it is focused on basic resources and instruments, i.e. on planning, regulatory framework and funding. Cultural policy is viewed as set of measures that are planned and implemented by the state, for the purpose of shaping the cultural life of society. It is the public policy that regulates cultural activities and cultural reality through laws, procedures and strategies (Bestvina Bukvić et al., 2015).

The third type of cultural policy definitions is operative, meaning that those definitions precisely state the areas constituting the cultural policy, determining its volume, the type of activities and the level at which they are realized. They determine cultural policy as a planned and organized activity of a relatively homogenous community, with intention to (Dragojević, 2006):

- protect already existing cultural goods and values,
- encourage and support cultural creativity,
- develop the cultural life of the groups it is intended for.

Cultural policy is sometimes identified with the meaning of terms *power* and *management*. The reason for that is in the fact that cultural policy encompasses activities that direct behavior of others in accordance with own goals. As such, it bears a legal power and is a part of government activities that manage a certain part of the social system. Part related to public's interest in culture and associated responsibility of the state.

Regardless of the definition type, cultural policy has its implicit and explicit meaning (Dragojević, 2006). Implicit cultural policy refers to all actions of the state that unintentionally affect certain area of cultural life. Such influences can be positive or negative. The explicit cultural policy is a more relevant aspect. From that aspect, cultural policy consists of intentional and even systematic interventions by the state in the field of culture. It aims to direct particular segments of cultural policy toward desired goals.

Contemporary cultural policy involves conscious regulation of public interest, and includes deciding on all issues related to the cultural development of a society. Despite different definitions of cultural policy, three main tasks are in line with all above mentioned approaches (Dragićević Šešić, Stojković, 2013):

- preservation of cultural heritage and cultural identity,
- development of contemporary art creativity,
- encouraging the availability of cultural goods and participation of the population in cultural life.

Given the complexity of cultural policy tasks, there are different liability holders. The state has a key function in defining cultural policy, but it is in fact a coordinator because contemporary cultural policy must arise as a product of dialogue between different stakeholders who should undertake the responsibility for the development of different parts of cultural life. Considering cultural policy as a whole, it must balance between public and private stakeholders' interests, and the state's role is to reconcile those interests and influences.

When discussing the relationship between the state and the culture, it should be considered who is managing public policy in the field of culture. In Republic of Croatia, the Ministry of Culture defines and implements national cultural policy. In addition to that, cultural policy is partially conducted through other public policies such as education, health, media policy etc. The Ministry of Culture coordinates all activities of public authorities in the field of culture at the national level.

It is important to emphasize that cultural policies of the Member States, including Croatia, are considered to be complement to the European Union's actions in the area of contemporary culture creativity, preservation of European cultural heritage, as well as cooperation between cultural institutions.

The last but not the least, it should be emphasized that, in the world of policy, culture is increasingly being viewed as a commonplace, malleable fact of life that matters as much as economics or politics to the process of development. But there remains the confusion about how it matters (Rao, Walton). This knowledge gap, together with appreciation of local specificities, attracts the recent academic interest and is the spur of additional research.

The notion that creativity is a limitless resource is central to the current popularity of creativity-led development and strategies. The proliferation of designated creative places in recent years is testimony to policy practitioners' (and politicians') belief that almost regardless of local conditions they too can mobilize creativity to transform their economies and communities (Foord, 2009).

It is also the background of this study's main research question: what are the characteristics of local cultural policy in the city of Osijek and how does it influence cultural activities and cultural development of the city. The research question is additionally appealing if considered that it has been investigated on the case of Osijek, which can, unfortunatelly, be described as once-declining urban and former industrial district. And a recent academic study provides evidence that expansion of the cultural development is mostly present in exactly such cities and regions, where it has been recognized as important in economic, social, sectoral and spatial terms (Evans, 2009).

2.2. Cultural policy models

Since there are certain similarities between the cultural policies of different countries, it is possible to formulate a number of cultural policy models. The model is an abstract concept that in reality does not exist in its pure form, but appropriately describes the essential features and the way in which certain phenomenon, in this case the real cultural policy of a particular country, functions (Dragićević Šešić, Stojković, 2013). Thus, the model serves to demonstrate the functioning of the system, at the level of its theoretical assumptions.

The modular approach enables observing the significant characteristics of many cultural systems in different societies thus facilitating the hypothetical investigation of the way they function. There are several basic cultural policy models that are derived from the observed similarities in the cultural policy of many countries at diverse levels of economic development as well as of different political systems and cultural traditions (Dragićević Šešić, Stojković, 2013).

Hereinafter, models of cultural policy shall be explained in brief:

- a liberal model of cultural policy, in which the state is merely the facilitator, is marked by the state's neutrality in the field of culture. In such a model the state advocates the private ownership of the means of creating and spreading cultural goods. The state does not influence the development of culture, because autonomy of the culture is the ultimate goal and must not be jeopardized at any circumstances (Dragićević Šešić, Stojković, 2013).
- a parastatal model of cultural policy, in which the state is the patron, is the model in which the government or the ministry of culture passes its responsibility to a professional body in the field of culture. That body is a sort of the art council. It is

appointed by the governement but in the same time it has the complete autonomy of decision-making, since the government does not manage it (Dragićević Šešić, Stojković, 2013).

- a bureaucratic, Enlightment model of cultural policy, in which the state is considered an engineer due to its dominance. The main characteristic of this model is the state's total control of the culture as well as of other fields of social life, through its juridical, political and ideological apparatus. Although this model is typical for the totalitarian regimes, it is also a part of the socialist heritage in which the cultural sector acquires, among other, the function of social or ideological service, while artists and people of culture become professional service providers in the same or similar way as lawyers or doctors. All of them, in fact, serve the society (Dragojević, 2006). This model is still prevailing in the most transition countries, including Croatia.
- a national - emancipatory model of cultural policy is the model in which cultural policy is ethnically defined, in terms of confirming the autochthonous cultural tradition. This is often achieved through isolating i.e. supporting nationalism in the culture. Without exception, the works of art produced in previous eras are neglected, minority cultures are ignored and alternative expressions are suppressed (Dragićević Šešić, Stojković, 2013). This model is also encountered in newly established Eastern European and Central Asian countries (Đukić, 2010). Croatia was not immune to it, too, especially in the period immediately after the Homeland War.
- regionally / linguistically / ethnically defined cultural policy models are the models that emphasize the preservation of national language, the preservation of cultural heritage and the establishment of conservative policies.

2.3. Cultural policy principles

Regardless of the applied cultural policy model, the internal definition of cultural policy implies appreciating some of the basic principles (Đukić, 2010):

- the principle of continuity or traceability,
- self-determination principle,
- the principle of selectivity.

The principle of continuity is extremely important for culture policy due to the cumulative character of cultural creativity. However, it needs to be distinguished from traditionalism and conservatism in terms of preserving the past and the present at any cost (Mitrović, 1988). This principle implies the accruing character of culture and its activities, while supporting the creation of new cultural values and forms (Dragojević, 2006).

The principle of self-determination implies that cultural policy should respect the autonomous motivation and initiative of those subjects or objects to whom it is related to. It is the game of "moving" objects of cultural policy to subjects and vice versa and as such it manifests its democratic character. If this "move" does not occur i.e. if there is a rigid distinction of cultural subjects on one side and cultural objects on the other, then cultural policy manifests as a manipulation of powerful cultural policy subjects over its helpless objects (Dragojević, 2006). Thus, this principle is about a certain degree of autonomous motivation of all those who are the object of cultural policy.

Regarding the principle of selectivity, it should be noted that it is present in any policy, eg economic, developmental, information, etc., because each of these policies considers a number of options available in terms of goals, plans and instruments. When it comes to cultural policy, the principle's specificity is reflected in the fact that it must enable diverse choices at all stages of defining, formulating and implementing cultural policy (Dragojević, 2006). This means that it involves deciding on the goals of cultural policy, the choice of funding, the selection of cultural content as well as the phase of realization (Mitrović, 1988).

In their entirety, presented principles form cultural policy, whose historic process of evolution must be stressed, too. It was not before the early 1980s that rising awareness of a connection between aspects of the urban cultural environment and local economic development began to make its appearance. Practical achievements in the domain of place marketing and the exploitation of heritage for economic gains started to be assumed. But today, the second-generation cultural policy evolves, whose vision is directed less to the selling of places in the narrow sense than to the physical export of local cultural products to markets all over the world (Scott, 2004).

3. Methodology and methods applied

The first part of the paper presents the theoretical framework of the scope and the significance of cultural policies. Such a framework forms the basis for the empirical part of the work, in which the role of applied cultural policy is analyzed in the case of the cultural development strategy of the city of Osijek.

The theoretical framework has been a result of the relevant literature research. By using scientific methods of analysis and synthesis as well as induction and deduction, a systematic representation of the current understanding of the cultural policy concept and its models and principles has been done. Conffered existing cognitions also enlighten the research question of the study presented in this paper.

The gathered insights have been the starting point for the in depth interview conducted within the Department of Culture, Sector of Social Affairs, the City of Osijek. The non-structured interview has been consisted of open type questions. There are four employees within the Department – a head of the Department and three counselors. The head coordinates all of their activities, and each of the counselors is involved with different aspects of desing and implementation of the cultural policy in the City: artistic, organizational and financial. Although their individual lenght of service within the Department differs, they have been working within the Department for several years so their knowledge and expirience is suitable for the research. In order to comprehend all aspects of cultural policy and its influence, authors of this paper interviewed all of the Department's employees. The interviews have been conducted individually and separatelly, so that freedom of speech and objectivity would be asured.

The Department is the main cultural policy stakeholder at the analysed level and therefore considered the relevant focus group. Remaining of the paper presents the obtained results, which point to the specificities of cultural policy applied in the City of Osijek and its impact on the City's Cultural Development Strategy.

4. Strategic approach to managing culture and cultural heritage in the City of Osijek

The Cultural Heritage Management Directorate of the Ministry of Culture - Conservation Department in Osijek, performs the activities of protection and preservation of cultural goods in the city of Osijek, in accordance with the Act on the Protection and Conservation of Cultural Property as well as other applicable legal regulations and international charters. For this purpose, the Department issues and prescribes a set of protection measures for the movable, non-movable and non-material cultural heritage. It also monitors the measures' implementation, participates in the preparation of the Cultural Heritage Register of the Republic of Croatia, carries out inspections of the cultural heritage status, prepares and collects documentation, assists the owners of cultural assets, and cooperates with ministries, local government units and other cultural institutions (Strategija kulturnog razvitka grada Osijeka, 2014).

Cultural Heritage Register, among other entries, lists the cultural-historical part of the city of Osijek as a protected cultural non-movable heritage. The Register states that this cultural and historical part of the City of Osijek has existed for almost two thousand years continuously, during which it rearranged its layout: Roman Mursa was located in the area of todays Down Town. Medieval Osijek was formed at a completely new location, one kilometer westward, where also Turkish Osijek continued to exist. And post-Otoman Osijek has been developing to this day both in the areas of ancient, medieval and Turkish city, as well as in new, previously uninhabited areas (Ministarstvo kulture).

Such a rich cultural heritage imposes a great responsibility onto the contemporary management of cultural heritage and cultural activities. For this purpose several important development documents have been developed:

- Development Strategy of the City of Osijek 2014.-2020.,
- Strategy of Cultural Development of the City of Osijek 2014.-2020.,
- Strategic and Action Plan for Renovation of Tvrđa in Osijek 2014.-2020.
- Strategic Management Plan for the Cultural and Historical Heritage of the City of Osijek 2016-2020

Strategy of Cultural Development of the City of Osijek 2014.-2020. implies that the ultimate value should be the transformation of the culture into a priority and a more emphasized content of modern, urban everyday living rather than culture considered a formal ornament that would provisionally and periodically encourage the simulation of the image of cultural richness and diversity (Strategija kulturnog razvitka grada Osijeka, 2014).
Strategic goals arising from such an attitude, defined by this document are the promotion of Osijek as a vibrant center, an open and advanced city, supporting creativity and innovation development as well as ensuring cross-sectoral cooperation. Through an in depth interview conducted in the City Council, it has been established that these goals are pursued through a cultural policy that promotes the following activities (Strategija kulturnog razvitka grada Osijeka, 2014):

- to increase the openness of institutions towards citizens and visitors as well as to increment the participation of cultural institutions in education process of children and the young, in order to raise the cultural awareness,
- to strengthen the relationship among institutions of cultural and artistic education with other institutions and associations in the field of culture,
- to coordinate cultural events, and possibly to interrelate them,

- to raise the awareness level of citizens about the value of the immovable cultural heritage of the City, and to implement the touristic valorization of cultural goods and monuments as of cultural and touristic potentials of cultural heritage,
- to clearly connect the culture with tourism,
- to encourage the development of creative industries in the City of Osijek.

Further more, the Strategy for Cultural Development of the City of Osijek 2014-2020 states (2014) that the cultural heritage in the Osijek area has not been sufficiently restored, indicating that this should be changed and its potentials should be utilized through existing funding opportunities from the EU funds (Strategija kulturnog razvitka grada Osijeka, 2014).
For the purpose of sustainable use of cultural heritage, in the City of Osijek there are currently several EU projects related to cultural heritage:

- Subotica Osijek Secession Tourist Route , S.O.S.,
- Old Bakery Educational and Informative Tourist Center for the Young together with Vatroslav Lisinski Square in Tvrđa,
- Preparation of the Restoration and Management Program of the Cultural Assets of Osijek Tvrđa,
- Development and improvement of Osijek Tvrđa,
- Osijek Tvrđa Visitors Center,
- REDISCOVER.

Following the Strategy of Cultural Development of the City of Osijek, the Strategic Plan for Management of Cultural and Historical Heritage of the City of Osijek 2016-2020 serves as a planning framework for systematic and co-ordinated implementation of the cultural development and management of the cultural and historical heritage of the city of Osijek. Particular importance within this document is given to the interaction of cultural and historical heritage with other areas - education, tourism, entrepreneurship, spatial planning and urban planning, communal economy, etc. Special emphasis has been put to continuity of the future sustainable use of cultural resources in order to preserve all the values the City of Osijek possesses (Strateški plan upravljanja kulturno – povijesnom baštinom 2016. – 2020., 2016).

Strategic Plan for the Management of the Cultural and Historical Heritage of the City of Osijek, 2016-2020 positiones the City as one of the main cultural and creative centers of the region. The vision of Osijek is adduced as follows: The City of Osijek is a creative and smart European city whose development, along with the synergy of public and private sector, is based on sustainable use and contemporary interpretation of cultural heritage as a determinant of preserving the city's identity, its cultural development as well as the overall sustainable development (Strateški plan upravljanja kulturno – povijesnom baštinom 2016. – 2020., 2016)

Five strategic goals of the City of Osijek have been identified in that document (2016), too:

- to renovate and revitalize historic buildings / historical complexes in order to develop creative economy and cultural tourism,
- to construct a new, physical infrastructure for the development of cultural economy in the City of Osijek,
- to develop educational infrastructure for cultural and creative activities,
- to develop a "smart infrastructure" based on the "Smart City" paradigm,
- to creatively transform the City of Osijek.

Mentioned strategic documents represent a framework for defining and implementing cultural policy in the City of Osijek. The results of the in-depth interview show that the role of the cultural policy in the City of Osijek is to provide a scheme for the development of the cultural scene in both the public and the private sector, with special emphasis on cultural and creative industries, which are considered the potential for simultaneous cultural and economic development. Cultural policy of the City of Osijek also provides a foundation for the protection and promotion of the cultural heritage of the City as an indispensable part of its identity. The basic task of the cultural policy as such is to provide preconditions for the cultural development of the City through legal and financial measures, including both direct and indirect incentives.

The City's cultural policy is to the great extent determined by the national policy, legally and financially. However, a detailed translation of the local cultural policy is prescribed by the Mayor and the City Council, whose aim is the urban development through the cultural development of the City. Sector of Social Affaires of the City of Osijek, Department of Culture is responsible for the implementation of so defined cultural policy of the City. The implementation of cultural policy primarily concernes the financing and coordination of cultural programs and projects of the City of Osijek.
The application of the City of Osijek for the title of the European Capital of Culture 2020 has led to an increase in cultural dynamics and stronger emphasis on the importance of cultural policy in the City. Cultural Council has been established in order to direct cultural processes and Culture Committee has been founded as the Mayor's advisory body in the area of cultural policy.

The Cultural Council of the City of Osijek evaluates the quality of applied programs of cultural institutions and associations. The criteria of evaluation is determined as part of the Program of public cultural needs and the amount of particular projects' financing depends on the evaluation.

The Program of public cultural needs serves for providing the support for quality programs in accordance with the City’s financial capabilities. It also grants logistical and technical support to organizations and associations in culture that have insufficient staff resources for effective organization of the projects. Some of the main criteria for evaluation of project proposals are content quality, program innovativeness, creativity, cost-effectiveness and viability.

Analysis of financial grants for cultural projects over the past period has shown that the most financial resources (over 90%) have been allocated to cultural institutions (Croatian National Theatre, Children's Theater, Museum of Fine Arts, Slavonia Museum, State Archives etc.), and some cultural events that are of special interest to the City of Osijek (Biennale Osijek). For cultural projects proposed by the association there are very limited financial resources.

The central cognition generated through the empirical part of the research presented in this paper is that the dominant feature of the current cultural policy in the City of Osijek is to introduce and intensify a whole series of changes regarding the way of managing the cultural and historical heritage of the City. The Strategic Plan presented should soon be translated into the document titled the Strategic Guidelines for Cultural Heritage Management of the City of Osijek, whose purpose is to properly identify protected cultural assets and to determine the sustainable use of cultural resources as well as the responsible management of the historic heritage of the City. In the next phase, this document will serve as the basis for creating an Action Plan for the period 2021 - 2027, which will define the projects, their goals, sources of funding, investment amounts and planned deadlines for the implementation of projects in culture.

5. Conclusion

The concept of culture can be viewed and interpreted from different aspects. Some authors perceive culture as a social legacy, others as learned behavior. Regardless of the approach, in terms of its implementation, the culture is based on cultural policy. Cultural policy as a planned and organized activity of a relatively homogenous community aims to protect already existing cultural goods and values, to encourage and support cultural creativity and to develop the cultural life of the community for which it is intended.

Different countries apply different cultural policy models, but the role of state bodies in defining a specific model is always crucial, as it ensures a balance between private and public interests. In the Republic of Croatia, the Ministry of Culture is responsible for managing and administering cultural activities. The Ministry of Culture proposes the laws and procedures in the area of culture, that become valid after confirmation by the Parliament of the Republic of Croatia. Application of those laws and procedures determines local cultural policies, that are defined and implemented by the units of local government, identifying their own strategic goals and priorities.

The in depth interviews with representatives of the City of Osijek as the main holder of the local cultural policy, has determined that cultural policy is the key origin of the City's strategic documents in the area of culture and as such directly determines the cultural development of the City. The strategic goals and priorities have been identified by analysis of strategic documents of the City of Osijek, primarily the Osijek Cultural Development Strategy 2014-2020. and the Strategic Plan for the Management of the Cultural and Historical Heritage of the City of Osijek 2016-2020. In that way, the first part of the research question, regarding the characteristics of the local cultural policy in the City of Osijek, has been answered.

Additionally, the paper highlights that the purpose of City's Program of public cultural needs is to implement its cultural policy, sustainable use of its cultural heritage and promotion of contemporary cultural creativity. Furthermore, it identifies the main activities through which the Strategy is being carried out by the local government body:

- designing the Program of public cultural needs,
- ensuring all necessary material resources,
- promoting private participation in culture activities financing and realization
- supporting international cooperation

also the rest of the starting reserach question, i.e. how the local cultural policy influences cultural activities and cultural development of the city, has been answered.

It can be concluded that the findings concerning specific situation in the City of Osijek are in compliance results that can be found in scientific sources, stating that how policies are implemented is as important as the design (Rao, Walton, 2004). It is even more important to emphasize that the local government is successful in fostering development of culture in the City of Osijek. Not only because planned activities gain results but primarily because its goals and priorities show that democracy of cultural processes is being appreciated and ensured. Culture is concerned with identity, aspiration and symbolic exchange that serve relational ends, such as ethnicity, ritual, heritage, norms, meanings, and beliefs. Therefore democracy in culture implies that not only mainstream but also all kind of minority groups need to be involved. And in Osijek they are.

However, improvement is always possible. In the case of Osijek, we have proven that achieved cultural development concerns artistic, social and even politicals aspects. However, we haven't found any proof of significant economic prosperity supported by cultural development. Therefore it remains as a recommendation for future.

In the end, it should be said that by focusing primarily on the City's role in cultural policy, this study remains one-dimensional. Thus, further research should study other influences significant for local cultural policy, above all Osijek-baranja county public policy and activities as well as national and EU obliging determinants of local cultural policy and cultural development. Additionally, it would be of interest to search for suggestions that would foster economic impact of local cultural projects.

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PRESENTATION OF CULTURAL HERITAGE IN LIBRARIES TO TOURISTS

ABSTRACT

The aim of this paper is to identify and describe the methods of presenting library resources of cultural heritage with respect to the type of resources, types of targeted audience, use of modern technology etc., and to deepen and broaden the knowledge of them. Cultural tourism successfully links cultural identity of the destination to the local economy. In this way, the cultural heritage of the community is promoted to both domicile and foreign visitors in the destination. So far, libraries are not involved in tourism as attractions. However, a range of cultural heritage stored in libraries also offer a significant opportunity to diversify the local tourism offer of a destination. In order for these library resources to be optimally used for tourist purposes, it is necessary to present them to the targeted public in an appropriate manner. Therefore, qualitative approach is applied to investigate the cultural heritage in libraries as a driver for tourism offer diversification in the destination. In the paper, the following methods of presentation of cultural heritage resources are identified and described: tourist tours, digital 3D tours, exhibitions, virtual 3D exhibitions, performances, concerts, public forums, live streaming on social networks, talk shows, workshops, content digitization, publishing of printed publications, digital publishing, etc. The practical implications of such research are multiple and primarily concern the creation of a set of tools for presenting the library's cultural heritage as a tourism-attractive product for the purpose of enriching the cultural offer of the destination.

Key words: *Cultural heritage, Libraries, Tourism, Croatia*

1. Introduction

Cultural tourism successfully links the cultural identity of some destination with the local economy. In this way, the cultural heritage of some community is prominently promoted to both domestic and foreign visitors. On the one hand, tourism needs local culture, or at least the image of it (Reiser, 2003), and on the other hand, it is the cultural identity of a place that 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 its nature a destructive industry [not intentionally], cultural identity is at risk (Cunliffe, 2004), it should be protected and preserved. Libraries as places of preservation of literary heritage appear both as bearers of cultural identity and as places of its formation.

Until recently, libraries have not been suficiently involved in tourism as attractions. However, cultural heritage stored in libraries offers a significant opportunity to diversify the local cultural tourism offer of a destination. In order to optimize the usage of libraries' cultural resources for tourism purposes, it is necessary to present them to target market segments in an appropriate manner. Following that, the aim of this paper is to identify and describe the methods of presenting library resources of cultural heritage with regard to the type of resources, the types of targeted audiences and the use of modern technology, and to deepen and broaden knowledge of them.

2. Methodological framework

The paper continues the research of cultural heritage in libraries in eastern Croatia as a driver of the diversification of the tourist offer of cultural tourism in the destination (Tokić and Tokić, 2017). On that occasion, library resources were explored in five counties: Vukovar-Srijem, Osijek-Baranja, Brod-Posavina, Požega-Slavonia and Virovitica-Podravina County. The study included 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. Authors conducted desk research on a sample of 46 libraries of which 32 were public libraries, 7 monastery, 3 museum, 2 memorial and 2 faculty libraries to define and to map their resources with tourism potential.

However, as evidenced by the practice in libraries, the existence of heritage resources is by itself not sufficient for successful inclusion of libraries in cultural tourism. These resources should be presented in a way that will be acceptable and interesting to visitors. With that in mind, in this research a descriptive research method was applied with the purpose of describing, deepening and expanding knowledge of the contemporary communication channels in sharing information and promoting library activities. The results obtained could be successfully applied not only to libraries in the eastern Croatia but also to other parts of Croatia, and beyond.

3. Library resources with tourism potentials

The role of tourism libraries is not recognized in Croatian official documents. Moreover, it is explicitly stated that "libraries and archives are not a priority cultural resource in attracting the international tourism market because they are mainly focused on national heritage that is presented in the national language" (Institute for Tourism, 2003)

Libraries participate in tourism through information, education and cultural functions, and the tourism industry may occasionally recognize them as attractions. As the center of cultural life in the local community, library in tourism becomes a place of intercultural interaction between visitors and the local population.

Resources are natural or anthropogenic goods that can be economically exploited (valorisated) (Vukonić and Čavlek, 2001). In general, there are environmental and cultural resources as the objects from which attractions arise. Jafari (2000) differs human, cultural and natural resources, assuming that each of them has it's instrumental and monetary value in economic development. Vukonić and Čavlek (2001) differentiate tourism resources according to their genetic origin to natural and anthropogenic resources. According to this division, natural resources are climatic, geomorphological, hydrographic, biogeographic and landscape, and anthropogenic are cultural-historical, ethno-social, manifestational, artistic and ambivalent. Cultural and historical tourism resources are all preserved remains of the past civilizations such as monuments, buildings, urban landscapes, artistic performances that tourists visit. From the aspect of these divisions, libraries contain anthropogenic, that is, cultural-historical tourism resources.

However, the resource (place, object, or event) is not an attraction by itself. It can become an attraction only if there is a wider tourist system that will design it and raise to the level of a tourist attraction. Almost all (material and immaterial objects) can be raised to the level of attraction through advertisment and narrative creation. The system that creates and supports the attraction must have three main components: an object or event located in a site, a tourist or a consumer (user), and a marker, or an image that tells the tourist that the object or event is interesting.

Libraries testify about the cultural heritage of their place and community, allow access to artworks, promote awareness of the cultural identity of the community and introduce the local community with global cultural achievements.

Library resources with tourism potential are as follows:
a) library collections
- book collections and other type of collections (indigenous, old books, manuscripts, notes ... other contents)
- established as a tourist attraction
- which has the potential to become an attraction

b) library buildings with their values:
- historical value
- architectural value
- a part of cultural heritage

c) other contents
- space and event organization
- cultural programs
- concerts
- exhibitions
- educational programs
- a publishing activity
- digitized content and web pages
- souvenirs
- services, etc.

Tourist attractions can be created from any library resource that could attract the interest of tourists, that is, library resources which are significant from the artistic, historical, cultural, anthropological, scientific or some other aspect, or, which by themselves have an artistic, historical or anthropological value.

4. Presentation of library tourism attractions

In order for the resource to evolve into a tourist attraction of cultural tourism it is necessary to adapt its physical attributes such as availability, working hours, additional contents, etc., and its content, such as presentation of resources in an attractive way, formation of experiences, design of narratives and story which are interesting to tourists that is related to a particular feature and which turns it into a tourist attraction (Perić and Smolčić Jurdana, 2008). "The tourist story should touch people's emotions, intrigue them, attract their attention and attract their curiosity. Stories should capture and captivate imagination, enable an unforgettable experience, or simply leave a striking and lasting emotional trace. A very good story will be remembered and reiterated by tourists, and we know that the best marketing has always been and will always be word of mouth" (Rihelj, 2015).

A good story helps to avoid the possible initial repulsion of tourists that can come as a reaction to the marketing channels of tourism communication, and without big persuasion, to achieve the desired goal… which is that the tourist is aware that he has learned something new and useful, that he did not blindly followed the advertising message, but that the information he got would be useful! People do not want to buy from corporations but from people (Turizmologija, 2017). The story gives visitors the opportunity to identify with the offered product. In this regard, it should be noted that the truth is more striking than fiction! That is, in order to reach emotions, it is certainly not enough to provide just mere information or a simple transaction "to buy or sell". This requires a lot more - a story that, besides being a good story, is also true. The facts are boring to many, but the stories are exciting, interesting and personal to everyone, thus users can identify with them which is their greatest strength. Telling good stories to tourists influences the creation of an emotional connection with the brand or product.

In general, in a holistic-designed campaign, the story is a part of the Storytelling marketing method as a way of fully and consistently focusing on a storyline of the brand, through all possible channels of communication, such as business cards and employee uniforms, to selecting CSR engagement and advertising material. However, when promoting a product, it is necessary to find the right measure because invasive forms of advertising in intense campaigns can irritate users who will then avoid overlapping advertisements on a video and ignore the banner that sends them a certain message.

Companies and experts who realized that traditional aspect of storytelling can not be applied to "new" media tend to strive to achieve a higher level of interactivity, that is, to involve users in their communication. So, the story of the brand or product that was previously a monologue today becomes a dialogue. Basically, the purpose of a good story in the business is to influence others, build trust and empathy and make relations strong. Regardless to the source of the story, the story must be honest. If you believe to your story, it is very likely that the person who is listening to you will believe in it as well (Brkić, 2015).

Libraries can create stories about the libraries themselves, or about their particular resources. The story may be related to the history of the institution, to persons who have established it, to famous people who worked there, to the particular reasons for its establishment and for the collection of a certain type of library material, to the significant historical events or to its impact on the local community, etc. If there are no links to major historical figures or events, stories can be related to authentic local people, their personal experiences, or the destiny of a social group, and their connection with the library. Stories can be linked to interesting resources such as rare books, books with a particularly interesting destiny, historically significant books, aesthetically beautiful books or books interesting in some other way (size, material, purpose, specific illustrations etc), to postcards that reveal the historical development of the local community and milieu, maps, posters, gifts of users from their trips, the personal legacy of famous writers that donated to a library, a building with its historical or architectural significance and about local oral tradition and similar. It would be a good idea to bring the story closer to visitors by linking it with their present situation and experiences.

An example of a successful local cultural and historical library story could be the systematic presentation of the Library of the Franciscan Monastery in Vukovar as a tourist attraction. There are numerous components that could be used to create stories that would be interesting to tourists. The library stores a whole range of historical, artistic, scientific book collections on theology, theater, music, philosophy, linguistics, grammar, history, literature and ethics. There are also numerous incunabula, to list just *St. Bonaventura, Questiones in IV. libros Sententiarum Petri, Lombardi* from 1491, a collection of old and rare books, consisting of 343 books from the 17th to the 19th century, in Croatian, Latin, German, Italian and Hungarian, written in Gothic and Latin. There are the works of Caesar, Cicero, Ovid, Faventius, Tom Kempen, Bartol Kašić and others, but also literary legacy of several respectable contemporary Croatian authors including prof. Vinko Nikolic. During the 1991 Homeland War, books in the library had shared the suffering of the inhabitants of Vukovar. Occupying soldiers fired at them with bullets and spears, just for fun, and the scars are still visible today. After the fall of Vukovar in 1991, the entire library, together with the inhabitants of Vukovar, has been exiled and its 6,000 rare and old books were successfully preserved in the Franciscan monastery in Zemun in Serbia, from where they were returned to Vukovar in 2004. As we can read from these components, stories from this library can be linked to both old and recent historic events, famous historic figures, highlight the cultural importance of library collections, present books and their esthetic aspects as well as tell the interesting history of "wounded books" and bring personal testimonies of people who rescued them in the war. And in a way, the post-war reconstruction of the monastery and its library also witnesses the determination of the local community to withstand the heaviest war crimes and keeping its history turned to the future.

In order to create and present a good narrative, i.e. a story about a particular library resource, the following steps are needed (Podoljak, 2017):

• to provide enough time for preparation;
• to connect the story to the visitors;
• the story should be presented, not just told;
• story telling should be learned;
• to provide an opportunity for guests to identify with the story;
• story tellers should be well trained in public performance;
• share your story.

Conventional channels of presenting library attractions and related stories that are commonly used in libraries are: ***sightseeing tours, exhibitions, flyers and posters, performances, concerts, public forums, talk shows, workshops, publishing of printed publications, digitization of contents, bookshop-based souvenir making, linking and aligning library heritage presentations with museums and other heritage institutions,*** etc..

It is about more or less well-established and well-known channels of heritage presentation to visitors of the libraries. During the sightseeing tours of the library, communication with visitors takes place orally, while the elements of preserved heritage are showed in the phisical space.

Occasionally, visitors will be allowed to come closer and explore the exposed objects, and then, besides the oral and visual, they receive tactile information about the exposed resources. In public forums or promotions, as well as in storytelling, oral communication usually prevails. The oral and physical expression of the performer is present in concerts and performances held in the library, while the visual display of heritage prevails in conventional exhibitions, promotional flyers and posters. Today's standard digitization of library content also enables a multimedia display of heritage, although it is somehow the most common to present heritage in visual aspects such as image, postcard, photo, script and manuscript accompanying text. Less conventional communication channels in the library are listed described in the Table 1.

Table 1: *Less conventional communication types and channels for library heritage promotion*

communication type and channel	**description**
Specific architectural solutions for exhibiting heritage resources	An attractive library building or some of its more attractive parts specially adapted for exhibition purposes will in itself improve the physical and multimedia presentations of heritage. In such special exhibition areas, special lighting is often used, as well as visually appealing ways of presenting the artefacts to highlight the attractions and inspire a striking impression in the minds of visitors.
Innovative use of souvenirs	Many well-known libraries make souvenirs with heritage motifs from the library fund as well as replicas of original library resources such as posters, postcards, sculptures, decorative objects, etc. Innovative use of simmilar souvenirs, with interesting and funny messages or imaginative displays of heritage and its connection to modern life can reach a much wider circle of visitors and their acquaintances than regular souvenirs.
Digital 3D tours and virtual 3D exhibitions and animations	Today's rather common showcases for museums, galleries and sometimes famous historical libraries can be easily used for other types of libraries. If they are successful, they can attract users, offer concise and fast information transmission through video presentations and familiarize users with the most important attractions of the library, which in fact represents not only the presentation of attractions but more importantly - an invitation for a personal visit to the library.
Use of a drone for visual display	Air photography is particularly attractive in promotional presentation of buildings and the environments of libraries. Unlike other aircraft, drones allow a more detailed aerial view at a lower cost. Drone camera shots leave a specific impression charaterised by dynamic views, strangeness and the attractiveness of the displayed material. Also, it raises the interest of the user and visitors for such a look at the library or some of its resources.
Hologram display	Attractive multimedia presentation of individuals (and items) is particularly suitable for both memorial and national libraries as well as other libraries. If it has been successfully created, presented and placed in the context of the library and most often the work of a famous individual, visitors remain impressive and thrillfully recount what they experienced during the presentation.

communication type and channel	description
Mobile applications	Mobile applications for mobile devices such as iOS (iPhone and iPad) and Android operating systems show all tourists interesting information with audio multimedia guidance through the library and its resources and attractions. The information is categorized, displayed on the map and listed so it is easy to reach them with a simple and intuitive interface. Such applications can also be used to promote library attractions, based on library-specific multimedia applications
Detection game (eg treasure hunts)	The goal of the game is to get to know cultural and historical sights. Adapted to libraries and inspired by library resources, the game can successfully present library sights or achievements by an interesting author and familiarize players with the context in which author's works or to their connection to today's times. It can take place in a single library, multiple locations in the same library, or at the locations of multiple libraries included in the same library network. Game participants are divided into teams that get a library plan (or plans of several libraries) with labeled landmarks and envelopes with instructions on how to get to the marked locations. The instructions never describe the exact name of the monument the participant is looking for, but it is descriptive. The team must find the location descibed in the instructions and solve the on-site tasks, each task being scored according to a predetermined scoring system. All teams go through the same landmarks, but in a different order, and the team the completes all the tasks, reaches the goal and collects the highest points, wins
Quiz	Shorter and dynamic quizzes allow for fun-educational competition that helps to get acquainted with the cultural and historical sights of the library. Can be organized for different ages and types of visitors, with different topics that relate to library resources and the local destination
Prize games (eg tombola)	Could be organized for promotional purposes for different types of visitors. In addition to creating positive emotions towards the library, through symbolic awards related to the greatest library sights, they stimulate the interest of tourists for particular sights and their stories. In addition, upon the return of tourists to their homes these awards allow for further story-sharing of and from the library in the circles of their friends and acquaintances
Guerilla marketing	A marketing strategy of applying unconventional tactics and advertising methods to trigger "surprises or shocks from ambush" in order to achieve the proper emotion of members of a target group on the advertisement. Guerilla marketing allows the library to be emphasized in the mass of advertisements, to be different. For libraries, it is a great convenience that guerilla marketers do not have to invest large amounts of money in the advertisement of services or library attractions, but more importantly, they can achieve success by separating time, energy, and imagination in designing original and striking advertisements or promotional actions that will attract the attention of a large number of people.

communication type and channel	description
Lve streaming on social networks	Transferring events from a library to social networks (eg opening an exhibition, concerts, lectures, presenting books, etc.) better connections between members, communities, and libraries and provides the ability to spread positive information about the library and its activities across a wide circle of users and followers, even in public media.
Other activities on social networks	Mainly provides the opportunity to inform visitors about events in the library related to the presentation of heritage, but it can provide a brief, innovative and effective presentation of certain heritage elements that make library attractions, attracting interest from librarians and other visitors.

Source: Authors' research.

The above outlined communication channels relate both to high-tech technology and to reinvented traditional forms of oral communication adapted to present heritage in libraries in the interactive interpersonal relationship between presenters and visitors. It is important to note that each of these communication channels emphasizes some aspect of library heritage resources and stories related to those attractions. For the full success in presenting heritage in libraries, these presentation channels need to be combined and allowed to complement each other. This is especially important because of the rapid changes in technology and habits of tourists and users using this technology. Therefore, libraries need to adapt to communication channels that can provide an opportunity to increase visibility in the modernworld. Furthermore, the harmonized use of various communication channels is important in light of the fact that the development of technology also changes the character of collections in libraries (library resources). Instead of building collections according to the principle of possession of material materials, like in the past, many libraries are now increasingly managing data collections according to the principle of online access to digital material. This change can impose new constraints and negatively affect the way libraries present such digital materials because of the obligation of the library to pre-regulate the issue of copyrights.
However, for a successful presentation of heritage in libraries, which is crucial to increase its visibility in society and the realization of its mission, and the financing of its further work as a public institution, it is essential that the library first recognizes its target groups of users and visitors. They should be presented with heritage in a way that is appropriate and suitable for them to renew their interest in that heritage. This time, the library fulfills its mission by preserving heritage for future generations. Innovative use of technology in libraries significantly contributes to the presentation of heritage, which in many libraries is still a buried treasure more than a lively tradition.

In this sense, the library could, together with local tourist experts in companies as well as in tourist communities, select those library resources that have tourism potential and can serve to build an attractive tourist product that will complement the tourist offer of the local destination. Creating library souvenirs can be entrusted to local craftsmen, which will reinforce the story of the library resources in question. Tourism marketing experts should help develop stories related to those attractions and incorporate them into a complete local tourist offer. The advantage of this type of cultural tourist attractions is that they are not of seasonal character and that they position the entire destination from the aspect of cultural tourism. From the re-discovery of its own heritage and its contemporary presentation to foreign visitors, the whole local and wider community could benefit greatly.

5. Conclusion

Implications of the results of this research are multiple. They primarily concern the application of communication types and channels for library heritage promotion of the library's cultural heritage as a tourist-attractive product for the purpose of enriching the cultural offer of the destination. The paper shows that library resources can be valued as tourist attractions, while potential communication channels are being considered to promote and present library attractions.

Nevertheless, besides the activities of the librarians, the cooperation of tourist and marketing experts and local entrepreneurs is also essential. Libraries would have multiple benefits to show tourists their preserved heritage as they would increase their visibility in the community and reposition them from an institution that is only a cost to their community to an institution that contributes to local economic development. In this way, they would further build and promote the cultural identity of the community and strengthen the cultural aspect not only of the tourist offer but also of the self-awareness of the local community.

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MODEL OF ADAPTATION OF THE OPERATION OF THE FACULTY OF ECONOMICS IN OSIJEK TO THE DIGITAL AGE

ABSTRACT

The Faculty of Economics in Osijek has been operating since 1961 as a higher education institution. Faculty activities began in the peak period of the industrial age; as a consequence, the principles of operation tracing back to the industrial age have persisted in this institution, although we are now in the digital age, i.e. the knowledge age. It should be emphasized that the Faculty of Economics in Osijek had phases of change and significant growth, primarily manifested in the increase of physical space and the volume of employment of teaching and research staff. Furthermore, there were phases of partial adaptation to changes brought by the digital era such as increasing the capacity in terms of introducing several computer equipped classrooms, multimedia presentation systems in all classrooms, and the use of network systems for educational and scientific purposes. A notable step was the launch of the undergraduate and graduate Business Informatics programme. Nonetheless, all the above changes do not represent a satisfactory progression in terms of adapting the Faculty of Economics in Osijek to the modern digital era. When compared with other higher education institutions in the Republic of Croatia, especially in the domain of economic sciences, the Faculty of Economics does not seem to lag behind the other institutions. On the contrary, in the technological sense it is already among the leaders in the country, however, this is still insufficient. In order to assure its survival and growth, this institution will have to adapt to the digital age by making a series of radical breakthroughs. On this subject, it is necessary to investigate present circumstances, i.e. how far has the Faculty of Economics in Osijek adapted to the digital age and to consider what system changes should be made to achieve this goal. The aim of this research, therefore, is to define the conceptual descriptive model of adaptation of the operation of the Faculty of Economics in Osijek to the digital era. The model is a synthesis of results of many years of research conducted at the Faculty of Economics in Osijek through surveys and in-depth interviews, primarily of Business Informatics undergraduate and graduate students, carried out within the course Knowledge Management.

***Keywords**: Industrial Age, Digital Age, Knowledge Age, Faculty of Economics in Osijek, Higher Education*

1. Introduction

Although the 20th century witnessed unprecedented technological development, it has become evident that the scale and pace of changes caused by technical and technological advancement will continue to increase. Such conditions cause disruptions leading to changes in economic and social landscape and require rapid adaptation of all stakeholders to the changing environment. Even very traditional organisations, such as education institutions, have accepted the new reality and started the process of adapting to the modern era. The proposition that the success of a nation in the modern era depends on its ability to adapt to technical and technological changes is axiomatic. In other words, a key factor in a nation's success is the ability, i.e. the readiness of workers to quickly adapt to the changes brought about by technical and technological advancement.

The importance of information technology has been growing since its emergence in the mid-20th century. It has enabled the development of new media and new forms of communication, thus changing the way business is done in the modern era. It should be pointed out that this technology has incorporated into the physical world, an alternative virtual world in which a multitude of processes are taking place that, in terms of their characteristics, are analogous to real-world processes. Therefore, adapting to the new world, i.e. the modern era, entails adapting not only to the new technologies in the physical environment, but also accepting the new world and adapting of human resources to the work and existence in the parallel virtual world.

Education plays a key role in the process of adapting to the modern era. Although, for most of their life, people gain knowledge and skills through various forms of informal education, their formal education is key to shaping their identity and their ability to adapt to the requirements of the modern era. Formal education should be adapted to the ever-changing modern age, and change its role from being the primary provider of basic education to being a provider of lifelong education. Although these guidelines have been clearly set out in the framework of the Bologna Process, education institutions in Croatia, in particular higher education institutions, are still largely relics of the past and have a hard time accepting that their role is to be catalysts of social development by preparing their students for the changes of the modern era.

The Faculty of Economics in Osijek could also be considered a relic of the past in this context. Although some progress has been made, in particular in terms of technological equipment, the Faculty is still oriented towards mass production of human resources whose knowledge and skills meet labour market needs of the industrial era rather than the needs of the digital age, i.e. the knowledge age. Admittedly, the successive boards of the Faculty of Economics have taken some steps forward in terms of adapting the education process to reflect the changes brought about by the digital era, partly on their own initiative, and partly because of the institutional framework requirements. Nevertheless, the progress achieved is far from being satisfactory. This is mainly due to the rapid social changes and lack of well-established principles and flexibility without which it is almost impossible to adapt human resources to the contemporary labour market needs. Thus, for successful adaptation of the Faculty of Economics in Osijek to the modern era it is necessary to define the new the principles of operation of the Faculty, which should promote flexibility and rapid forward-looking transformation. This paper focuses on defining these principles.

2. Research methodology

The Faculty of Economics in Osijek is one of several education institutions whose development coincided with the peak of the industrial age. Although, ever since its establishment as a higher education and research institution in 1961 (Povijest, n.d.), the Faculty has been distinctive in terms of the high quality of education and research as well as the scale of research output, its survival is threatened by the modern-day paradigms. The reality is that many industrial companies have gone out of business because of not being ready to adapt to the changes. In Croatia, for example, a large number of companies, and in some cases almost entire industries, have been wiped out of existence. The textile industry is a good example. In the 1990s, it failed to shift from mass to batch production in response to the rapid changes brought about by the modern trends, and as a result, at one point, most of the industry virtually disappeared. It was not until appropriate changes were made to adapt it to the new principles of operation that it began to recover. (Borozan & Dragišić, 2005, 29-42) Around the same time, some of the large shipyards in Croatia suffered a similar fate because they were stuck in the 1950s in terms of their approach to production and productivity, and were thus not able to compete, especially with highly productive, standardised, but also customised industry of the Far East. (Kersan-Škabić, 2002, 143-163) These examples show that economic entities that are not flexible enough and not able to adapt to the new principles of business operation will not survive, even if they used to be highly productive and high-performing in the past. Furthermore, they should be regarded as a learning experience from which to draw conclusions and make the changes required, adapt to the new principles of operation, and make any adjustments needed to ensure that an organisation responds to the requirements and challenges of the ever-changing modern era. Thus, unlike in the past, when the transformation function implied a change that brings the system to a new state, today the transformation function implies introduction of an infinite iterative process of rapid changes that reflect changes brought about by technical and technological development and, consequently, cause changes in the society. Considering the above, the aim of this research is not to find a way out of the existing state of equilibrium and into a new state of equilibrium, but rather to find ways of negotiating an infinite process of responding and adapting to changes taking place in today's society. For this reason, the research does not focus on finding the solution, but on identifying the principles that will enable lasting flexibility in the operation of the Faculty of Economics in Osijek based on the model of interrupted equilibrium (Knežević, 2009, 29). In order to develop these principles, it is necessary to investigate the current situation in terms of how well the Faculty responds to the requirements of the digital age at the moment and to consider what systematic changes should be effected so that it can successfully adapt to the changes in the modern era.

The aim of this research is to define a conceptual descriptive model for adaptation of the operation of the Faculty of Economics in Osijek to the digital era.

The findings presented in this paper are the result of many years of research into the changes that higher education system needs to accommodate to be relevant to the digital society. In addition to conducting secondary research and using thought experiments, the authors have conducted primary research among businesses to analyse their satisfaction with the standard of graduates from the Faculty since the introduction of the Bologna Process to date, as well as among students of the Faculty, mainly those taking a course in Knowledge Management. The insights gained have been used to identify the key factors in transforming the Faculty so that it can successfully keep pace with the changes in the digital age, and to define a descriptive conceptual model, which is partly presented in this paper.

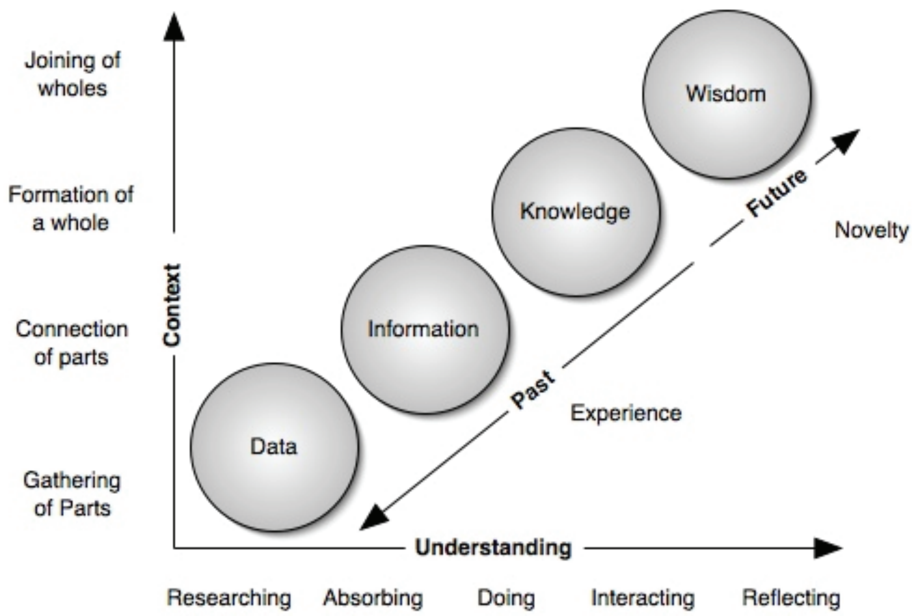
A number of research methods were used, including deduction, abstraction, classification, analogy, causal inference, thought experiment, descriptive modelling, brainstorming, in-depth interviews, historical method, etc. Primary research was conducted in the period 2016-2018.

3. Research results

3.1. Characteristics of the digital age

One of the definitions of the digital age reads as follows: “The digital age, also called the information age, is defined as the time period starting in the 1970s with the introduction of the personal computer with subsequent technology introduced providing the ability to transfer information freely and quickly.” (Digital age, n.d.) McCormack writes that “For many, the digital age is simply the industrial era ‘amped up’ on tech steroids. Perhaps marked by the IT industry’s coming of age as new technology became as much part of the social fabric as it was in the world of business. But that doesn’t really cover it.” (McCormack, 2017) Although the terms digital age and information age are often used interchangeably, one should bear in mind that they are not synonymous. The digital age is characterised by widespread use of digital technology, and has evolved according to the principles of the Data Information Knowledge (DIKW) model. Figure 1 shows the DIKW model.

Figure 1: *DIKW model*



Source: Clark, D. (2004) Understanding and Performance, http://www.nwlink.com/~donclark/performance/understanding.html (accessed 20 February 2019)

To understand Figure 1, one needs to understand the following: (Clark, 2004)

- Data comes about through research, creation, gathering, and discovery.
- Information has context. Data is turned into information by organizing it so that we can easily draw conclusions. Data is also turned into information by “presenting” it, such as making it visual or auditory.

- Knowledge has the complexity of experience, which come about by seeing it from different perspectives. This is why training and education is difficult - one cannot count on one person's knowledge transferring to another. Knowledge is built from scratch by the learner through experience. Information is static, but knowledge is dynamic as it lives within us.
- Wisdom is the ultimate level of understanding. As with knowledge, wisdom operates within us. We can share our experiences that create the building blocks for wisdom, however, it need to be communicated with even more understanding of the personal contexts of our audience than with knowledge sharing.

Taking into account the parameters of technical and technological development and the parameters of the evolution of science, it can be concluded that the digital age represents the shift from the information age, i.e. an era in which competitive advantage on the market was gained through information to an era in which the source of comparative advantage is knowledge. The following statement describes the essence of the knowledge age as a stage in the development of the digital age: "The fundamental process that we will observe in the Knowledge Age is that AI takes data, or information that humans used to sort through on their own, and come up with some sort of result. That result represents the "knowledge" that we no longer have to find on our own." (What is the Knowledge Age?, n.d.) Impacts of the Knowledge Age are shown in Table 1.

Table 1: *Impacts of the Knowledge Age*

PROS	CONS
Lifestyle. We no longer need to worry about simple everyday problems, such as our commutes or our morning coffee.	**Less autonomy.** Human autonomy is at risk—with the aid of AI, will we begin to stop asking questions as computers provide us easy answers?
Economics. An automated economy, or an economy based on human-AI collaboration, is more efficient and productive. Surplus wealth can be spent on education, healthcare, and even basic income.	**Changing job market.** White and blue collar workers stand risk of displacement into new fields or unemployment.
Consumption, again. Consumer decisions become easier, automatically selecting the most cost effective and even ethical products.	**Overconsumption—again.** Consumption becomes even easier than it currently is—which many would argue is already too easy.
Powerful computer insights. AI will be able to parse sets of data impossible to decode in the past, allowing AI and researches to develop solutions to increasingly complex problems.	**Fewer human insights.** Loss of control over the entire research process could possibly lead to an increased apathy towards discovering new knowledge and an over-reliance on computers.
Opportunity. A safer and more comfortable society--and a world of possibilities.	**Uncertainty.** An undetermined world of challenges and questions.

Source: What is the Knowledge Age? (n.d.) NewSRX, http://info.newsrx.com/knowledge-age, (accessed 9 February 2019)

The digital era, in which knowledge is central, has created new forms of work. Thus, a general distinction is made between industrial workers and digital workers, i.e. knowledge workers. Knowledge workers possess the following characteristics: (Knowledge Workers, n.d.)

- Factual and Theoretical Knowledge
  Knowledge workers undergo several years of formal training to master the information needed to perform certain specialized roles. At a minimum, most knowledge-based positions require a college degree and their learning process is continuous even after being hired. For example, a pharmacist requires factual and theoretical knowledge of various medications before they can dispense medications and advise patients on the use of prescriptions and over-the-counter drugs. Likewise, a sales manager must possess knowledge of his/her customer's preferences and factual information about the products sold by the company.
- Accessing and Applying Information
  Knowledge workers must know how to identify important information from a large database of information that they need to be familiar with. They should be in a position to weed out less important information and focus on essential information that will help them solve problems, answer questions, and generate ideas. Knowledge workers use analytical reasoning and relevant judgment to address customer service issues and new situations.
- Communication Skills
  Knowledge work involves frequent communication between the knowledge worker and customers, co-workers, subordinates, and other stakeholders. They must be able to speak, read, and write, and hold discussions with workmates and deliver a presentation when needed. Modern organizations emphasize quality customer service and continuous product improvements that bring knowledge workers closer to the customers. Good communication skills enable knowledge workers to work closely with other workers in decision-making, goal setting, and brain-storming sessions.
- Motivation
  Knowledge work requires continuous growth, due to the need to keep up with technological developments. Workers must be interested in finding new information and applying it in their work. With new technologies being released every day, they must improve their skills to handle complex tasks and integrate the latest technologies into their work.
- Challenges and Opportunities
  The demand for employees who are qualified to perform specialized roles presents both challenges and opportunities. One of the challenges relates to the hiring and retention of knowledge workers. With a looming shortage of knowledge workers, employers are forced to look for more effective ways of hiring the best talents and retaining them for a long period of time. Unlike baby boomers who stick to one organization for a long period, millennial workers, who are the majority of knowledge workers today, often serve in one organization for just a short period of time before moving to a more rewarding role in another organization. Employers are forced to offer higher salaries and an appealing work environment, and to treat these employees more as co-workers rather than as subordinates.

Given the above, there is an urgent necessity to transform the education system, which is still oriented towards producing industrial workers, into one that produces knowledge workers. The digital age requires that significant changes be made to the traditional education system: "The future of conventional learning institutions is past—it's over—unless those directing the course of our learning institutions realize, now and urgently, the necessity of fundamental and foundational change." (Davidson & Goldberg, 2009, p.15) The following quotes refer to the changes to the education system in the digital age: (Jones, 2012)

- Modes of learning have changed dramatically over the past two decades
- How do collaborative, interdisciplinary, multi-institutional learning spaces help to transform traditional learning institutions and, specifically, universities?"
- A key term in thinking about these emergent shifts is participatory learning. Participatory learning includes the many ways that learners (of any age) use new technologies to participate in virtual communities, which brings up echoes with connectivism and Downes' views on what becoming a professional is (becoming part of the community of professionals).
- The concept of participatory learning is very different from "IT" (instructional technology)….IT tends to be top-down, designer determined, administratively driven, commercially fashioned. In participatory learning, outcomes are typically customizable by the participants.
- This puts education and educators in the position of bringing up the rearguard, of holding desperately to the fragments of an educational system which, in its form, content, and assessments, is deeply rooted in an antiquated mode of learning.

The following six characteristics define learning in the digital age: (Chasse, 2017)

1. Engaging through an exceptional and relevant learning experience
   An attractive employee learning experience will generate intrinsic gratification, motivation and the active engagement necessary for more effective learning. To sustain that engagement, the act of learning must be relevant and meaningful, both for the learner and for the organisation. This is enabled through learner-centric design and business aligned objectives.
2. Empowering, personalised and self-directed
   The developments in digital technology have enabled learners to choose what, how and when they learn. They seek learning that is personalised, that fits their individual preferences and needs: they want a "one size fits one" learning solution. A culture of self-directed learning is strongly emerging with individuals directing themselves towards which learning to follow.
3. Ubiquitous, just-in-time, on-demand and in context
   Digital learners want to learn at the time of need when they encounter a specific skill or knowledge gap that prevents them from completing a task or from achieving a desired tangible result. Learning must directly support the activities that the employees perform in the real world and on-the-job rather than focusing on teaching knowledge and theories. Individuals should be able to access this specific learning within their own context, when they need it.
4. The right blend of experiential, social, informal and formal
   Learning happens continuously, in a multiplicity of contexts and modes, supported by technologies that enable any learner to easily access internal and external information and interact with networks of experts and peers. Mixing formats makes learning more effective. Choosing the right format for the right purpose is critical.
5. Hyper-connected with analytics everywhere
   Digital age learners must be able to connect with learning resources, information, peers and experts to effectively learn in the digital age. Providing simple tools that enable these connections is important for learning organisations. Additionally, analytics can provide insights on the learners, their own development needs, what assets can meet their needs, how those assets are consumed, how learning can be improved and how effective learning activities are.
6. Continuous, based on inquiry, exploring and doing

It is critical for individuals to own their development and continuously learn. A company must be a place where constant learning opportunities enable workers to stay relevant in their jobs and in the industry. Learning design must promote inquiry, exploring and doing so that learners are able to research solutions to specific situations and build their own answer based on collective experience and existing knowledge.

3.2. Model for adaptation of the education process at the Faculty of Economics in Osijek to the digital age

The Faculty of Economics in Osijek has adopted the Strategy for the Development of the Faculty of Economics in Osijek for the period 2018-2023. As part of that strategy, a SWOT analysis was performed based on which the following conclusions were drawn: "...the perceived strengths of the Faculty's education process include, inter alia, the diverse range of continuously revised study programmes; promotion and financial support for teacher training; engagement of guest lecturers from the business sector; numerous professional and popularisation events that, among other things, increase student engagement in extra-curricular activities; the availability and quality of equipment, as well as the availability of digital teaching materials. The following were perceived as the greatest weaknesses of educational activities undertaken at the Faculty: content overlap across curricula, low number of English-taught courses, poor policy for motivating teachers to publish textbooks, low student motivation for using books and professional literature as learning material; and relatively low admission requirements (Mesarić et al., 2018, 7). Considering the results of the SWOT analysis, the Strategy highlights the need for adapting current curricula to: (Mesarić et al., 2018, 8)

1) the changes in the labour market needs brought about by an increasingly dynamic environment; the emergence of new economic activities and occupations; and the rapid obsolescence of knowledge, requiring changes in the content of existing and the introduction of new study programmes, new pedagogy and teaching methodology;
2) the increasing competition - public faculties of economics, in particular, are exposed to competition from the private sector, international institutions and institutions providing substitute services; and
3) the changing role of higher education institutions in the society.

The Strategy implies that there is a need to use ICTs and digital content in the teaching process. However, it does not clearly express the need for the transformation of the teaching content and the educational process in terms of changing the focus from producing industrial workers to producing knowledge workers. The reasons for this are explained in this quote: "The shift from blue-collar jobs to knowledge-based positions presents new opportunities for people aiming to grow their talents and expand their creativity. Knowledge workers enjoy greater job mobility, and they can work in different time zones, at home, in airport lounges and coffee shops. Employers recognize them as assets of the company who possess unique talents and skills, rather than as ordinary employees who perform repetitious tasks. The nature of the knowledge work allows the workers to gain leadership skills since they often work as their own bosses and enjoy greater freedom to perform new tasks every day." (Knowledge Workers, n.d.)

The following external factors in the strategic development of the Faculty of Economics in Osijek have been identified in the Strategy: (Mesarić et al., 2018, 9)

1) attractiveness of educational content in terms of labour market needs and relevance in the scientific field, as well as in terms of teaching;

2) applicability of the acquired knowledge in a dynamic environment;
3) compliance with the regulatory framework;
4) position of the Faculty in comparison to similar higher education institutions that will ensure its distinctiveness as well as excellence in the quality of education.

The following internal factors in the strategic development of the Faculty of Economics in Osijek have been highlighted in the Strategy: (Mesarić et al., 2018, 9)
1) number and quality of teachers and researchers in a particular field;
2) recognisability and distinctiveness of study programmes; as well as
3) support and quality of organisational infrastructure.

The Strategy also emphasises that there are two possible approaches to developing the distinctive identity of the Faculty and new curricula: by standardisation, which implies adopting standard solutions existing at other similar higher education institutions, or by paving its own path towards survival through excellence. (Mesarić et al., 2018, 9) Standardisation typically implies following and emulating those who are successful in the market. Choosing to follow the path of excellence entails developing a strategy that should be based on: (Mesarić et al., 2018, 10)
1) specific fields of knowledge;
2) internationalisation;
3) new innovative services, i.e. teaching methods;
4) high capacity to respond to the development needs of the profession and the society;
5) future needs and new attractive fields of knowledge.

The Faculty can also choose to pursue the middle path, which implies using the best of both approaches. In order to better understand the choice at hand, it is necessary to look at the foundations on which modern higher education is based. In doing that, one should bear in mind that the main aim of any business system, including the Faculty of Economics in Osijek, is to survive, and to do that, the following objectives must be achieved first: (Dukić, 2012, 114)
- growth
- efficiency/effectiveness
- flexibility.

In view of fact that the Faculty of Economics in Osijek is a non-profit public institution, in addition to achieving growth and showing flexibility that has become extremely important today, it needs to be an effective institution. This means that it needs to evince public interest in its survival and mobilise the support of the public for its continuance. To achieve this goal in the long run, it needs to produce graduates that are sought after in the business sector. In other words, the society needs to recognise the benefits of the activities undertaken by the Faculty. In reality, as the conclusions presented in the Strategy and the feedback received from the business sector show, the Faculty currently does not produce work-ready graduates. The reasons for this are mainly:
1) outdated and inadequate study programmes
2) sub-optimal quality of inputs, i.e. students enrolling in the Faculty.

The study programmes are outdated due to inertia of the Faculty and lack of proactive approach to dealing with the implications of revising the existing or introducing new curricula and new study programmes. The latter is undoubtedly mainly caused by a very complex and lengthy process of preparing and verifying new curricula, and the allowed scope for changes of existing curricula, which is limited to 20%. Another issue that has to be addressed is the quality of inputs, i.e. students enrolling in the Faculty. According to the criteria for enrolment, students are required to pass a B, i.e. lower level of the secondary school leaving exam, which implies poorer prior knowledge and sometimes lower capacity to follow instruction and acquire knowledge, which is reflected in the quality of output. In order to change this, the Faculty needs to continuously revise its study programmes and curricula, by adopting an interrupted equilibrium approach to strategic changes, and attract higher quality students.

In order to adopt an optimal approach to developing the Strategy, the Faculty has to consider the expectations of the business sector about the graduates it produces in the context of the deficiencies of the secondary education system. Specifically, secondary schools of economics should produce work-ready graduates, while the faculties of economics should provide students with the knowledge needed to successfully manage processes. Given that after graduating from such secondary schools students typically enrol in a faculty of economics without having acquired the fundamentals, the business sector has shifted the burden of transferring the basic knowledge of economics from secondary schools towards the faculties. However, the number of teaching hours allocated to undergraduate study programme is insufficient to allow for that, which is why the faculties are unable to meet these expectations. As a result, the business sector is generally not satisfied with the quality of study programmes. In order to deal with this issue, undergraduate study programmes must assume the role of fundamental knowledge providers, while graduate study programmes should expand on that knowledge and provide narrow specialisations. Therefore, deciding to pursue the middle path in designing the Faculty's strategy would entail standardisation at the undergraduate level and the pursuit of excellence at the graduate level.

Standardisation of undergraduate study programmes reduces the flexibility of the system, as it implies compatibility with undergraduate programmes delivered at other higher education institutions. It also requires a consensus among HEIs, and that takes time. In order to achieve longer relevance of standardised undergraduate programmes, their focus should largely be on learning principles rather than short-lived applicable knowledge and skills. An education programme based on the adoption of principles should include:

- development of knowledge acquisition skills,
- acquisition of general knowledge (principle-oriented knowledge),
- acquisition of applicable knowledge (time-insensitive knowledge), and
- link knowledge and practice.

Standardised study programmes can stay relevant longer if a prospective approach is taken to designing them. This implies disregarding trends, carefully considering the future, and focusing on knowledge acquisition. The latter refers in particular to the acquisition of knowledge that is relevant to the digital age, that is, the knowledge that will be relevant when graduates enter the working force. As part of the research, students were asked to revise the existing curricula. Their approach to creating the content of new study programmes was perspective rather than prospective. Namely, students created new study programmes using the existing courses, without taking into consideration or factoring in the changes brought about by the digital era. The business sector has proven to be even more conservative about the content of study programmes. Knowing this, the question arises as to the extent to which it is possible to use a "democratic" approach to creating curricula. The results of the research suggest that, because of the need to act proactively, a marketing approach, which typically begins with market research, cannot be used in this case. Instead, the task of creating study programmes should be assigned to experts capable of projecting future events and defining the curricula that can only be properly valued in the future. When asked to acknowledge the digital age in their design of study programmes during the presentation, discussion, and evaluation of their visions of changes to the curricula, the students privileged form over content. They put the word “electronic” before the names of most of the courses, or put the phrase “in the digital age” after the names of courses, without making any changes to the course content. The fact that the modern business environment requires digitalisation of all operations should be reflected in the content and delivery, rather than in the names of courses and study programmes.

In contrast to the undergraduate level programmes, the graduate level programmes should provide a high level of specialisation, and enable the competitive positioning of the HEI in the market based on excellence. In this case, the graduate level programmes would also enable the implementation of the concept of lifelong learning, making it possible for practitioners to enrol in a study programme that gives them the specific knowledge and skills they need in their job. Given the trend of rapid knowledge and information obsolescence, and considering the need for graduate level programmes to be flexible, it is imperative to continuously revise the existing curricula and introduce new curricula adapted to the ever-changing environment in the digital age. Thus, in contrast to undergraduate university study programmes, graduate university study programmes should focus on developing specific competencies, and enable customisation through modular organisation of the programmes.

By summarizing the above, it is possible to define the main principles on which the model for adaptation of the education subsystem of the Faculty of Economics in Osijek to the digital age should be based. They include:

- at the undergraduate level – standardised acquisition of principles
- at the graduate level - specialisation and market positioning through excellence

In this context, it is also necessary to take into account the specific characteristics of the Faculty of Economics in Osijek, one of the most important being that it delivers study programmes covering the following fields:

- Microeconomics
- Macroeconomics
- Information science.

There are a number of other specific issues and deficiencies that need to be addressed, many of which are listed in the Strategy of the Faculty of Economics in Osijek for the period 2018-2023. Guidelines for adaptation of the teaching process to the digital age recommend that the Faculty should:

0. acknowledge the reality and address the pragmatic issue of changing its name;
1. develop a feasibility study that should provide the Faculty with a relevant and credible 'compass' for the next ten years, at a minimum, on upcoming demand for specific products, i.e. human resources that it produces; consider the available technical and technological capacities; consider human resources it currently has, and further resources that may be required, as the basis for the development of new study programmes;
2. interpolate the new adapted curricula into the undergraduate and graduate study programmes;
3. introduce stricter enrolment criteria to increase the quality of input, i.e. students eligible for enrolment;

4. adapt the knowledge and skills of its human resources (teaching staff) to the digital age;
5. continue investing in the technical and technological equipment of the Faculty;
6. introduce new teaching approaches (e-learning)
7. introduce lifelong learning programmes as an extension of graduate study programmes;
8. discontinue the delivery of part-time undergraduate university study programmes;
9. reintroduce a professional study programme in Business Administration as a part-time programme only;
10. measure the quality of the study programmes by monitoring the performance of graduates who have been working for some time.

Pragmatism dictates that the name of the Faculty should be changed because it is misleading, in particular to those coming from the Anglo-Saxon language area. For instance, it could be named the Faculty of Economics, Business Economics and Informatics in Osijek. Some higher education institutions in Croatia have already changed their names to better reflect the changes in society and technology of the modern era. For instance, the Faculty of Electrical Engineering and Computing in Zagreb was formerly known as the Faculty of Electrical Engineering in Zagreb (Fakultet elektrotehnike i računarstva, n.d.), while the Faculty of Electrical Engineering, Computing and Information Technology Osijek was originally known as the Faculty of Electrical Engineering (Fakultet elektrotehnike i računarstva i informatike, n.d.).

When it comes to adapting the curricula of undergraduate study programmes to the digital age, a question arises as to the adequate approach to the design of the programmes. The Faculty Board can choose one of the following options:

1) an integrated curriculum
    - upside: reduces load
    - downside: reduces student interest in enrolling in graduate study programmes
2) three study programmes as in the current organisation:
    - undergraduate university study programme in Economics
    - undergraduate university study programme in Business Economics
    - undergraduate university study programme in Business Informatics
3) Modular undergraduate university study programme (divided into modules across study years)

Considering the results of the research, the optimal solution for overcoming the inadequacies of the current situation would be option 2. The authors have outlined a proposal for three possible study programmes as shown in Tables 2, 3 and 4.

Table 2: *Possible content of the undergraduate university study programme in Economics at the Faculty of Economics in Osijek*

ECONOMICS UNDERGRADUATE PROGRAMME			
I YEAR			
1	MICROECONOMICS	1	MACROECONOMICS
2	FOUNDATIONS OF ECONOMIC THEORY	2	SOCIOLOGY
3	BUSINESS MATHEMATICS	3	CROATIAN ECONOMY
4	BUSINESS INFORMATICS	4	DIGITAL ECONOMY
5	INTRODUCTION TO THE RESEARCH WORK	5	STATISTICS
6	FOREIGN LANGUAGE FOR BUSINESS 1	6	FOREIGN LANGUAGE FOR BUSINESS 2
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
II YEAR			
1	MANAGEMENT	1	SOCIAL ACCOUNTING
2	FOUNDATIONS OF ACCOUNTING	2	ORGANISING AND PRESENTING PUBLIC DATA
3	PUBLIC FINANCES	3	ECONOMICS OF PUBLIC SECTOR
4	ELECTRONIC BUSINESS OPERATIONS	4	INTERNATIONAL ECONOMICS
5	HUMAN RESOURCES	5	ECONOMIC POLICY
6	QUANTITATIVE METHODS	6	LAW FOR ECONOMISTS
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
III YEAR			
1	BUDGET ACCOUNTING	1	LABOUR MARKET
2	INTERSECTORAL ANALYSIS	2	COMPARATIVE TAX SYSTEMS
3	QUALITY MANAGEMENT	3	FISCAL POLICY
4	REGIONAL POLICY	4	ECONOMICS OF DEVELOPMENT
5	ECONOMIC POLICY OF THE EUROPEAN UNION	5	KNOWLEDGE ECONOMY
6	URBAN ECONOMICS	6	FINAL EXAM

Source: Authors

Table 3: *Possible content of the undergraduate university study programme in Business Economics at the Faculty of Economics in Osijek*

BUSINESS ECONOMICS UNDERGRADUATE PROGRAMME			
I YEAR			
1	MICROECONOMICS	1	MACROECONOMICS
2	FOUNDATIONS OF ECONOMIC THEORY	2	SOCIOLOGY
3	BUSINESS MATHEMATICS	3	CROATIAN ECONOMY
4	BUSINESS INFORMATICS	4	DIGITAL ECONOMY
5	INTRODUCTION TO THE RESEARCH WORK	5	HUMAN RESOURCES
6	FOREIGN LANGUAGE FOR BUSINESS 1	6	FOREIGN LANGUAGE FOR BUSINESS 2
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
II YEAR			
1	MANAGEMENT	1	FINANCIAL ACCOUNTING
2	FOUNDATIONS OF ACCOUNTING	2	BUSINESS OPERATIONS TECHNOLOGY
3	PUBLIC FINANCES	3	TECHNOLOGY WITH PRODUCT KNOWLEDGE
4	ELECTRONIC BUSINESS OPERATIONS	4	ENTREPRENEURSHIP AND BUSINESS POLICY
5	INTERNATIONAL ECONOMICS	5	MARKETING
6	QUANTITATIVE METHODS	6	BUSINESS LAW
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
III YEAR			
1	BUSINESS FINANCE	1	FINANCIAL MARKETS AND INSTITUTIONS
2	COMMERCE	2	LOGISTICS
3	QUALITY MANAGEMENT	3	AGRICULTURAL ECONOMICS
4	BUSINESS INFORMATION SYSTEMS	4	FINANCING NEW VENTURES
5	DIGITAL MARKETING	5	KNOWLEDGE MANAGEMENT
6	TOURISM AND HOSPITALITY	6	FINAL EXAM

Source: Authors

Table 4: *Possible content of the undergraduate university study programme in Business Informatics at the Faculty of Economics in Osijek*

BUSINESS INFORMATICS UNDERGRADUATE PROGRAMME			
I YEAR			
1	MICROECONOMICS	1	MACROECONOMICS
2	FOUNDATIONS OF ECONOMIC THEORY	2	SOCIOLOGY
3	BUSINESS MATHEMATICS	3	CROATIAN ECONOMY
4	BUSINESS INFORMATICS	4	DIGITAL ECONOMY
5	INTRODUCTION TO THE RESEARCH WORK	5	HUMAN RESOURCES
6	FOREIGN LANGUAGE FOR BUSINESS 1	6	FOREIGN LANGUAGE FOR BUSINESS 2
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
II YEAR			
1	MANAGEMENT	1	ELEMENTARY ALGORITHMS AND INTRODUCTION TO PROGRAMMING
2	FOUNDATIONS OF ACCOUNTING	2	BUSINESS OPERATIONS TECHNOLOGY
3	PUBLIC FINANCES	3	TECHNOLOGY WITH PRODUCT KNOWLEDGE
4	ELECTRONIC BUSINESS OPERATIONS	4	ENTREPRENEURSHIP AND BUSINESS POLICY
5	INTERNATIONAL ECONOMICS	5	MARKETING
6	QUANTITATIVE METHODS	6	BUSINESS LAW
	PHYSICAL EDUCATION		PHYSICAL EDUCATION
III YEAR			
1	BUSINESS FINANCE	1	BUSINESS PROGRAMMING
2	COMMERCE	2	PROJECT MANAGEMENT
3	QUALITY MANAGEMENT	3	BUSINESS INTELLIGENCE
4	BUSINESS INFORMATION SYSTEMS	4	FINANCING NEW VENTURES
5	DATABASES	5	KNOWLEDGE MANAGEMENT
6	INFORMATION AND COMMUNICATION THEORY	6	FINAL EXAM

Source: Authors

As can be seen from the previous three tables, the first year and the first semester of the second year are the same for all three study programmes. The main reason is that all three programmes need to provide a certain framework of basic economic knowledge to students. In addition, this programme outline greatly facilitates the organisation of classes and scheduling. Special attention was given to putting the common courses in equivalent semesters, which is also meant to simplify organisation and scheduling. This approach can eliminate some organisational issues in the current study programmes arising from:

- Excessive number of elective courses
- Limited human resources (teaching staff)
- Insufficient premises
- Uncritical copying of curricula developed elsewhere.

Given the limitations in space, the concept of graduate study programmes, as well as the professional study programme of Business Administration will be presented in a future paper.

4. Conclusion

The Faculty of Economics in Osijek is one of the oldest faculties in north-eastern Croatia. It was founded on 14 June 1961 to continue with the activities of the Centre for Economic Studies of the University of Zagreb (established on 25 June 1959) in Osijek. When Josip Juraj Strossmayer University of Osijek was founded in 1975, the Faculty became one of its first component units. The Faculty has a well-established tradition of delivering not only undergraduate and graduate university study programmes, but also specialist postgraduate and doctoral study programmes. In addition to being a large and reputable higher education institution, it is a recognised research institution and a significant driver of regional development. This is evidenced by the Faculty alumni, as well as the scientific works produced and projects implemented at the Faculty. The Faculty also maintains a strong and long tradition of cooperation with research and higher education institutions in Europe and beyond. (Ekonomski fakultet u Osijeku, n.d.) However, despite its long tradition and an important role, its long-term survival is threatened unless it accepts the necessity of adapting to the digital age, especially in the sphere of higher education. The model for adaptation involves establishing and adopting the new principles for the operation of the Faculty of Economics in Osijek aimed at transforming and adapting it to the digital age. For this purpose, the Faculty Board has outlined an 11 point guideline list which is presented in this paper.

The implementation of the proposed model is only the first stage of a continuous process of adaptation of the Faculty to the digital age. The authors recommend that the model should be implemented by applying the strategy of interrupted equilibrium. The results of this research are expected to trigger initial changes in the functioning of the Faculty that should facilitate further continuous changes and adaptation to the digital age. These changes and the need to keep pace with them to be relevant to the digital society raise new research questions warranting further investigation, in particular into the content of the new curricula at the graduate study level.

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SCIENTIFIC PRODUCTION OF OSIJEK'S RESEARCHERS: EVIDENCE FROM THE CURRENT CONTENTS CONNECT DATABASE

ABSTRACT

Online academic research databases contain information and publications of relevance to the scientific and professional community. Current Contents Connect is a multidisciplinary database that provides information on the latest research published in the leading scholarly journals. The aim of this paper is to explore the scientific output of authors from Osijek based on their articles indexed in the Current Contents Connect database. For this purpose, a search was conducted of the Current Contents Connect database and it was found that between 1998 and 2018, in the seven editions it publishes, more than 3100 papers indexed in this database were authored or co-authored by at least one Osijek-based researcher. In addition, the analysis showed that during the period studied, the number of indexed articles by Osijek-based scholars and professionals was increasing, although the trend was not constant. Most of the papers were indexed in the Agriculture, Biology & Environmental Sciences edition, followed by the Clinical Medicine and Social & Behavioral Sciences editions. These editions were also found to have the highest percentage of articles by Osijek-based authors. The analysis has also helped identify the main characteristics of the scientific production of Osijek-based scholars and professionals as regards the fields of research. To achieve this, the total number of authors, the average number of authors per article, the total number of citations, the average number of citations per article and author, and the corresponding h-index have been determined for each of the Current Contents Connect editions. The study has several limitations, which is why the results reported herein should be interpreted with caution. Notwithstanding this, the study provides a good insight into the scientific output of Osijek-based scholars and professionals during the period studied.

Keywords: *online academic research databases, Current Contents Connect database, scientific production, Osijek-based researchers*

1. Introduction

Online academic research databases are organized collections of scientific and professional information and publications, stored in electronic form and accessible via the Internet (Isiakpona, Ifijeh, 2012; Dukić, 2014; Verma, 2016). They emerged as a result of the rapid development of science and technology over the last few decades. As the amount of data, information and knowledge started to expand, there was a growing awareness about the need for collecting, systematizing, processing and storing it in a way which makes it easily accessible to a wide range of users. This would not have been possible without the advancement of information and communication technologies. However, it would be misleading to link the efforts to collect, organize and preserve human knowledge exclusively to the modern age. The creation of the first collections of written records goes back to the invention of the script (Lerner, 1999; Casson, 2002; Gottfried, Pennavaria, 2017). These collections were the forerunners of today's libraries. For a long time, libraries were the only source of knowledge, mainly for a small number of literate and learned individuals. In a slow-changing society, the role of libraries was to preserve the collections of books, magazines, newspapers and similar written and printed materials. Libraries are still places where people go to read and borrow a wide variety of literature, but that is no longer enough. As a result of the scientific and technological revolution, and the rapid expansion of information, libraries are facing new challenges. The environment in which they function today is complex and dynamic, while economic and political instability and increasing availability of information from alternative sources further weaken their position in society. In order to protect their profession, librarians must adapt to changes and assume responsibility, not only as intermediaries between resources and users, but also as facilitators and teachers (Baker, Evans, 2011). Their ability to acquire new knowledge and skills and focus on electronic sources and services, such as online databases, will be of crucial importance in this endeavor.
The use of information and communication technologies in libraries started in the 1960s, which dramatically changed the way of accessing and using library resources. A major breakthrough in that period was the development of Machine-Readable Cataloguing (MARC) in the Library of Congress in Washington, D.C. (USA), with the aim of automating the cataloguing process, and the introduction of the Medical Literature Analysis and Retrieval System (MEDLARS) by the National Library of Medicine in Bethesda (USA) as an electronic version of the Index Medicus (Macrum, 2002; Islam, Islam, 2006; Hersh, 2014; Rayward, 2014). By 1975, there were already more than 100 machine-readable databases, and by the late 1970s the number of databases increased to more than 360, with at least 40 abstracting and indexing services (Hawthorne, 2008). Since most computers were not connected to each other, the first databases were mainly distributed on magnetic tape. Other media, such as CD-ROMs, were later used for this purpose. However, the crucial breakthrough in database development happened when the Internet was invented.

Nowadays, online academic research databases are the main source of information for scholars and professionals around the world. There are several types of such databases, which can be classified into three groups: bibliographic, citation and full text databases (Stojanovski, 2007; Masic, Milinovic, 2012; Dukić, 2013; Bharti, Leonard, Singh, 2014). Given that the databases have a defined structure, each publication must be processed according to certain rules. The indexing of academic and professional publications, such as journals, editorial books and conference proceedings, is important for a number of reasons (Le Roux, 2006; Bakshi, Bawa, 2013; Sahoo, Kumar, 2018). First of all, it improves search efficiency, which means that the time spent searching for information is shorter. Indexed publications and articles are also more visible and accessible to a wider audience. As a result, the exchange of information becomes faster, thus fostering economic growth and social development. In addition, indexing contributes to increasing the reputation not only of the author, but also of the author's institution, as well as the region and the country in which he/she lives. Despite some criticism, it is therefore not surprising that the number of papers indexed in renowned databases as well as their impact, which is most frequently expressed by the number of citations, have become some of the key criteria for evaluating the quantity and quality of the research output. With that in mind, the main purpose of this paper was to investigate the scientific production of Osijek-based researchers by analyzing data on their articles indexed in the Current Contents Connect database, which includes leading journals in various research fields.

2. Some facts about the Current Contents Connect database

Current Contents Connect is a multidisciplinary current awareness database provided by Clarivate Analytics, which is available through the Web of Science indexing service (Clarivate Analytics, 2018a). It was founded by Eugene Garfield (1925-2017), a pioneer in the field of library and information science. Current Contents, as his first, best known and most commercially successful product, for many years provided a revenue for his other ventures (Small, 2017). In the early 1950s, during his engagement at the Welch Medical Indexing Project at Johns Hopkins University, he became interested in providing researchers with affordable, timely and convenient access to current information (Presley, Caraway, 1999). While he was still working on the project, he designed a small publication entitled Contents in Advance, which covered journals from several scientific disciplines (Glasziou, Aronson, 2018). In 1955, he launched a publication with the tables of contents of the latest issues of journals in the field of social sciences and management. In 1957, he launched a similar service providing access to literature of relevance to pharmaceutical companies, which laid the foundation to Current Contents. His idea to reproduce photographically the contents pages of key scientific journals was extremely simple, but it enabled researchers to deal with an increasing number of new editions by commercial publishers much easier. During the 1960s, Current Contents started to include other scientific fields, and by the end of the 1970s, it was published in seven editions covering more than 4500 journals (Grimwade, 2018).

Table 1: Current Contents Connect editions and disciplines

Edition and discipline	Number of journals
Agriculture, Biology & Environmental Sciences Agricultural Chemistry; Agriculture/Agronomy; Animal Sciences; Aquatic Sciences; Biology; Biotechnology & Applied Microbiology; Entomology/Pest Control; Environment/Ecology; Food Science/Nutrition; Multidisciplinary; Plant Sciences; Veterinary Medicine/Animal Health	1429
Social & Behavioral Sciences Anthropology; Communication; Economics; Education; Environmental Studies, Geography & Development; Law; Library & Information Sciences; Management; Political Science & Public Administration; Psychiatry; Psychology; Public Health & Health Care Science; Rehabilitation; Social Work & Social Policy; Sociology/Social Sciences	2895
Clinical Medicine Anesthesia & Intensive Care; Cardiovascular & Respiratory Systems; Clinical Immunology & Infectious Disease; Clinical Psychology & Psychiatry; Dentistry/Oral Surgery & Medicine; Dermatology; Endocrinology, Metabolism & Nutrition; Environmental Medicine & Public Health; Gastroenterology and Hepatology; General & Internal Medicine; Health Care Sciences & Services; Hematology; Neurology; Nursing; Oncology; Ophthalmology; Orthopedics, Rehabilitation & Sports Medicine; Otolaryngology; Pediatrics; Pharmacology/Toxicology; Radiology, Nuclear Medicine & Imaging; Reproductive Medicine; Research/Laboratory Medicine & Medical Technology; Rheumatology; Surgery; Urology & Nephrology	1682
Life Sciences Animal & Plant Science; Biochemistry & Biophysics; Cardiovascular & Hematology Research; Cell & Developmental Biology; Chemistry & Analysis; Endocrinology, Nutrition & Metabolism; Experimental Biology; Immunology; Medical Research, Diagnosis & Treatment; Medical Research, General Topics; Medical Research, Organs & Systems; Microbiology; Molecular Biology & Genetics; Multidisciplinary; Neurosciences & Behavior; Oncogenesis & Cancer Research; Pharmacology & Toxicology; Physiology	1395
Physical, Chemical & Earth Sciences Applied Physics/Condensed Matter & Materials Science; Chemistry; Earth Sciences; Inorganic & Nuclear Chemistry; Mathematics; Multidisciplinary; Organic Chemistry/Polymer Science; Physical Chemistry/Chemical Physics; Physics; Space Science; Spectroscopy/Instrumentation/ Analytical Sciences	1598
Engineering, Computing & Technology AI, Robotics & Automatic Control; Aerospace Engineering; Chemical Engineering; Civil Engineering; Computer Science & Engineering; Electrical and Electronics Engineering; Engineering Management/General; Engineering Mathematics; Environmental Engineering & Energy; Geological, Petroleum & Mining Engineering; Information Technology & Communications Systems; Instrumentation & Measurement; Materials Science & Engineering; Mechanical Engineering; Metallurgy; Nuclear Engineering; Optics & Acoustics	1524
Arts & Humanities Archaeology; Art & Architecture; Classical Studies; General; History; Language & Linguistics; Literature; Performing Arts; Philosophy; Psychology; Religion & Theology	1528

Source: Clarivate Analytics, 2019a.

When he started developing Current Contents, Garfield founded a company in Philadelphia (USA), which was renamed the Institute for Scientific Information (ISI) in 1960 (Bensman, 2007). The majority share of ISI was sold to the JPT Publishing Group in 1988, and in 1992 it was taken over by Thomson Corporation subsidiary (Lawlor, 2014). When, in 2008, Thomson Corporation merged with Reuters, forming a media and information conglomerate, ISI became part of Thomson Reuters (Gilayrevskii, Chernyi, 2009). Finally, in 2016, Thomson Reuters sold its Intellectual Property and Science division to Clarivate Analytics (Angermuller, van Leeuwen, 2019).

To be included in Current Contents Connect, journals must meet high standards, thus ensuring that information published therein is accurate and relevant to the academic and research community. That is why this database is highly valued and used by scholars and professionals worldwide. Current Contents Connect is published in seven editions, which are listed in Table 1 along with related disciplines and the number of journals covered.

Some of the journals are indexed in two or more Current Contents Connect editions. For instance, the Scientist is included in six editions (Agriculture, Biology & Environmental Sciences; Social & Behavioral Sciences; Clinical Medicine; Life Sciences; Physical, Chemical and Earth Sciences; and Engineering, Computing & Technology). Thus, the total number of journals indexed in Current Contents Connect is smaller than the sum of journals by individual editions listed in Table 1. In 2018, tables of contents of more than 10 300 journals were available in the Current Contents Connect database (Clarivate Analytics, 2019b). The strictness of the inclusion criteria is evidenced by the fact that only 14 Croatian journals are indexed in Current Contents Connect. Among them, one is included in the Agriculture, Biology & Environmental Sciences edition, two are included in the Social & Behavioral Sciences edition, two are included in the Clinical Medicine edition, four are included in the Physical, Chemical & Earth Sciences edition, one is included in Engineering, Computing & Technology edition, and four are included in the Arts & Humanities edition (Clarivate Analytics, 2019a).

Current Contents Connect is also published in two collections, intended for researchers and decision-makers in the field of business and industry. In addition to journals, these collections include other publications relevant to business administration, management theory and practice, and research and development in the electronics industry (Clarivate Analytics, 2018b). Most of the publications indexed in these two collections are also covered in at least one of the Current Contents Connect editions. None of the Croatian publications are included in the two Current Contents Connect collections. Table 2 contains a list of collections along with related disciplines and the number of covered publications.

Table 2: *Current Contents Connect collections and disciplines*

Collections and discipline	**Number of publications**
Business Collection Accounting & Finance; Business & Economics; Business Law & Reviews; Computer Technology and Information Systems; Employee Relations & Human Resources; Management & Organization; Marketing & Business Communication; Political Science, Public Admin & Development	213
Electronic & Telecommunications Collection Chemistry & Physics, Pure & Applied; Computer Science, Technology & Applications; Electronics & Electrical Engineering; Optics & Laser Research & Technology; Semiconductors & Solid State Materials Technology; Signal Processing/Circuits & Systems; Technology R & D/Management; Telecommunications Technology	185

Source: Clarivate Analytics, 2019a.

3. Research questions and objectives

Since its initiation, Current Contents publications have a special status in the academic and research world. When printed editions were still the dominant form of publication, Current Contents provided scholars and professionals an easy and quick access to information. In the digital age, when a multitude of different electronic sources and services are available, and we can exchange data and information almost instantly, this database is kept up-to-date by indexing papers that have not been published yet, but have been reviewed (Stojanovski, 2010). The selection process is kept rigorous, which is why the inclusion of a journal in the Current Contents Connect database remains a matter of prestige and is a confirmation of its leading position in the fields it covers. It is therefore understandable that publishing work in such journals is highly regarded and considered a great accomplishment among scholars and professionals.

There are different methods for measuring scientific (research) output which generally take into account the number of published papers, the impact factor of the journal in which the papers were published, and the number of citations (Gaule, Piacentini, 2013; Dev et al., 2015; Khan, Altaf, Kozgar, 2017; Cheek, 2018). Larger investment in science and technology lead to greater research output (Allik, 2013; Meo et al., 2013). On the other hand, research, the results of which are published in scientific and professional journals, is expected to promote social and economic development. However, there is not always a strong positive correlation between research output and economic growth (Lee et al., 2011; Solarin, Yen, 2016). Considering the universal character of science, but postulating that scholars and professionals should through their strive to improve the quality of life of people in their own environment, which provides them with the necessary research funding, an analysis of scientific production of Osijek-based researchers has been carried out for the purpose of this paper. The study was based on their articles indexed in the Current Contents Connect database. Specifically, the study sought to answer the following research questions:

- What were the trends in scientific production of Osijek-based researchers in the period 1998-2018 in terms of the number of articles indexed in the Current Contents Connect database?
- What were the trends in scientific production of Osijek-based researchers in terms of the number of indexed articles in individual Current Contents Connect editions and what percentage of articles was written by Osijek-based researchers?
- What are the characteristics of scientific production of Osijek-based researchers in terms of individual research fields?

Several studies were conducted on scientific output of researchers from Josip Juraj Strossmayer University of Osijek (Jokić et al., 2006; Podobnik, Biljaković, 2008; Šuvak-Pirić et al., 2017). This paper expands the existing knowledge by assessing research output in terms of publications indexed in the seven editions of the Current Contents Connect database and by including all Osijek-based scholars and professionals, not just those affiliated with Josip Juraj Strossmayer University of Osijek.

4. Research methodology

The Current Contents Connect database indexes different categories of documents, such as reviews, discussions, editorial materials, letters and notes. This analysis included only articles indexed in at least one of the Current Contents Connect editions from 1998 to 2018, as at 28 February 2019. The search was limited to articles in which at least one of the authors put Osijek as his/her address. In view of the fact that Josip Juraj Strossmayer University of Osijek is a leading higher education and scientific institution in the eastern part of Croatia, it was expected that a large percentage of authors would come from its constituent units. Due to inconsistencies and errors in writing the name of the institution, it was not possible to determine the exact number of such papers, but they definitely constitute more than three quarters. Nevertheless, one should not overlook the contribution of Osijek-based authors who are not teachers and associates of Josip Juraj Strossmayer University of Osijek, but have participated in research published in leading scientific journals. Therefore, unlike previous studies, this paper has considered the entire Osijek research community.

5. Results

Table 3 contains the data on the number of indexed articles by Osijek-based authors in each of the seven Current Contents Connect editions in the period 1998-2018. The last column of the table shows the total number of indexed articles. Due to the concurrent indexing of some of the papers in several editions, this number is smaller than the sum of indexed articles by editions, except for 2002.

Table 3: *Articles by Osijek-based authors indexed in the Current Contents Connect database in the period 1998-2018*

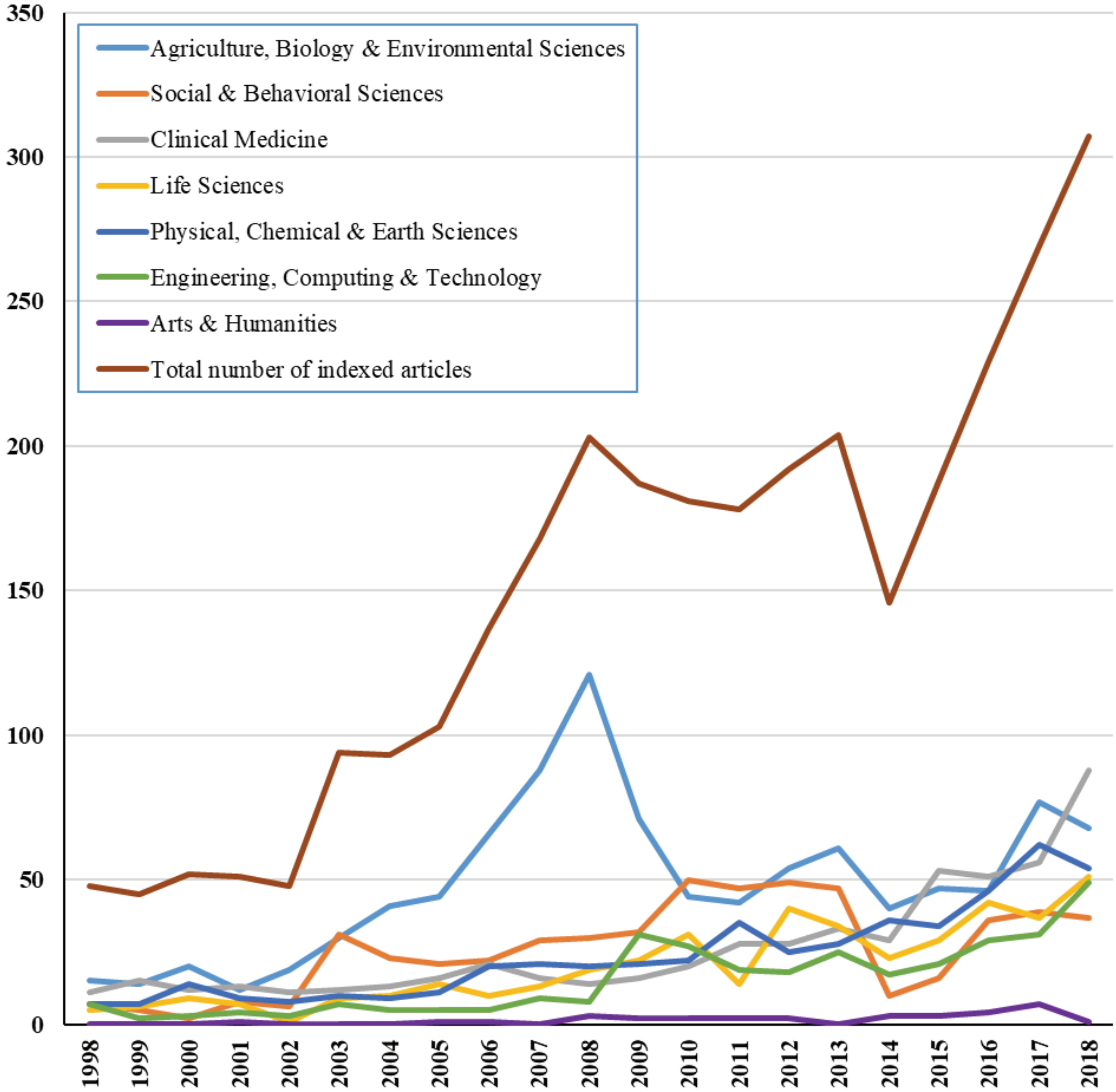
Year	Agriculture, Biology & Environmental Sciences	Social & Behavioral Sciences	Clinical Medicine	Life Sciences	Physical, Chemical & Earth Sciences	Engineering, Computing & Technology	Arts & Humanities	Total (without overlapping)
1998	15	7	11	5	7	7	0	48
1999	14	5	15	6	7	2	0	45
2000	20	2	12	9	14	3	0	52
2001	12	8	13	7	9	4	1	51
2002	19	6	11	1	8	3	0	48
2003	30	31	12	9	10	7	0	94
2004	41	23	13	10	9	5	0	93
2005	44	21	16	14	11	5	1	103
2006	66	22	21	10	20	5	1	137
2007	88	29	16	13	21	9	0	168
2008	121	30	14	19	20	8	3	203
2009	71	32	16	22	21	31	2	187
2010	44	50	20	31	22	27	2	181
2011	42	47	28	14	35	19	2	178
2012	54	49	28	40	25	18	2	192
2013	61	47	33	34	28	25	0	204

Year	Agriculture, Biology & Environmental Sciences	Social & Behavioral Sciences	Clinical Medicine	Life Sciences	Physical, Chemical & Earth Sciences	Engineering, Computing & Technology	Arts & Humanities	Total (without overlapping)
2014	40	10	29	23	36	17	3	146
2015	47	16	53	29	34	21	3	188
2016	46	36	51	42	46	29	4	229
2017	77	39	56	37	62	31	7	269
2018	68	37	88	51	54	49	1	307
Total	1020	547	556	426	499	325	32	3123

Source: Web of Science data (Clarivate Analytics, 2019b), analyzed by authors.

In the period 1998-2018, Osijek-based researchers published 3123 articles which were indexed in the Current Contents Connect database. During the first five years of the period studied, there were no significant changes in the number of indexed articles. By 2008, however, it increased considerably, exceeding 200. Over the next few years, the number remained stagnant until 2014, when research output declined significantly. Over the last four years, a strong increase has been observed. In 2018, Osijek-based authors published more than 300 such articles. Overall, the number of indexed articles increased, on average, by 9.72% annually. Thus, it may be concluded that research output during the period studied increased, although this trend was not steady. The increase is noticeable in all editions, although in some, such as Agriculture, Biology & Environmental Sciences and Social & Behavioral Sciences, the upward trend was not constant. As opposed to the above-mentioned fields, Clinical Medicine, and in particular Physical, Chemical & Earth Sciences, showed greater stability in this regard. The data on the number of indexed articles by Osijek-based authors in the Current Contents Connect database in the period 1998-2018 are also shown graphically in Figure 1.

***Figure 1:** Articles by Osijek-based authors indexed in the Current Contents Connect database in the period 1998-2018*



Source: Web of Science data (Clarivate Analytics, 2019b), analyzed by authors.

Table 4 contains the data on the articles of Osijek-based authors in the period 1998-2018 and the total number of articles indexed in the seven Current Contents Connect editions. In order to analyze the representation of articles by Osijek-based researchers in individual editions, the last column shows the percentage of articles in the total number of indexed articles.

__Table 4:__ Articles by Osijek-based authors and the total number of articles indexed in the Current Contents Connect database in the period 1998-2018

Current Contents Connect editions	Articles by Osijek-based authors	Total number of articles	Percentage of articles by Osijek-based authors
Agriculture, Biology & Environmental Sciences	1020	2 785 587	0.0366
Social & Behavioral Sciences	547	2 116 390	0.0258
Clinical Medicine	556	3 864 729	0.0144
Life Sciences	426	5 294 689	0.0080
Physical, Chemical & Earth Sciences	499	6 459 465	0.0077
Engineering, Computing & Technology	325	3 820 948	0.0085
Arts & Humanities	32	677 210	0.0047
Total (without overlapping)	3123	20 805 047	0.0150

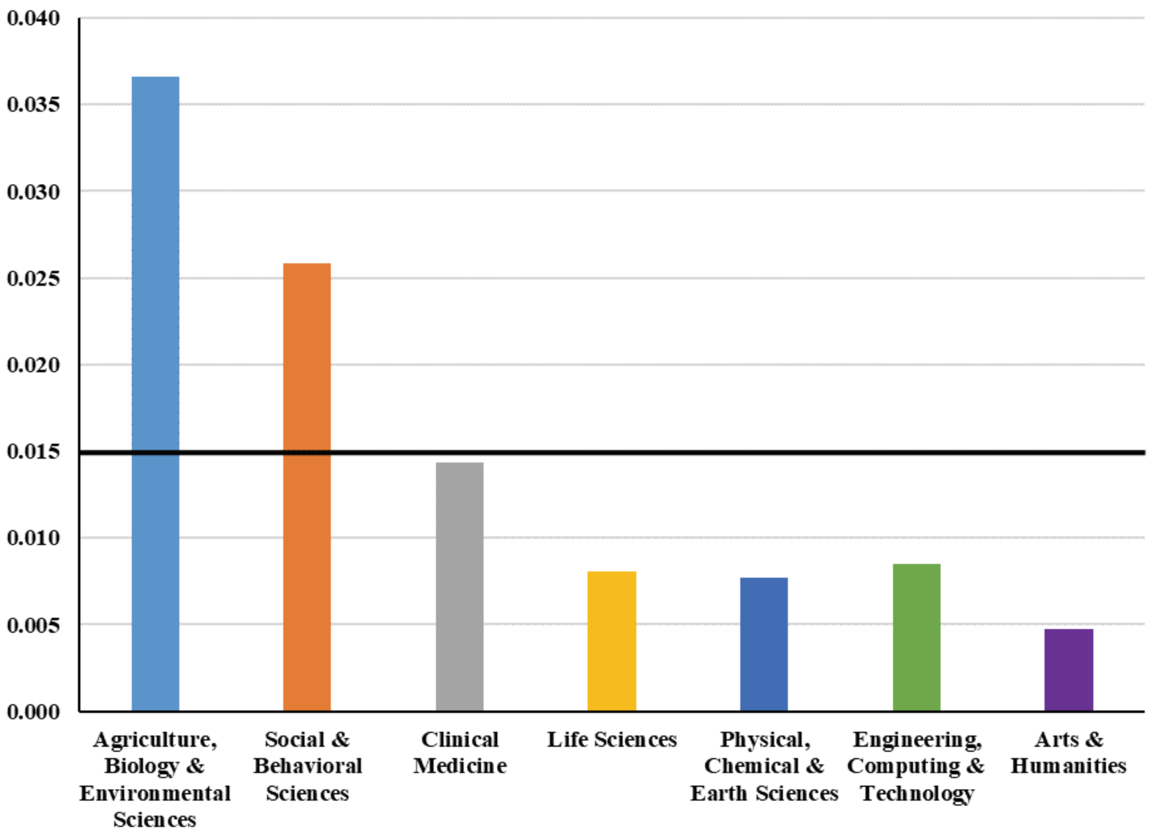
Source: Web of Science data (Clarivate Analytics, 2019b), analyzed by authors.

Approximately a third of Osijek-based authors' articles in the Current Contents Connect database, published from 1998 to 2018, are indexed in the Agriculture, Biology & Environmental Sciences edition. The next, in terms of the number of indexed papers, is the Clinical Medicine edition with just a few articles more than Social & Behavioral Sciences edition. A somewhat smaller number of papers, i.e. about 500, were found by searching the Physical, Chemical & Earth Sciences edition. A total of almost 800 articles were indexed in the three remaining editions.

In addition to analyzing the number of indexed articles, the Web of Science data also makes it possible to determine the relative contribution of Osijek-based authors to individual Current Contents research fields. Osijek-based scholars and professionals have authored or co-authored 0.015% of all articles indexed in the Current Contents Connect database in the period 1998 to 2018. The highest representation of articles authored or co-authored by at least one Osijek-based researcher was found in the Agriculture, Biology & Environmental Sciences edition, where they account for 0.0366% of all indexed papers; they are followed by articles from Social & Behavioral Sciences, and those from Clinical Medicine. The percentages of indexed articles observed in the Engineering, Computing & Technology, Life Sciences, and Physical, Chemical & Earth Sciences editions are fairly equal and are found to be between 0.0077% and 0.0085%. The lowest percentage was recorded in the Arts & Humanities edition. The individual percentages of articles by Osijek-based authors indexed in each of the seven Current Contents Connect editions are shown in Figure 2. The line in the graph indicates the percentages of indexed articles in the entire database without overlapping.

Table 5 shows the total number of articles by Osijek-based scholars and professionals, the average number of authors per article, the total number of citations, the average number of citations per article and author, and the corresponding h-index for each of the Current Contents Connect editions.

Figure 2: *Percentage of articles by Osijek-based authors in the Current Contents Connect editions in the period 1998-2018*



Source: Web of Science data (Clarivate Analytics, 2019b), analyzed by authors.

A total of 26 657 authors (co-)wrote 3123 articles indexed in the Current Contents Connect database, which are the subject of this study. Thus, on average, there were 8.54 authors per paper. By 28 February 2019, each article received 9.28 citations, on average, which makes 1.09 citations per author. Based on all analyzed articles, the h-index is 62.

Table 5: *Characteristics of scientific production of Osijek-based authors*

Current Contents Connect editions	**Number of authors**	**Average number of authors per article**	**Total number of citations**	**Average number of citations per article**	**Average number of citations per author**	**h-index**
Agriculture, Biology & Environmental Sciences	6301	6.18	10216	10.02	1.62	39
Social & Behavioral Sciences	2986	5.46	2516	4.60	0.84	20
Clinical Medicine	8807	15.84	6846	12.31	0.78	31
Life Sciences	8071	18.95	8737	20.51	1.08	40
Physical, Chemical & Earth Sciences	6989	14.01	5015	10.05	0.72	28
Engineering, Computing & Technology	1221	3.76	2609	8.03	2.14	25
Arts & Humanities	46	1.44	26	0.81	0.57	3
Total (without overlapping)	26657	8.54	28967	9.28	1.09	62

Source: Web of Science data (Clarivate Analytics, 2019b), analyzed by authors.

The number of authors per article was found to be highest in Life Sciences - almost 19, and lowest in Art & Humanities, where it was lower than 1.5. On average, papers indexed in the field of Clinical Medicine and Physical, Chemical & Earth Sciences editions were also authored by more than 10 researchers. Articles in the field of Life Sciences received the highest number of citations, on average. There were more than 20 citations per each article indexed in that edition. Clinical Medicine articles were cited more than 12 times, on average, while those indexed in the Agriculture, Biology & Environmental Sciences and Physical, Chemical & Earth Sciences editions were cited about 10 times. Each of the 32 papers from the field of Art & Humanities was cited 0.81 times, on average. When the number of authors is taken into account, the highest ratio of citations was found in the field of Engineering, Computing & Technology. Articles indexed in the Agriculture, Biology & Environmental Sciences and Life Sciences editions also received more than one citation per author, on average. Papers in the field of Life Sciences had the largest h-index, while it was slightly lower for articles in the field of Agriculture, Biology & Environmental Sciences.

6. Conclusion

In the age of information and communication technologies, online academic research databases have a vital role in supporting scientific activities. Currently, a multitude of such databases are available, which enable rapid dissemination of knowledge and new insights. For years, the Current Contents Connect database has been an essential tool for researchers from all fields of science. Its beginnings date back to the 1950s when it was a printed publication. Keeping up with the technological advancement, Current Contents has transformed from a modest booklet into database that provides information on the latest research published in leading scholarly journals. Taking this into consideration, the paper explored the scientific production of researchers from Osijek in the period 1998-2018, based on their articles indexed in the Current Contents Connect database.

A search of the Current Contents Connect database was conducted and an analysis of the obtained results was performed to answer the three research questions. It was found that, in the period of 21 years, Osijek-based authors published more than 3100 articles indexed in the Current Contents Connect database. During that period, the number of indexed articles was increasing, although the upward trend was not steady. In 1998, the number of papers published by Osijek-based researchers which were indexed in the Current Contents Connect database was somewhat under 50. By 2018, it grew to 300. Most of the papers are indexed in Agriculture, Biology & Environmental Sciences edition, followed by articles in the field of Clinical Medicine and Social & Behavioral Sciences. The analysis further showed that during the period studied, scholars and professionals from Osijek wrote 0.015% of all articles indexed in the Current Contents Connect database. Considering the total number of published papers in each of the seven Current Contents editions, the highest representation of Osijek-based researchers was observed in the field of Agriculture, Biology & Environmental Sciences, followed by Social & Behavioral Sciences and Clinical Medicine. The study has identified some other characteristics of the scientific production of Osijek-based scholars and professionals. Among other things, it was found that articles in the field of Life Sciences, which can also boast the highest citation numbers, usually have the largest number of authors per paper. Moreover, articles indexed in the Clinical Medicine, Agriculture, Biology & Environmental Sciences, and Physical, Chemical & Earth Sciences editions also received more than 10 citations, on average. In terms of the number of authors, the papers indexed in Engineering, Computing &

Technology, Agriculture, Biology & Environmental Sciences, and Life Sciences received the largest number of citations per author, on average.

The study has several limitations, which is why the results should be interpreted with caution. First of all, the analysis included only articles indexed in the Current Contents Connect database and disregarded all other papers of Osijek-based authors. Undoubtedly, Current Contents Connect is a highly respectable current awareness resource, but there are also other valuable online academic research databases. Furthermore, Current Contents Connect editions do not fully correspond with the Croatian classification of research fields. This complicates the comparison by disciplines. In addition, due to the interdisciplinary nature of science, it is not unusual that researchers publish articles in fields other than their own. Besides, the number of researchers differs from discipline to discipline and this further complicates the interpretation. It must be also taken into account that each scientific discipline is unique, which is reflected in research work and the way of publishing. In support of this, the study pointed out some of the differences among research fields. The results showed that evaluation of the scientific production should not be based solely on the total number of indexed articles, which is often the case. On the contrary, different database metrics have to be used wisely in order to avoid superficial and/or erroneous conclusions. Despite the limitations, this study provides valuable information and insights into the scientific output of Osijek's researchers.

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APPLYING RISK MANAGEMENT TO HUMAN RESOURCES: AN EXPLORATORY STUDY OF CROATIAN HOTEL INDUSTRY

ABSTRACT

Five years after joining the European Union, the effect on the Croatian economy and society is visible through a positive impact on exports, GDP growth, labour mobility, and a number of other indicators. Nowadays, more than ever, 'employees' is the buzzword of choice among Croatian employers, politicians and the media. The reason for that lies in the fact that Croatia has had a long-term negative outflow of national working population (age 20-64). The causes for the negative labour mobility in Croatia can be found in the high rate of seasonal employment, inferior work conditions (wages, protection of workers, paid overtime etc.) and overall low satisfaction with quality of life. This negative trend of Croatian labour mobility has been more pronounced in less developed and rural areas. In the past, the labour force from those areas was extensively employed during summer season by the hotel industry. Any potential risks in human resource management arising from the current situation in the labour market can influence profitability and the financial performance of the Croatian hotel industry. Therefore, managing risk in human resource management should be incorporated in the risk management processes of the hotel industry. This study aims to investigate human resource risk management practices in the Croatian hotel industry. Data was collected using an on-line questionnaire from November 1, 2017 until March 1, 2018. Descriptive statistics was used to analyse the collected data. The research findings revealed that human resource risks are both recognized and managed in the Croatian hotel industry. The study also shows that there is still room for improvement in implementing human resource risk management processes in the Croatian hotel industry.

Key words: *Risk Management, Human Resource Management, Croatian Hotel Industry*

1. Introduction

As the environment in which companies are operating is becoming more complex and competitive, it is becoming more and more important to monitor all different aspects of work which can influence the sustainable competitive advantage of the company. Continuous transformation of the environment makes it difficult for organizations to forecast the future. Organizations are focusing on prevention of all possible risks which might cause problems in their operations including the human resources (HR) risks.

According to the findings of Ernst & Young survey, which was focused on finance, human resource and risk executives from global Fortune 1000 companies, many organizations do not fully understand the impact of HRM risk issues. Even though managing human resources risk is not a new topic among global organisations, it is among the most difficult ones to define, control and therefore manage. Human resources are among the top five business risks affecting an organization's results and among the top three business risks most likely to occur. Taking in consideration globalisation, an ageing workforce, scarcity of skilled labour and complexity of business environment, the top five HR risks areas of most concern are talent management and succession planning, ethical and tone at the top, regulatory compliance, pay and performance alignment and employee training and development. According to the survey, respondents may be underestimating the magnitude of HR risks and their potential impact on the organization (Ernest&Young, 2008, Mitroofanova, A. et al, 2017).

By effectively managing its risks, a company can turn its risk management capabilities into a source of competitive advantage (Elahi, 2013). In the near future, the main source of risk in the knowledge economy will turn out to be the human factor (Bombiak, 2017, 121). This is especially going to be present in the labour intensive industry such as hotel industry.

2. Practices of Risk management in Human Resource: A Literature Overview

Risk management refers to a coordinated set of activities and methods that is used to direct an organization and to control the many risks that can affect its ability to achieve objectives (ISO, 2018). It incorporates principles, framework and processes for managing risk efficiently and applying them to a particular risk. Risk management is no longer an optional consideration – it is required for good quality outcome. In order to manage risk, the organization has to constantly align its activities and decision-making with objectives that will ultimately help reach the strategic goals of the company.

Sadgrove (2016) identifies six types of risks within organisation: strategic risk (all risks which could impact on the growth of an organisation usually overseen by the CEO), operational risk (includes all the factors related to operation such as systems, processes, technology, employees errors), compliance risk (allows organization to keep track on their operations to see whether it is in line with the laws – legal and regulatory risk), financial risks, technology (if organisation fails to use IT properly it puts operation at risks) and people risk or human resources risk.

Human resources risk management is all about understanding potential issues that could arise from a poorly managed work force and creating ways to mitigate those risks (Stanley, 2019). It includes the identification and evaluation of potential risk that are related to the ability of managing employees while striving to achieve the strategic objectives of organization. Human factor based risks are increasingly seen as strategically vital element to an organization - one that needs to work closely with operations, finance and other corporate departments to help drive business strategy (Flouris et all. 2010).

Employees as a key resource and capital of the organisation have been identified long time ago. Nevertheless not may researchers discuss human resources in relation to risk, especially not in the hotel industry. According to Sedgorver (2016) the risk management and human resources are usually not associated with one another in an organization. HR strategy is rarely placed within the context of risk management. Only recently, the organizations started to include human resource risk into the organization risk management systems in order to have a better overview of the risk caused by human factor.

International standard on risk management (ISO, 2009) recommends to the human resources managers, in order to connect human resource strategy with the risk management systems, to become more involved in:

- embedding risk management as an integral part of all organisational processes, including managing change,
- considering human and cultural factors and, more specifically, recognising the capabilities, perceptions and intentions of external and internal people who can facilitate or hinder the achievement of organisations' objectives,
- supporting managers to ensure that companies align their culture and risk management policies,
- supporting performance management by assisting managers to determine the risk management performance indicators that align with the performance indicators of organisations,
- acting as drivers to ensure legal and regulatory compliance,
- building capacity for effective risk management that begins with employee induction and follows it with training in managing risk,
- establishing appropriate organisational structures with clear roles and accountabilities for managing risk.

Theory has indicated an extensive number of human resources risk. Eight human resources risks are: employee health and wellbeing, productivity, financial, labour turnover, attendance rate/patterns, reputation, legal, innovation (Backer, K. et all., 2016). A range of human resources related risks issues are identified by HR practitioners in terms of culture (continuity of leadership, leadership culture, objective-setting/reward for executive managers, management behaviours, performance culture, addressing diversity issues, employee behaviour and misconduct, employee integrity and competence, diversity of the workforce failing to respond to opportunities, CSR and ethical issues), employee engagement (brand and reputation issues, employee commitment, change management programmes, mergers and acquisitions, outsourcing, transformation of HR function, trade union relationship, industrial relations and strike action), legislative compliance (health and safety regulation, new legislation compliance, employee litigation, equal pay equal value, regulatory compliance), resourcing (recruitment difficulties of key groups, retention of key staff, workforce current skills shortages, management skills deficits), development (workforce planning, future talent requirements and succession, planning difficulties –front-line staff/specialists/graduates/ managers/leaders, career management, developing key competencies for the future, leadership skills), cost and productivity (pension scheme funding, insurance and underwriting, sickness and absence management, performance management, best-value reviews and cost challenge) and employee protection (health and safety management, business continuity planning, employee health and well-being, healthcare provision, political and social stability of the local environment) (Hong Bo, 2014, 45).

These HR risks factors are easy to mitigate if proper HR management practices are used. In order to manage HR risk efficiently HR policies need to be aligned with overall business strategy and HR plan needs to be redesigned to include human resources risks management (Meyer, M. et all., 2011). When designing a management system for HR risks, it must be a strategic and consist of organizational functions such as selection, performance measurement and appraisal, reward and development (Paul, 2008). It is important that the organization identifies and evaluates the HR risks unique to different HR functions.

When developing a risk management plan for the HR functions, there are a number of areas to focus on. Using employee management plan, engagement analysis, transparent employee reward system, employee development plan and plan of education and training, the HR risks in talent management, employee engagement, performance management, reward and recognition and employee development can be diminished.

3. Data and Methodology

For the purposes of this exploratory empirical study primary data was gathered and used. In order to investigate human resource risk management practices in the Croatian hotel industry, a survey was carried out among Croatian four- and five-star hotels. Based on literature review and past studies the questionnaire was developed. Data was collected using on-line survey from November 1, 2017 until March 1, 2018. The targeted population of this study was hotel directors, managers, owners and board members of four and five star Croatian hotels/companies i.e. decision-makers. The survey was distributed by e-mail. From the register of the Croatian Ministry of Tourism, the authors prepared a survey sample of 313 (276 four-star and 37 five-star) hotels. The total response rate was almost 18 %, i.e. 54 surveys were gathered.

A structured questionnaire was used to survey risk management practices among management of four- and five-star hotels/companies. The survey comprised of four parts where the first part of the questionnaire examined the existence of systematic risk management in the company/hotel, the second part examined the use of methods and techniques for managing, identifying, analysing and measuring the risks, while in the third part managers rated the importance of methods and techniques for managing, identifying, analysing and measuring the risks. The fourth part of the questionnaire examined general data such as type of company, ownership structure, total number of employees etc.

4. Hotels and Respondents General Data

The response rate was 18 %, which are 54 hotels out of 313 contacted (38 or 70 % four stars and 15 or 30 % five star) hotels. Seasonality is one of the main characteristics of Croatian hotel industry and data collected in this survey indicates the same. Out of 54 hotels surveyed 30 hotels (55 %) are open during the whole year while 24 (44 %) only during summer season. A majority of the surveyed hotels i.e. 32 (60 %), are members of a hotel group/company. Twenty-eight hotels are part of a domestic group, while 4 hotels are part of foreign ones. Additionally, 3 (5 %) hotels are members of hotel franchise, and 19 (35 %) are not members of any group or chain. Eleven surveyed hotels/companies, or 20.4 % of the sample, employ 250 and more employees, 24 or 44.4 % employ 50-249 employees, and 19, or 35.2 % of the sample employ up to 49 employees. Based on NUTS2 classification, 41 (78 %) of surveyed hotels/companies are located in the Adriatic region and 13 (22 %) are located in the continental region.

As stated before, the authors surveyed the decision-makers, i.e. hotel directors, managers and owners or board members. Distributions of decisions-makers based on their positions are presented in the following table.

Table 1: *Respondents' positions*

Respondents position	No	%
Owner/board member	9	17%
Hotel director	23	43%
Destination/department/division manager	22	41%
Total	54	100%

Source: the authors

From the table above it may be concluded that survey sample is well balanced and that all decision-makers are well represented. Heterogeneity of the sample regarding decision making issue is arising from organizational, human resources, operational and other company characteristics.

Information on respondents (years of experience, education degree) are presented in following tables.

Table 2: *Respondents' education degree*

Education degree	No	%
M.Sc./Ph.D.	7	15
University qualification	39	71
College qualification	8	13
Total	54	100

Source: the authors

Table 3: *Management experience of respondents*

Years of management	No	%
More than 20	11	20.4
11-20	22	40.7
6-10	16	29.6
Up to 5	5	9.3
Total	54	100

Source: the authors

From the results presented in the previous tables it can be concluded that majority of surveyed decisions makers have university qualification and average 11-20 years of experience in management.

Decisions that respondents are making and are responsible for are presented in the table below.

Table 4: *Decision that respondents make*

Types of decisions	No.	%
Operational decisions	23	42.6
Financial decisions	8	14.8
Operational and financial decisions	23	42.6
Total	54	100

Source: the authors

We can see that the half of respondents is making both operational and financial decisions. Majority of the hotel directors (14 out of 23 i.e. 69.5 %) have answered that they are in charge of making only operational decisions.

5. Human Resources Risk Management Practice in Croatian Hotels

Results gathered in this study indicate that the four- and five-star hotels and hotel companies included in the survey have good practice regarding risk management. Only in 2 hotels, or 4 % of the respondents, risk management is not implemented. In 81 %, or 44 surveyed hotels operational and financial risks are managed, in 5 hotels (9 %) only operational risk is managed whereas in just 2 (4 %) financial risks are managed.

In this study the authors have examined human resources risk management practices. Employment of major five human resources risk management methods (employee management plan, employee engagement analysis, clear and transparent employee reward system, employee development plan and plan of education and training of employees) was examined.

Table 5: *Human resources risk management methods and practice*

Method	**Yes**	**%**	**No**	**%**
Employees management plan	38	70.4	16	29.6
Employees engagement analysis	37	68.5	17	31.5
Clear and transparent employee reward system	37	68.5	17	31.5
Employees development plan	34	63.0	20	37.0
Employees education and training plan	41	75.9	13	24.1

Source: the authors

From the analysis of presented human management risk management methods, it can be concluded that the method of *Employees development plan* is least implemented. This is the highly complex method and requires significant time and engagement effort of management. Methods of *Employee engagement* and *Transparent reward system* are second least employed in practice with 68.5 % of researched companies using it. The most frequently used risk management method is *Employees education and training plan*.

As stated above, in this study the decision-makers' opinion on importance of major five human resources methods in risk management was examined. The level of importance was measured with a five-point Likert scale. The question for decision-makers was set up as to value importance of individual method for risk management from 1 to 5, where 1 is 'not important' and 5 is 'very important'. Additionally, number 9 was optional was offered for the answer 'do not know/not familiar with the method'. Results are presented in following table.

Table 6: The importance of HR methods for risk management – managers' attitudes

Method	1	%	2	%	3	%	4	%	5	%	9	%
Employees management plan	**2**	*3.70*	**-**	**-**	**1**	1.85	**12**	22.22	**31**	57.41	**8**	14.81
Employees engagement analysis	**2**	*3.70*	**1**	1.85	**1**	1.85	**17**	31.48	**24**	44.44	**9**	16.67
Clear and transparent reward system	**2**	*3.70*	**-**	**-**	**6**	11.11	**12**	22.22	**26**	48.15	**8**	14.81
Employees development plan	**2**	*3.70*	**-**	**-**	**3**	5.56	**15**	27.78	**25**	46.30	**9**	16.67
Employees education and training plan	**2**	*3.70*	**-**	**-**	**5**	9.26	**12**	22.22	**25**	46.30	**10**	18.52

Source: the authors

From the analysis of the data from table above it may be concluded that majority of managers rated all methods important or very important. Average grades of observed methods are as following *Employees management plan* 4.52, *Employees engagement analysis* 4.33, *Clear and transparent employees reward system* 4.37, *Employees development plan* 4.36 and *Employees education and training plan* 4.31. Two managers have marked all methods as "not important at".

6. Conclusion

Human resources, nowadays more than ever, present a high risk factor of company's management. This is especially truth for service industries, hotel industry being one of them. This is the important reason more to include the methods of HR risk management into general and overall company's risk management practices.

On the sample of 54 managers of 4 and 5 star hotels i.e. hotel companies in Croatia, this paper analyses five major HRM practices through managers' attitudes on importance of individual methods and the level of implementation of respective methods in their companies.

When analysing managers' responds there is a rather high homogeneity – both the importance and the level of implementation of selected HRM practices show no significant difference when compared to each other.

Five analysed HRM practices are implemented by between 63 and 75 % of managers i.e. their companies, which indicates a relatively high share of companies that do not use the selected HRM methods. Additionally worrying is also the relatively high number of managers that when asked about the importance of the HRM methods answered with "do not know / not familiar with the method".

These results indicate that there is a significant room for improvement regarding the implementation of HR risk management processes in the management of Croatian hotel companies.

For future research, the connection between company performance and the employment of HR risk management practices as well as the employee turnover would be interesting to investigate. Another issue that would be important to research is the level of managers' understanding of different HRM risk methods.

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NETWORKING AS THE INFORMATION SEEKING BEHAVIOUR OF YOUNG PEOPLE IN OSIJEK IN THE JOB SEARCH PROCESS

ABSTRACT

According to the data of the Croatian Employment Agency, subsidiary Osijek, there were 2,307 unemployed people aged 15-29 at the end of 2018. Young people seek information on vacancies and potential employers from different sources, through different channels and in different ways. The research results show that a large number of young people are employed through information provided by family members or friends. The job-search theory highlights the importance of informal sources of information as the key to collect job information. The use of informal information channels is a specific job search method whereas social networking is deemed as information seeking behaviour that plays an increasingly important role in the employment process.
Since young people aged 18-24 are the most active social network users, it can be assumed that, among other things, young people seek information on vacancies. The aim of this paper is to determine whether young people in Osijek use informal sources of information in the job search process or not and to identify the role of networking therein. The purpose of this paper is to learn about the methods used by young people when searching for a job and about the types of information seeking behaviour in the job search process, particularly those leading to successful employment.
The research takes advantage of qualitative methodology. The data is collected by means of deep interviews. The results reveal which information sources are used by young people in Osijek in their job search process. Furthermore, they disclose the role of networking in the same job search process.

Keywords: *information behaviour, job-search methods, networking, unemployment, young people*

1. Introduction

Young people are considered the driving force of a society. They are the main triggers of country economic growth and development. At the end of 2017, there were 2,631 unemployed people aged 15-29 in Osijek while one year later, this figure rose to 2,307. At the latter point in time, at the end of 2018, there were a total of 35,000 young people out of work in Croatia (Croatian Employment Agency, 2018; Eurostat, 2018). Youth unemployment represents a major political, social and economic problem in Croatia. Moreover, unemployment implies a number of negative consequences. For instance, research demonstrates that the unemployed have low self-esteem, they are more anxious and tend to be aggressive towards their family members (Vansteenkiste et al., 1994, 269). Besides, unemployment has negative effect on youth, particularly with respect to their career advancement, identity building and mental health (Hess, Petersen & Mortimer, 1994). Conversely, the moment of being hired is for a young person a significant step towards independent life, founding a family, taking greater responsibility in society, interaction with a broader circle of people etc. Having a job, except gaining work experience in your own profession, entails the feeling of being responsible for action and necessary decisions. Furthermore, getting employment diminishes financial dependence on adults and help adults regard youth as those who contribute to the welfare of the family and society at large (Hess, Petersen & Mortimer, 1994). Although many studies have proved that there are a growing number of people appreciating their free time more than their working time, most young people and adults, both those employed and unemployed are trying to find a paid job (Allatt &Yeandle, 1992; Baetghe, Hantsche, Pellul, & Voskamp, 1989; Banks & Ullah, 1988; Bogt & Praag 1992 pursuant to Grotenhuis & Meijers, 1994). Unemployed youth obtain information on vacancies, job opportunities and potential employers in various ways. This paper involves both a theoretical and empirical part of research. The theoretical part puts the emphasis on the importance of timely, accurate and reliable information in the job search process and on the action undertaken by young people with respect to obtained information. This part is based on available literature from several scientific areas studying youth unemployment. The empirical part comprises a qualitative survey aimed at getting answers to the following survey questions: 1. Which formal and informal information sources are used by unemployed youth? 2.Which ways, if any, of youth networking are involved in the employment-related information seeking process? 3. To which extent do social networks support the information seeking behaviour of unemployed youth? The research results and conclusions hereof may serve as guidelines for employers and recruitment agencies and institutions in sharing information on vacancies. Furthermore, the paper should facilitate understanding of the information seeking behaviour of young people in a specific context – the job search process.

2. The role of information in the job search process

The job search process is very complex. Therein, young people manifest different, rather complex information seeking behaviour. In order to get a proper job, a person needs to apply different and multiple methods and strategies. Since information plays an important role in the job search process, it often happens that in literature, regardless of a scientific field concerned, applied methods and strategies correspond to information seeking behaviour. In other words, when it comes to job hunting methods and/or strategies, the issue actually concerns the information needs of an unemployed person and the ways in which he/she accesses information, channels through which information is obtained, referring sources and outcomes as the results of the job search process. The concept of information seeking behaviour in this context implies: "the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use" (Wilson, 2000, 49). Unemployed youth regard all information on vacancies as exceptionally important and seek it in various places. Information sources are considered one of the most relevant elements in the job search process and relate to tools, by means of which a person finds information on a job opportunity (Ibrahimović & Kolega, 2013). Research dealing with the behaviour of an individual in phases of the job search process highlights that the intensity of the job search process represents a segment that strongly influences the information sources used by the unemployed (Saks, 2005; Wanberg, 2012). In the job search process, Blau (1993; 1994) distinguishes two different processes an individual is going through: preparatory job search and active job search. The former of these processes involves activities such as identifying job leads and researching occupations, whilst the latter focuses on actively applying for jobs. The preparatory phase is essentially a period of self-regulated information seeking, wherein both formal and informal information sources can be consulted (Barber et al., 1994; Wanberg, 2012). Job hunting methods are traditionally divided into formal and informal ones. The former include using services of recruitment agencies or responding to job advertisements published in newspapers, magazines and on the internet. The use of someone's contacts and acquaintances, e.g. those of family members, relatives, friends or colleagues, belongs to informal job hunting methods. It is the method that has lately been studied to a great extent (Saks, 2005; Green et al., 2011).

Ten years ago, research showed that even 4 out of 5 job seekers used the internet when searching for a job. This does not indicate only the fact that most people search for a job on the internet but also the importance of the role of ICT in the respective process (Green et al., 2011). Lately, networking has been gaining importance among informal job hunting methods. Defined as interaction, linking with and coming into contact with other people and networks, it is one of the methods for obtaining relevant job-related information.

3. Networking as a manner of seeking information

When being unemployed, people usually seek information on vacancies from their friends, relatives and acquaintances. Networking is believed to be the key activity in the information seeking process (Meho & Tibbo, 2003).

Networking has been depicted in job search literature as: "individual actions directed toward contacting (…) people to whom the job seeker has been referred for the main purpose of getting information, leads or advice on getting a job" (Wanberg, Kanfer & Banas, 2000, 492). This also appears in job search theory, stressing informal sources (i.e. network contacts such as family members and acquaintances) as essential repositories of job information (Saks, 2005; Van Hoye et al., 2014; Wanberg, 2012). Certainly, the use of informal sources is regarded as a specific job search method, often denoted as networking (Lambert, Eby and Reeves, 2006; Saks, 2005; Van Hoye et al., 2014; Van Hoye, Van Hooft & Lievens, 2010; Wanberg, 2012; Wanberg, Kanfer & Banas, 2000). Taking advantage of such contacts is called 'networking' behaviour, and has been recognised as a prerequisite of a high-quality job search (Van Hooft et al., 2012: 9). This implies that in the job search process, networking largely comes as a transactional activity wherein already established contacts are *used* to obtain resources. In this light, networking during job search is viewed through the lens of mobilising existing sources of social capital. The skill of efficient use of social networks in the job search process occurs to be a fundamental aspect of finding a job on the modern labour market (McQuaid and Lindsay, 2005). Studies disclose that about 1/3 (31%) of all employees in the UK have found a job through a network of contacts. Other studies suggest that 1/3 of young people have got hired with the assistance of their friends and relatives, 1/3 of them by directly contacting employers and 1/3 of them by searching newspaper job advertisements or using the services of recruitment agencies (Franzen & Hangartner, 2006, 357). Indeed, information seeking behaviour research has shown that individuals often approach their social network for advice or information before expanding their search to include different sources (Huvila, 2011; Wellstead, 2011). Social network portals emerge as a combination of those methods, where browsing online job advertisements is a formal job search method and networking an informal one. Social networks, no matter if in the form of a platform, window or webpage, provide job seekers within a network with potentially highly important support and assistance (Mowbray et al., 2015).

4. Research

4.1. Research purpose and goal

The goal of this research is to establish the presence of networking as information seeking behaviour characterizing young people in Osijek in the job search process. The research is also aimed at determining the importance of informal and formal information sources, and their impact and potential in the domain of the information seeking behaviour of young people. Three survey questions were formulated:

1. Which formal and informal information sources are used by unemployed youth?
2. Which ways, if any, of youth networking are involved in the employment-related information seeking process?
3. To which extent do social networks support the information seeking behaviour of unemployed youth?

4.2. Methodology

The survey includes 12 unemployed persons aged 19-27 years with different qualifications (skilled workers, people with secondary school qualifications, a bachelor's degree, a master's degree). With the assistance of the manager of the mediation and counselling service of the Croatian Employment Agency, subsidiary Osijek, potential examinees were first asked to participate in the survey. Their consent was to be given within the framework of their regular check-ins to the Agency. Those who provided their consent were invited to face-to-face interviews conducted in the premises of the Croatian Employment Agency, subsidiary Osijek, on 20 and 26 February 2019.

The survey had the form of a semi-structured interview and was carried out using the qualitative method. The collected information was recorded by a voice recorded, transcribed and analysed in terms of its content.

4.3. Results and discussion

For the sake of efficient analysis, the interview transcripts are coded and organized in topics in accordance with Wilson's model of information seeking behaviour (Wilson, 1981). Wilson emphasizes the importance of investigating information needs as a prerequisite for comprehending the information seeking behaviour of a person. It is necessary to first define the basic need (e.g. physiological need) that motives an individual who seeks information and then different contexts (i.e. social roles, environment) within which the respective need is developed. The examinees were required to answer questions related to the goals and motivation for finding a job, employment status and involvement in the job search process (whether they seek a job actively or passively, or whether they are in the preparatory or active phase of the information seeking process). For the purpose of exploring the information seeking behaviour of examinees, the questions were focused on information seeking ways, information channels and referring sources in the job search process, and on the use of social networks as certain tools for providing support to information seeking behaviour.

4.3.1. Information needs

All the examinees declared that they really want to find a job. Most of them would be satisfied with any job, no matter if in the long or short run, but they would all like to work in their profession. Only one examinee was in the preparatory phase of the job search process while all the others were actively looking for a job. The examinees were out of work between 3 months and 7 years. Motifs for finding a job encompass acquisition of work experience, working in your own profession, making acquaintances, maturation, financial independence, the feeling of usefulness in the family and society, founding your own family etc. One examinee formulated her reasons for getting hired in the following way:

> P 4: *"(I want to get employed) because I don't want to waste time."*

Concrete information needs arising from employment motifs and goals include, beside information on vacancies and wage, workplace and the nature of a job, information on working conditions such as working hours, annual leave and similar.

4.3.2. Information seeking behaviour

Aiming to satisfy their information needs in the job search process, the examinees manifest different information seeking behaviour or in other words, they seek information in various ways, through different channels and from different formal and informal information sources.

Formal sources

The Croatian Employment Agency represents the main source of job hunting information for the majority of examinees. With respect to the examinee who were in the preparatory phase of the job search process, the Croatian Employment Agency was the only source of relevant information. It was said to be a highly reliable and safe source of information.

> P12: "*The Croatian Employment Agency is the safest source of information since it is not very safe to [search for a job] through social network because in my opinion, many employers lie when they mention free time and salaries, but when you start working…*"

> P7: *"The most relevant source of information is the Croatian Employment Agency*".

The examines accentuated that beside assistance in the information seeking process, the Croatian Employment Agency offers support in the sense of providing information, education and retraining, and that the recruitment consultants are very supportive. Some examinees regularly use all of its services.

Eleven examinees revealed that they seek information on vacancies on the net. This primarily refers to the webpages of the Croatian Employment Agency, but also to those of recruitment agencies, such as Moj posao, and other companies or institutions which might be their potential employers.

> P5: "*I found my job on the net. I visited the webpage of my employer, the hotel I am currently work in and found a job advertisement.*"
>
> P3: "*Many people have lately found find a job on the net. Accordingly, recommendations and similar don't play an important role in this light any more. In most cases, if*

something is found, it is found on the net and everything takes place electronically, CV and everything."

These results match the results described in the paper published by Green et al. in 2011. They reveal that most people seek information on vacancies on the internet.

Regarding the reasons for using the internet, the examinees stressed its high availability as an information source and as such, it is used very often, up to several times a day.

P8: "*All the things matter, but the internet – it is the easiest and most accessible place with the best choice of jobs*".

On the other hand, they are clearly dissatisfied by the fact that despite the possibility of online communication, employers generally do not respond to job applications, so this is pretty demotivating and discouraging for job seekers:

P7: *"I don't know; I often get no reply to my e-mails with job applications".*

P1: "*I assume that employers should be blamed for providing no replies to e-mails with job applications or to any other form of contact whatsoever. On average, only three out of ten e-mails are replied in some way, with an invitation to a job interview or a notice that they have hired someone else."*

Informal sources - the role of networking

The examinees disclosed that they are provided with a little or great assistance in seeking information on vacancies by their parents, relatives, friends and acquaintances. Some parents are actively involved with the job search process:

P7: *"They are asking around. My dad asks his friends if someone knows someone who is looking for some workers or something (...) My dad informs himself when he goes somewhere or something and asks if someone might need workers, he tries to get me somewhere, anywhere to work".*

P8: *"A colleague has started working in (our) profession and whenever there is a vacancy, she informs me thereabout and I send them my job application, CV…"*

P2*: "It is not that I only look for a job at the Croatian Employment Agency or on the net, but I also let people around me know that I am searching for a job, so if they hear something, they should contact me."*

P2*: "For instance, the head of [an institution] is a friend of my family and for example, he should find out about a vacancy at school cause that's what he deals with".*

Using of social media tools

All the examinees have a Facebook and Instagram account with 200 to 1,000 friends. However, only few of them belong to groups posting vacancies. The advantages of getting information through that channel encompass obtaining notices directly to their profile whenever there is a new post and the possibility of checking different kinds of jobs in one place.

P7*: "In Facebook, people publish a post, so to say, as a status and then it is slightly more casual. In Moj Posao or the Croatian Employment Agency, it is a real job ad, it is more formal, e.g. we offer a good wage, pleasant work environment, and in Facebook, I can't see all that but just like …we have that many employees, you are going to work here and there, the salary is that big."*

The examinees point to the possibility of networking and direct communication with experienced staff doing a particular job and with those who are looking for that kind of a job. The main flaws include the need for browsing all posts and the difficulty to find a post with some information again when they want to check something. The examinees who were searching for a seasonal job and a job related to hotel management and tourism usually seek information on vacancies through social networks. Those who were seeking another type of a job find social network inappropriate for obtaining relevant information:

P4: "I believe that people can benefit from social networks when they are searching for a job, but I think this depends on a desired job. It seems to me that state institutions and public services do not offer jobs in such a way after all and that such ways of finding a person for a certain job are more convenient for private and catering companies".

These assertions correspond to the assertions appeared in earlier research, according to which networking plays an important role in getting high-quality jobs (Van Hooft et al., 2012, 9):

P3*: "You can find only seasonal jobs through social networks".*

Research results (Franzen and Hangartner, 2006, 357) disclose that 1/3 of young people get hired with the assistance of their friends and relatives, 1/3 of them by directly contacting employers and 1/3 of them by using the services of recruitment agencies. Although the examinees in this research did not even mention contacting potential employers as a way of finding a job, it is a common fact that in the job search process, the examinees used a combination of job hunting methods. All of them held that one method does not suffice and that information should be sought in several places:

P4*: "I think that one standalone method cannot be efficient and that several different methods should be combined. Cause relevant information needs to be obtained at the right moment and an individual should be engaged in the job search process and make other people engaged therein."*

P2*: "All appears to be the most efficient method, from scrolling through job ads to spreading news by word of mouth, everything matters actually".*

P5*: "The most efficient way would be a combination of ways".*

5. Conclusion

This paper provides an insight into one segment of the information seeking behaviour of youth in a rather specific context – the job search process in which possession of useful information is highly important for an individual. Understanding the information seeking behaviour of young people in the job search process contributes to a better perception of the type and intensity of the bonds between information needs and information seeking behaviour. This research has eventually provided an answer to the raised question. Unemployed youth use all kinds of available formal and informal information sources in the job search process. More precisely, job search-related information is sought at the Croatian Employment Agency, on the internet, on the portals of recruitment agencies (e.g. Moj posao, Burza and similar), through social networks, from family members, relatives, acquaintance, friends and their personal contacts. None of the information sources can be said to be the key one in that process. On the contrary, they all bear the same relevance, depending on the type of a desired job. For example, if someone wants to find a seasonal job, relevant information is sought on the internet, webpage of a respective company and social networks since they contain the biggest number of referring job advertisements. Yet, other information sources are not completely ignored in this light.

Seeking job search-related information on the internet is very popular and occurs to be highly available and efficient. It was mentioned by all examinees.

Networking as seeking information on vacancies and employment from family members, relatives, friends and acquaintances is common among unemployed youth in Osijek. All the examinees find networking important, but no more than other information seeking methods. Furthermore, all of them ask around and search for a job through their family members, friends, relatives and acquaintances. However, such information seeking behaviour is most popular among young people who wish to get a job in a public institution such as a school or museum. They are not likely to seek information otherwise, their first choice is networking. In other words, they will probably seek information from their friends, relatives and network of contacts while social networks are no option for them since the institutions concerned do not advertise vacancies in such places. Beside the above sources, this group of examinees only sometimes use online information since advertisements for jobs in public institutions appear in very few places. Social networks are also used as a source of information, tool and a kind of support to the information seeking behaviour of unemployed youth in Osijek. However, their impact is not so big. On the contrary, although young job seekers use social networks, they are still sceptical towards them as job search-related information sources. They do not use social networks for the purpose of networking and establishing contact related to getting information, they just scroll through other people's posts. It can be concluded that there is no dominant source of information in the job search process of young people. For the purpose of confirming this conclusion and elaborating the levels of the efficiency and successfulness of the information seeking behaviour of young people in the job search process, it would be useful to conduct research of employment-related information seeking behaviour among young people who have recently found a job. On the contrary, the necessity for seeking information from all available sources needs to be pointed out. The effects of formal and informal information sources in the job search process of young people in Osijek are strongly interwoven. What can be expected is strengthening of the role of the internet in the job search-related information seeking process. Similarly, it is very likely that the existing social networks will further improve and new ones, specialized for seeking job search-related information are to be developed. Finally, it is important to develop the employers' awareness of the importance of providing job seekers with a feedback, when the latter apply for a job, in order to satisfy their information needs.

The limitations of this research include focusing on only one city and applying only one research method. In order to get a comprehensive picture of the information seeking behaviour of young people in the job search process, it is advisable to combine various research methods and to conduct research or supplement the research results with the results of research carried out in Croatian regions affected by a lower unemployment rate. It would also be good to examine young people in different phases of the job search process.

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WHAT DO EMPLOYERS IN CROATIA AND IRELAND WANT?

ABSTRACT

Employability is about much more than just relevant knowledge. Asking questions such as what do employers value in a graduate and how they view entrepreneurial graduates is key to understanding their motivations for recruitment and selection of individuals. This paper explores graduate employability from the perspective of employers in two European Union countries: Croatia and Ireland. Specifically, it focuses on three primary objectives:

1. *To identify critical skills, attitudes and attributes sought by employers in Croatia and Ireland, and compare their perceptions*
2. *To determine if employers consider entrepreneurial skills critical for employability*
3. *To find out how well HE in Croatia and Ireland contributes to the development of crucial employability skills*

The empirical research has shown that employers in Croatia and Ireland (n = 109) share some similar as well as different perceptions regarding employability. Employers in both countries are looking for well-developed young people with a number of attributes as their future employees. They view willingness to learn, enthusiasm and motivation, learning skills and application of acquired knowledge as important for graduate employability, but do not consider possession of entrepreneurial skills significant for employability. According to the findings of this research, employers in Croatia and Ireland are moderately satisfied with the contribution of HE to the development of employability skills. This study highlights the growing need that faculties put emphasis upon skills development based upon employers' priorities.

Key words: *employers' needs, graduate employability, entrepreneurial skills*

1. Introduction

Graduate employability as a concept has received considerable attention within Higher Education (Tomlinson, 2012). Organizational changes such as downsizing, restructuring and outsourcing, demographic changes such as declining birth rates and aging population, as well as gradual erosion of job security have led to an increasing interest in employability. De la Harpe et al.. (2000) pointed out a worldwide concern that HE programmes are not producing graduates with the kind of life-long learning and professional skills they need in order to be successful in their careers. Various reports emphasise the importance of education for employability through a focus on the development of employability skills and work experience. Graduate employability is a rapidly growing area of research, but it has been termed a "slippery concept" due to difficulties with definition and conceptual clarity (Pegg et al.., 2012; Dacre Pool and Sewell, 2007). Although entrepreneurial qualities such as problem solving, making judgements on the basis of limited information, taking initiative, thinking outside the box, independence, working well under pressure, innovation and creativity are taken into consideration when recruiting (Audibert and Jones, 2002), there is limited empirical research on the perceptions of employers about entrepreneurial skills and their impact on graduate employability

This paper is organised as follows: the first section discusses the literature on employability, entrepreneurship skills and what employers put value on regarding graduate employability. After that an overview and a rationale for studying Ireland and Croatia is provided, followed by a description of the methodology used in this research. In the next section the findings from Croatia and Ireland are presented, followed with a comparison of the findings across both countries. The paper concludes with a discussion of the implications, limitations and areas of further research.

2. Literature review

2.1. Employability

The term employability is a multi-dimensional concept, widely used in the HRM literature, in government policy documents and by employers to explain many aspects of work and career. Because of the interest in the topic, there are many definitions of employability. For example, Yorke (2006) defines it as "a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" (p. 8). Moreover, employability refers to an individual's ability to find a job, retain a job and move between jobs should the need arise (Brown et al.. 2003). Most definitions suggest that individual characteristics and behaviours determine employability. There are also models of graduate employability that help to explain how students can develop these skills, understandings and personal attributes (Dacre Pool and Sewell, 2007; Knight and Yorke, 2004). Along the same line, Hillage and Pollard (1998) conclude that for the individual, employability depends not only upon the possession of employer relevant knowledge, skills and attitudes, but also upon the way these assets are used and exploited; how they are presented to potential employers, as well as upon the context within which the individual works, e.g. labour market and personal circumstances.

Relevant literature assumes a link between employability and employment. Being employed means having a job, whereas being employable means having the qualities needed to maintain employment and progress in the workplace. In reality employability refers to individual's

potential to obtain and retain suitable employment within the current labour market context (Clarke, 2008). Having the right skills and behaviours may increase the likelihood of employment, but it is not a guarantee, particularly in a highly competitive labour market where many others have similar degrees and competences, or in a labour market where there are only limited opportunities.
In the past, organizations used to offer job and career security, and employable employee, apart from demonstrating loyalty to the company, was supposed to have company specific knowledge, skills and behaviours. As a rule, careers were managed by the employer and were linear, hierarchical and relatively secure (Capelli, 1990). In the twenty-first century employees are experiencing new career forms and new ways of working. Jobs are likely to be short-term financial relationships requiring flexible, highly skilled employees (Atkinson, 2004). As opposed to career managed by organizations, in such a context, employees are responsible for their own employability, for managing career choices, making sense of experiences and seeking personal fulfilment (Hind, 2005). They have to ensure that their skills are current and marketable (Clarke, 2008). Therefore, Sanders and de Grip (2004) define employability as the capacity and the willingness to be and to remain attractive in the labour market, by anticipating changes in tasks and work environment and reacting to changes in a proactive way. Fugate et al.. (2004) refer to it as a form of work specific adaptability that enables workers to identify and realize job opportunities.
In order to understand employability, one needs to be aware of its component parts. Generally, employability skills are considered to include: knowledge, transferable skills, efficacy beliefs, personal qualities and entrepreneurial skills. Coopers and Lybrand (1998) define employability skills in terms of four areas: 1. Traditional intellectual skills – e.g. critical evaluation and logical argumentation; 2. Key skills – e.g. communication and IT; 3. Personal attributes – e.g. motivation and self–reliance, and 4. Knowledge of organizations and how they work. There are several synonyms found in relevant literature. Different researchers refer to core, key, generic, personal, transferable, common, work or employment related skills. In addition, skills are often referred as capabilities, competences or attributes making it extremely difficult to conceptualize what is understood by employability skills. There are many different lists of employability skills, but there is general agreement in the literature about the importance of communication, numeracy, teamwork, IT problem solving and learning how to learn.
Furthermore, graduates need to be more flexible in response to the growing number of career changes experienced through life, because of the increase in short term contracts, part-time work, outsourcing and home-working (Harvey, 2000). This raises the question of the importance of possession of entrepreneurial skills for finding, retaining and moving between jobs in the current dynamic labour market.

2.2. Entrepreneurial Skills

Increasingly individuals are encouraged to think of themselves as self-employed (even when they are employed by an organisation), to assume responsibility for career self-management (rather than relying on the organization for career planning and job security) and to look for ways to maintain and enhance their attractiveness in the labour market. What was perhaps viewed by some as the standard rationale of "preparing students for an uncertain work/life future" (Gibb and Cotton, 1998), now appears to have uncontrollably spiralled into addressing a set of complex economic and social challenges (NESTA, 2008), suggesting that entrepreneurship education is somehow able to produce "superskilled" graduates who will be entrepreneurially effective and capable of thinking creatively, solving problems, analysing business ideas, identifying opportunities, innovating, effecting economic growth, empowering others and creating both jobs and value for society (WEF, 2009). The general consensus is that training for employability is important, both in terms of general education and, more specifically, for future employment**.**

Different authors have proposed that entrepreneurial education programmes should seek to achieve the following three aims: learn to understand entrepreneurship, learn to become entrepreneurial and learn to become an entrepreneur. The proposed conceptual schema of Hytti and O'Gorman (2004) for capturing the objectives of entrepreneurial education programmes highlights the importance of enhanced "employability" by creating more entrepreneurial individuals who will act as independent entrepreneurs, and preparing individuals for a world where they will increasingly need to manage their own careers and lives in an entrepreneurial way. In terms of what employers want in a graduate, a recent employer survey in Ireland (HEA, 2015) found that while employers were very satisfied with graduate recruits across a range of workplace and personal attributes including ICT skills; teamwork; communication; adaptability and flexibility; positive attitude and energy, a lower level of satisfaction was noted for entrepreneurial skills and business acumen/awareness.

There is strong support for reconceptualising entrepreneurial curriculums to incorporate responsibility, ethics and environmentalism (Gibb, 1996, 2002; Gorman et al.., 1997; Hannon, 2005; Pittaway and Cope, 2005: Cope and Watts, 2000; Rae, 2008). This shift from an "old" to a "new" entrepreneurial learning and education paradigm has been reinforced by the emergence of the new economic era (Rae, 2010) resulting from the international financial and economic crises in 2008 and 2011. As argued by Rae (2010, 593), "the challenge is how to regenerate economic activity, new jobs and sources of wealth creation, especially for young people, without the easy certainties of either corporate or public investment; to which entrepreneurship, and learning to work in the new era are vital contributions". According to Hytti and O'Gorman (2004, 11), "national competitive advantage is increasingly dependent on the skill base of the workforce, and more specifically, on the ability of both firms and individuals to engage in innovative activity and in new economic activity. This has created an imperative for both general skills, which, it is suggested, are related to innovation, and for specific enterprise skills, which are related to new venture creation".

To examine whether there is a disparity between what the entrepreneurial graduate demonstrates and what the employer is looking for subsequently lends to more investigation. Asking questions such as what do employers value in a graduate and how they view entrepreneurial graduates is key to understanding their motivations for recruitment and selections of individuals. Recent studies show that employers are unwittingly placing less value on entrepreneurial attributes when choosing individuals for roles even though the companies examined in these studies believe they demonstrate a culture and policy in line with hiring individuals with entrepreneurial qualities. This is an interesting result as the EU 2020 strategy highlights the need to embed creativity, innovation and entrepreneurship into education and proposes a number of actions to unleash Europe's entrepreneurial and innovative capabilities. Investigation of this particular area would highlight, confirm or dispute the concepts surrounding entrepreneurship education and the impact on the individual and the organisation.

2.3. What Do Employers Value

It has been established earlier by Hillage and Pollard (1998) that the government policy is aimed more at the accreditation of knowledge and vocational skills than on the soft skills and attitudes, and on the individual and the supply side than on employers and demand side. Bennett et al. (2000) and Holmes (2001) have established that there is a lack of common language between employers and HEIs concerning employability. Holmes (2001) also suggests that employers do not want to recruit graduates with knowledge and skills *per se*. Rather they require competency and effectiveness. It was found earlier that employers increasingly want graduates who have

self-theories that are marked by confidence, optimism and a belief that they can make a difference. Besides that, employers want graduates who can adapt to the workplace culture, who can use their abilities and skills to evolve the organization and who can participate in innovative teamwork (Harvey et al., 1997, Little, 2001). Earlier research (Harvey et al., 1997) found that employers value critical thinking as this is required for innovation and leading change.
From the employers' point of view, employability is the propensity of the graduate to exhibit attributes that employers anticipate will be necessary for the future effective functioning of their organization (Harvey, 1997). For employers, it was established that subject knowledge is not as important as the graduate ability to handle complex information and communicate it effectively (Knight and Yorke, 2000). Employers want a variety of other skills, personal and intellectual attributes, rather than subject knowledge. In order to establish what they value most, the research was conducted, results of which shall be presented in the next chapters of the paper.

2.4. Croatia And Ireland- Comparison of Basic Indicators

In this research Croatia and Ireland have been taken as examples of countries with a highly competitive labour market and a labour market with limited opportunities, respectively. Even though both countries are of similar size in population terms, the differences in GDP and economic development phases are somewhat large (See Table 1).

Table 1: *Croatia and Ireland Comparison*

GEM Report Stats	Croatia	Ireland
Population Million (2014)	4.2	4.6
GDP$ Billion (2014)	57.2	246.4
GDP Per Capita $ (2014)	13,494	53,462
SME Contribution to GDP % (2014)	54	48
World Bank Doing Business Rank	40/189	17/189
World Bank Starting a Business Rank	83/189	25/189
World Economic Forum Global Competitiveness Rank	77/140	24/140
Economic Development Phase	Efficiency-Driven	Innovation-Driven

Source: GEM 2015/16 Global Report, pp.68, 80

According to the World Economic Forum Global Competitiveness Rank, Ireland is 3 times more competitive than Croatia, therefore 3 times more likely to grow over time. Croatia is an efficiency-driven economy, whereas Ireland is an innovation-driven economy.
Entrepreneurial activity in Croatia and Ireland almost mirror each other and are above the OECD average of 7.8%. The rate of early stage entrepreneurial activity is 8.4% in Croatia and 10.9% in Ireland which is encouraging and could be reflective of the middling attitude towards fear of failure experienced in both countries. Established business ownership is low and below the OECD average of 6.6% (4.2% in Croatia and 4.4% in Ireland). The entrepreneurial employee activity rate is high: 5.3% in Croatia and 6.2% in Ireland. The data suggest that approximately half the amount of early start entrepreneurs become established businesses in both countries and the rate at which employees contribute to innovation and intrapreneurship within organisations are high. Innovation, creativity and new business opportunities contributions made by employees 19/65 for Croatia and 11/65 for Ireland, ranking both counties in the upper quartile.
The motivation Index (i.e. the TEA Opportunity to TEA Necessity ratio) is an important indicator of the entrepreneurial capacity of a country, indirectly indicating the level of optimism and long term expectations of entrepreneurs. Croatia's motivation index of only 1.3, which is lower than the EU average of 2.8%. This suggests that businesses are born out of necessity in

Croatia, rather than perceived opportunities. This is not reflected in Ireland's higher levels of perceived opportunity on the motivation index at 3.2%, ranking 25 out of 65 therefore concluding that Ireland experiences an innovation-driven economy. Improvements in this important indicator are vital for growing confidence towards entrepreneurial activity and moving Croatia towards an Innovation economy.

When examining the impact of entrepreneurial behaviours and attitudes, it is perceived that job creation is ranked high in both Croatia and Ireland. The expectation that jobs created from entrepreneurship in Croatia is ranked 13 out of 65 and ranked 5 out of 65 for Ireland which is a positive attitude. Ireland also scored high for Innovation, indicating that Ireland is six times more innovative than Croatia (6/65 vs 38/65).

Another similarity lies in the impact of the Business Service Sector Rate, 20.9% for Croatia and 25.2% for Ireland. Between 21-26% of business in both Croatia and Ireland are involved in such activities as including marketing and advertising, consulting, legal services, logistics and shipping, human resources, staffing, leasing, security, outsourcing, and facility management.

The societal values when it comes to entrepreneurial attitudes and behaviours are interesting across both countries. Ireland had a perceived high status of successful entrepreneurs and measured 5 out of the 65 counties examined, however entrepreneurship as a good career choice was seen as a less attractive offering despite the high rate in status. Ireland ranked at 43 out of 65 countries examined in terms of how attractive entrepreneurship was as a career choice which is lower than the OECD average. In contrast, interestingly, Croatia viewed entrepreneurship as a more attractive career choice than Ireland did. However, their perception towards entrepreneur's status was significantly lower than that of Ireland and the OECD average, ranking at 62 out of 65 countries examined. The attitudes towards status of entrepreneurs are at complete opposite ends of the scale, even though Croatia who had a higher propensity to see entrepreneurship as a good career choice did not hold entrepreneurs in such high esteem as Ireland did.

In the period 2012-2015 the share of young people taking part in entrepreneurial activities in Croatia has dropped from 16.0 % in 2012 to 13.8 % in 2015 (ages 18-24) and from 38,3 % in 2012 to 30,6 % in 2015 (for ages 25-34). This is a concern since Croatia has had the 3rd highest rate of unemployment of young people in Europe for some years. This also raises the question of contribution of education interventions to increasing self-employment of the young in Croatia. For the same period, data for EU (average) is 12.0/29.1 and for Economies based on efficiency average is 16.5/31.8 (first digit for 18-24, the second 25-34 years (Singer et al. 2012).

In Ireland, the percentage of 18 – 24 year olds engaged in early stage entrepreneurship in 2012 was 4.5% and 7.9% for the 25 – 34-year-old cohort. Similar to Croatia, this figure dropped to 3.4 % for the 18- 24 year olds, but increased to 10% for the 25 – 34-year-old cohort in 2014.

In terms of Youth Unemployment, Youth Unemployment Rate in Ireland averaged 18.5% from 1983 until 2016, reaching an all-time high of 31.2 % in June of 2012. The current rate is 16.5%.

Considering the similarities and the differences between the countries, the authors believe it would be both interesting and useful to compare the employer's views in the two counties concerning graduate employability and entrepreneurship.

3. Method

This paper is based on a research in which the perspectives of graduate employers from companies of all sizes from Croatia and Ireland on skills and attributes that increase graduate employability were studied. Data was collected by means of self-administered questionnaire. The surveys measured 32 dimensions of graduate employability. The list of dimensions was compiled from diverse authors (Carnevale et al., 1990; Nunan, 1999; Conrad and Leigh, 1999; Swiatek, 2000; Rosenbaum, 2002; Gibb, 2002; Yorke and Knigh, 2004; Van der Heijden et al.., 2001; Nasir et al.., 2011; Fatoki, 2014), as well as from SCANS repot and DOTS model. Two surveys conducted previously in Europe were taken as reference for the design of the survey used in this research: 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 was piloted prior to distribution, and the survey instrument was validated by an independent panel to ensure that all the questions were understandable to the respondents.

The survey employed open and closed questions, as well as seven-point Likert scales as answers. The research yielded 109 responses from employers, (80 Croatian and 29 Ireland). The data was analysed with SPSS using descriptive statistics and bivariate statistical methods (independent sample t-test, paired sample t-test and Mann-Withney U test).

4. Results and Discussion

Table 2 presents the means for each variable (employability skills) and the differences regarding the importance of the variables for employability by the perception of employers in Croatia and Ireland. Although there is certain agreement in opinion among respondents in the survey, the study revealed considerable differences in perspectives, with regard to skills and attributes needed for employability. The most interesting key findings are presented below.

Table 2: *Estimation of Importance of Employability Skills – Comparison Between Employers in Croatia and Ireland*

Dimensions	**Employers - Croatia**		**Employers - Ireland**		***t-test***
	Mean	**Rank**	**Mean**	**Rank**	
Problem solving	6.28	1	6.18	8	t = 0.584, df = 171, p = 0. 584
Enthusiasm and motivation	6.26	2	6.54	1	t = 2.265, df = 116.502, p =0.025*
Willingness to learn	6.14	3	6.46	3	t = - 1.899, df = 170, p = 0.059
Learning skills	6.12	4	6.23	6	t = - 0.525, df = 170, p = 0.600
IT usage	6.11	5	5.82	14	t = 1.582, df = 170, p = 0.116
Intelligence	6.10	6	5.49	22	t = 3.254, df = 171, p = 0.001*
Teamwork	6.10	7	6.31	4	t = - 1.211, df = 170, p = 0.227
Foreign language	6.06	8	4.05	30	t = 7.791, df = 49.660, p = 0.000*
Application of acquired knowledge	6.05	9	6.21	7	t = - 1.051, df = 112.678, p=0.296
Maintaining interpersonal contact	6.04	10	6.26	5	t = - 1.245, df = 171, p = 0.215
Diligence	6.02	11	6.18	9	t = - 0.880, df = 171, p = 0.380
Desire for achievement	5.98	12	5.62	21	t = 1.832, df = 170, p = 0.069
Taking initiative	5.97	13	6.08	10	t = - 2.566, df = 91.671, p =0.012*
Thinking "outside the box" and innovativeness	5.95	14	5.77	16	t = 0.952, df = 171, p = 0.342
Written communication	5.94	15	5.87	12	t = 0.405, df = 171, p = 0.686
Positive attitude towards change	5.93	16	5.79	15	t = 1.285, df = 171, p = 0.201
Work ethics	5.92	17	6.51	2	t = - 3.694, df = 128.400, p =0.000*
Self-confidence	5.79	18	5.67	20	t = 0.654, df = 170, p = 0.514
Opportunity recognition	5.70	19	5.41	23	t = 0.678, df = 171, p = 0.499
Independence	5.66	20	5.74	18	t = - 0.444, df = 171, p = 0.658
Negotiation skills	5.58	21	5.23	24	t = 1.510, df = 171, p = 0.133
Work under pressure	5.58	22	5.87	13	t = - 1.859, df = 104.425, p=0.066
Making judgments on basis of limited information	5.46	23	5.00	28	t = 2.225, df = 76.045, p = 0.029*
Critical thinking	5.37	24	6.05	11	t = -3.698, df = 80.064, p = 0.000*
Persuasion	5.34	25	5.08	26	t = 1.222, df = 170, p = 0.223
Public speaking	5.16	26	5.21	25	t = - 0.173, df = 171, p = 0.863
Practical experience	5.13	27	5.72	19	t = - 2.176, df = 171, p = 0.031*
Subject knowledge	5.08	28	5.77	17	t = - 2.833, df = 170, p = 0.005*
Usage of social networks	4.64	29	4.26	29	t = 1.286, df = 171, p = 0.200
Sense of humour	4.52	30	5.03	27	t = - 1.984, df = 171, p = 0.049*
Achievement in sport	3.13	31	3.28	31	t = - 0.526, df = 170, p = 0.600
Aggression	2.56	32	2.56	32	t = - 0.017, df = 171, p = 0.987

*p-value is given for T-test on a significance level of 0.05

Employers in Croatia and Ireland give on average, similar values to employability skills. The results show that both in Croatia and Ireland, employers are looking for well-developed young people with a number of attributes as their future employees. As expected, employers do not value aggression, achievement in sport or sense of humour important in obtaining and securing a job. Among the most important skills and attributes for employers in Croatia and Ireland are: willingness to learn, enthusiasm and motivation, learning skills and application of acquired knowledge. Similarly to Harvey (2000), employers both in Croatia and Ireland value graduate attributes more important than the degree subject studied. Employers in both countries put more substantial value on learning skills than subject knowledge and practical experience. Low rank for practical experience given by employers (although Irish employers value it significantly more than the Croatian employers do) is puzzling because much research supports the link between work experience and employability (Moreland 2005; Decre Pool &Sewell, 2007; Andrews & Higson, 2010). Employers in both countries assessed that the contribution of usage of social networks and sense of humour to graduate employability is quite insignificant. Surprisingly, among the least important skills were also public speaking and persuasion.

Interestingly, Irish employers valued subject knowledge, critical thinking, enthusiasm and motivation and taking initiative more important than the Croatian. In addition, some other differences have been observed. Croatian employers value intelligence and making judgement on basis of limited information more. Differences in the perception of the importance of work ethics were found in this research. This is in line with to the recent Corruption Perceptions Index showing less corruption in Ireland than in Croatia. According to Transparency international (CPI, 2016), Ireland ranks 19th and Croatia 55th out of 176 countries. Research elsewhere has shown work ethics as being very important in the US (Casner-Lotto & Barrington, 2006; Di Meglio, 2008), UK and Australia (Jackson, 2009). Furthermore, foreign language skills, which were among the most important skills for employers in Croatia, were one of the least relevant skills in the opinion of Irish employers.

Our research highlights the importance of interpersonal skills, but they were not ranked as high in importance as expected, especially because in the Curry et al.. (2003) interpersonal skills were ranked the 3rd most important transferable skill of Irish employers. Employers elsewhere (Knight Yorke, 2004; Di Meglio, 2008; Bedwell et al.. 2014) rank interpersonal skills as a critical competence for a successful workforce and career progression.

Table 3 depicts the perception of HE contribution to development of employability skills from the perspective of employers in two countries. Our data show that employers are moderately satisfied with how HE contributes to the development of employability skills. It is possible that the often expressed employers' criticism of the shortcomings of graduate recruits is not so much the result of failure in the HE curriculum and methods used in teaching at HEI, rather the failure in the transfer process, i.e. how graduates' skills, behaviour and attributes are transferred into the employment context. As can be seen, employers in Ireland estimate the contribution of HE to development of employability skills significantly higher (in almost all dimensions) than do the employers in Croatia. This could mean that they are slightly more satisfied with the quality of graduates and might lead to the conclusion that although the two educational systems are similar, there are important differences.

Table 3: *Estimation of HE Contribution to Development of Employability Skills - Comparison Between Employers in Croatia and Ireland*

Dimensions	Employers - Croatia		Employers - Ireland		*t-test*
	Mean	**Rank**	**Mean**	**Rank**	
IT usage	4.63	1	5.44	3	t = - 3.304, df = 78.396, p = 0.001*
Foreign language	4.55	2	4.00	26	t = 1.841, df = 169, p = 0.067
Teamwork	4.54	3	5.72	1	t = - 5.355, df = 97.537, p = 0.000*
Public speaking	4.47	4	5.33	6	t = - 3.097, df = 168, p = 0.002
Written communication	4.39	5	5.36	5	t = - 3.626, df = 73.077, p = 0.001*
Willingness to learn	4.38	6	4.38	20	t = - 0.010, df = 168, p = 0.992
Diligence	4.34	7	4.77	14	t = - 1.499, df = 168, p = 0.136
Work under pressure	4.19	8	5.38	4	t = - 4.065, df = 168, p = 0.000*
Maintaining interpersonal contact	4.16	9	4.72	15	t = - 2.225, df = 84.800, p = 0.029*
Learning skills	4.08	10	5.46	2	t = - 6.062, df = 100.311, p = 0.000*
Problem solving	4.02	11	5.18	8	t = - 4.975, df = 88.872, p = 0.000*
Application of acquired knowledge	3.54	12	5.28	7	t = - 7.498, df = 78.690, p = 0.000*
Positive attitude towards change	3.89	13	4.38	21	t = - 1.565, df = 168, p = 0.119
Usage of social networks	3.86	14	4.31	23	t = - 1.389, df = 169, p = 0.167
Independence	3.84	15	4.64	16	t = - 2.869, df = 73.151, p = 0.005*
Desire for achievement	3.80	16	4.82	13	t = -4.277, df = 91.764, p = 0.000*
Self-confidence	3.72	17	5.05	10	t = - 5.839, df = 95.199, p = 0.000*
Work ethics	3.72	18	4.85	12	t = - 3.624, df = 168, p = 0.000*
Critical thinking	3.70	19	4.87	11	t = - 4.153, df = 169, p = 0.000*
Negotiation skills	3.64	20	3.90	28	t = - 0.878, df = 169, p = 0.381
Enthusiasm and motivation	3.60	21	4.38	22	t = - 2.641, df = 168, p = 0.009*
Persuasion	3.57	22	4.13	25	t = - 2.030, df = 168, p = 0.044*
Practical experience	3.52	23	5.18	9	t = - 5.243, df = 168, p = 0.000*
Thinking "outside the box" and innovativeness	3.49	24	4.64	17	t = - 4.499, df = 87.588, p = 0.000*
Making judgments on basis of limited information	3.45	26	4.59	18	t = - 3.913, df = 169, p = 0.000*
Taking initiative	3.45	25	4.28	24	t = - 2.906, df = 169, p = 0.004*
Opportunity recognition	3.43	27	4.41	19	t = - 3.423, df = 169, p = 0.001*
Intelligence	3.39	28	3.90	29	t = - 1.613, df = 168, p = 0.109
Sense of humour	2.61	29	3.36	30	t = - 2.473, df = 57.256, p = 0.016*
Aggression	2.54	30	2.54	31	t = - 0.002, df = 169, p = 0.998
Achievement in sport	2.53	31	3.97	27	t = - 5.211, df = 168, p = 0.000*

*p-value is given for T-test on a significance level of 0.05

In this research, values for the importance of employability skills given by employers are significantly higher than the values given for HE contribution to their development. This is contrary to a similar study (Wickramasinghe and Perera, 2010) which identified a gap only in problem solving skills.

As can be seen, employers in the two countries agree that HE contributes the least to gaining sense of humour, aggression and achievement in sport, and the most to teamwork, use of IT, written communication and public speaking, as well as to foreign language skills (Croatian sample) and learning skills (Irish sample). Subsequent t-test has shown significant differences between skills which employers included among the most important for employability and the HE contribution to development of these skills, and this is true for both, Croatia and Ireland (See Table 4 and 5). This actually means that HE in both countries does not deliver what employers value.

Table 4: *Comparison of Importance and HE Contribution to Top 10 Employability Skills– data for Croatia*

	Dimensions Croatia	Importance	HE contribution	***t-test***
1.	Problem solving	6.28	4.02	t = 13.896, df = 130, p = 0.000*
2.	Enthusiasm and motivation	6.26	3.60	t = 15.440, df = 129, p = 0.000*
3.	Willingness to learn	6.14	4.38	t = 11.119, df = 129, p = 0.000*
4.	Learning skills	6.12	4.08	t = 12.932, df = 130, p = 0.000*
5.	IT usage	6.11	4.63	t = 9.243, df = 130, p = 0.000*
6.	Intelligence	6.10	3.39	t = 15.667, df = 130, p = 0.000*
7.	Teamwork	6.10	4.54	t = 9.793, df = 130, p = 0.000*
8.	Foreign language	6.06	4.55	t = 9.501, df = 131, p = 0.000*
9.	Application of acquired knowledge	6.05	3.54	t = 15.679, df = 131, p = 0.000*
10.	Maintaining interpersonal contact	6.04	4.16	t = 11.488, df = 131, p = 0.000*

*p-value is given for T-test on a significance level of 0.05

Table 5: *Comparison of Importance and HE Contribution to Top 10 Employability Skills – data for Ireland*

	Dimensions Ireland	Importance	He contribution	***t-test***
1.	Enthusiasm and motivation	6.54	4.38	t = 8.785, df = 38, p = 0.000*
2.	Work ethics	6.51	4.85	t = 6.665, df = 38, p = 0.000*
3.	Willingness to learn	6.46	4.38	t = 7.597, df = 38, p = 0.000*
4.	Teamwork	6.31	5.72	t = 2.686, df = 38, p = 0.011*
5.	Maintaining interpersonal contact	6.26	4.72	t = 7.797, df = 38, p = 0.000*
6.	Learning skills	6.23	5.46	t = 3.794, df = 38, p = 0.001*
7.	Application of acquired knowledge	6.21	5.28	t = 4.349, df = 38, p = 0.000*
8.	Problem solving	6.18	5.18	t = 4.058, df = 38, p = 0.001*
9.	Diligence	6.18	4.77	t = 5.678, df = 38, p = 0.000*
10.	Taking initiative	6.08	4.28	t = 7.523, df = 38, p = 0.000*

*p-value is given for T-test on a significance level of 0.05

Another interesting finding is that employers in two countries rate entrepreneurial skills similarly (on the scale of 7), as not overly important for employability (See Tables 6 and 7), with the only exception of problem solving skills. Interestingly, typical entrepreneurial attributes such as opportunity recognition, making judgments on the basis of limited information, taking initiative, thinking out of the box, determination to be independent, strong orientation to achievement, work under pressure, critical thinking and positive attitude towards change are by Croatian and Irish employers considered moderately important for employment. This is surprising as it was found earlier (Moreland, 2004; Casner-Lotto & Barrington, 2006) that employers increasingly want graduates who demonstrate such skills. Earlier research also established that employers want graduates who can adapt to the workplace culture, who can use their abilities and skills to evolve the organization and who can participate in innovative teamwork (Harvey et al., 1997; Little, 2001). Kozlinska (2016) argues that entrepreneurship education is capable of and should cater for diverse career aims of tertiary-level students, even as Bridge et al.. (2010) argue, if an independent journey is not the intended option, entrepreneurial employability progressing into intrapreneurship is a decent aim to pursue, holding the prospects of private business venturing in the future, should it be desirable and feasible.

Table 6: *Importance and HE contribution to entrepreneurial skills: data for Croatia*

Rank for importance	**Entrepreneurial skills - Croatia**	Importance	HE contribution	Difference	t-test
1.	Problem solving	6.28	4.02	2.26	t = 13.896 df = 130 p = 0.000*
3.	Desire for achievement	5.98	3.80	2.18	t = 12.298 df = 130 p = 0.000*
6.	Taking initiative	5.97	3.45	2.52	t = 13.024 df = 130 p = 0.000*
2.	Thinking "outside the box" and innovativeness	5.95	3.49	2.46	t = 14.017 df = 130 p = 0.000*
4.	Positive attitude towards change	5.93	3.89	2.04	t = 11.872 df = 130 p = 0.000*
5.	Opportunity recognition	5.70	3.43	2.27	t = 13.714 df = 131 p = 0.000*
8.	Independence	5.66	3.84	1.82	t = 10.271 df = 131 p = 0.000*
7.	Work under pressure	5.58	4.19	1.39	t = 7.781 df = 129 p = 0.000*
9.	Making judgments on basis of limited information	5.46	3.45	2.01	t = 12.012 df = 131 p = 0.000*
10.	Critical thinking	5.37	3.70	1.67	t = 10.913 df = 131 p = 0.000*

*p-value is given for T-test on a significance level of 0.05

Table 7: Importance and HE contribution to entrepreneurial skills: data for Ireland

Rank for importance	**Entrepreneurial skills - Ireland**	Importance	HE contribution	Difference	
1.	Taking initiative	6.08	4.28	1.80	t = 7.523 df = 38 p = 0.000*
3.	Problem solving	6.18	5.18	1.00	t = 4.058 df = 38 p = 0.000*
6.	Critical thinking	6.05	4.87	1.18	t = 4.546 df = 38 p = 0.000*
2.	Making judgments on basis of limited information	5.00	4.59	0.41	t = 1.538 df = 38 p = 0.000*
4.	Work under pressure	5.87	5.38	0.49	t = 2.100 df = 38 p = 0.000*
5.	Positive attitude towards change	5.79	4.38	1.41	t = 5.944 df = 38 p = 0.000*
8.	Thinking "outside the box" and innovativeness	5.77	4.64	1.13	t = 4.729 df = 38 p = 0.000*
7.	Independence	5.74	4.64	1.10	t = 4.535 df = 38 p = 0.000*
9.	Desire for achievement	5.62	4.82	0.80	t = 3.117 df = 38 p = 0.000*
10.	Opportunity recognition	5.41	4.41	1.00	t = 3.971 df = 38 p = 0.000*

*p-value is given for T-test on a significance level of 0.05

Besides, our data do not support earlier findings of Harvey et al.. (1997) that employers value critical thinking (because it is required for innovation and leading change). Moreover, in this research, Croatian employers value critical thinking the least important of all entrepreneurial skills.

On average, Croatian employers consider entrepreneurial skills (except taking initiative, work under pressure and independence) slightly more important than the Irish. Among the skills considered typically entrepreneurial, problem solving and thinking out of the box and innovativeness are valued as the most important for graduate employment by employers in Croatia. In addition, employers in Croatia consider desire to achievement and positive attitude to change important. On the other hand, apart from the already mentioned problem solving, employers in Ireland, appreciate most taking initiative and making judgments on the basis of limited information. Apart from that, Croatian employers do not regard critical thinking important, and Irish employers do not value opportunity recognition beneficial for employment. These results are surprising due to Audibert and Jones's (2002) assertion that entrepreneurial attributes have become critical for hiring and promoting employees, and entrepreneurial, innovative, creative and adaptable employees are widely considered valuable for any organization. It seems that in Croatia and Ireland employers are unaware of the potential that entrepreneurial graduates have. According to these data, employers seem to be looking for and

valuing graduates who have the capacity to make an immediate contribution and in such a case, employees' possession of generic transferable skills (rather than entrepreneurial skills) has become the source of competitive advantage for a company because they will be better able to compete more successfully.
Furthermore, the contribution of HE to development of entrepreneurial skills (problem solving, making judgments on the basis of limited information, taking initiative, thinking out of the box, determination to be independent, strong orientation to achievement, work under pressure, critical thinking, opportunity recognition and positive attitude towards change) is in general assessed by the employers in Croatia and Ireland as rather low, on average 4.1 (of 7). Yet, Irish employers value the contribution of HE to development of entrepreneurial skills slightly higher. The differences between employers in the two countries regarding this matter are the most striking for critical thinking, desire for achievement and thinking out of the box and innovativeness. Employers in this research perceive the least contribution of HE to development of opportunity recognition and taking initiative and there is a lot of agreement about this in the two countries. The values assigned for contribution of HE are much lower in the Croatian data. The differences between what is valued by employers and what is delivered through HE in the Croatian and the Irish sample are apparent in all variables, but are more striking in the Croatian data. These results are particularly disturbing because entrepreneurship is recognized as one of the key competences for life-long learning (EU Parliament, 2006).

5. Conclusion

In conclusion, employers in our research see graduate employability as not just an outcome of professional, discipline-specific knowledge but also as the ability to demonstrate broader skills. The presented results show that there is a considerable agreement between what employers in the two countries regard important for employability and what HE contributes to, but some significant differences have been detected. Actually, there is no reason why employers should have a common set of skills that they require graduates to have as this obviously may vary with region, culture, tradition, size of business and type of business-market orientations. But the awareness of the differences is important in the contemporary employment markets as employers can expect to employ foreign labour force in the future and graduates may find themselves being employed in a foreign country.
Employers value problem solving skills, willingness to learn, as well as enthusiasm and motivation as the most important employability skills. Key differences relate to perceptions around foreign language skills, which is probably not surprising from a non-English and an English speaking country. Particularly in Ireland, there appears to be a realism about the time and effort needed to acquire employability skills in a second language which sits alongside a preference among employers to hire native speakers to meet their language skill requirements. Where both countries are similar is on the relatively low ranking of practical experience. Perhaps the perception here is that graduates will gain the most relevant experience once they take up employment post higher education. It is not surprising that the values for the contribution of HE to the acquisition of subject knowledge are in both countries higher than the values given for its importance.
Our data show that employers seem quite satisfied with how HE contributes to development of employability skills through HE, but employers in Ireland estimate the contribution of HE to development of employability skills on average with higher values than the employers in Croatia. The biggest differences between what is valued and what is delivered, from the perspective of employers in both countries, are in enthusiasm and motivation and application of acquired knowledge.

Entrepreneurial skills such as working under pressure, desire for achievement, independence, positive attitude towards change, critical thinking, thinking outside the box and innovativeness, opportunity recognition, taking initiative and making judgments on the basis of limited information factor low in importance among employers in our research. The only exception is problem solving skill which is the only entrepreneurial skill assessed significant for employability. As expected, employers assess the contribution of HE teaching to development of entrepreneurial skills as rather low, but the fact that employers in our study do not recognize entrepreneurial skills as particularly important for enhancing employability is surprising. This leads us to the conclusion that they are not fully aware of the potential entrepreneurial graduates have.

This study highlights the growing need that faculties put emphasis upon skills development based upon employers' priorities, as well as monitor the effects of teaching at HEI in increasing the employability of graduates. The results imply that educational process should encompass employers, too. These findings have implications for improving the curriculum, planning courses and managing graduates' careers in order to align HE outcomes with the skills required by employers. We strongly believe that employers' opinion makes the difference, and therefore HEI, educators and students have to be aware of what employers expect, and educators should tailor the courses and choose methods of teaching accordingly, and graduates should consider lifelong learning and taking control over their employability and career.

The results of the research challenge the traditional concepts of HE and raise the question of what the role of HE is: acquisition of subject knowledge and understanding or acquisition of broader transferable skills. In the media and elsewhere employers repeatedly voice their concern about the quality of graduates that exit HE. Therefore, educators should focus not only on the acquisition of subject knowledge, but to the application of acquired knowledge and development of employability skills and attributes.

The findings provide valuable insights for educators, graduates and employers and may inform decisions in relation to the education, employability and recruitment of future graduates. The findings of the study can also be used to assist entrepreneurial universities, and career advisors in both countries. The results may be of particular value for Croatian students if they decide to work in Ireland (and more and more decide to do that) as Irish employers have different expectations.

The research is not exempt from certain limitations as it was limited to students at one HEI in Croatia, and one in Ireland. It is suggested that further studies be conducted to determine whether differences in attitudes exist in regard to other HEIs and countries. Furthermore, the study focused on the outcomes in terms of employability and not on the specific inputs in terms of educational programmes and delivery, future research could explore this link in more depth. Further research into how graduates' skills, behaviour and attributes are transferred into the employment context is needed, as well as into the ways to assess employability. Postgraduates are rarely mentioned in the literature as if they do not need to think about what will help them find, retain and move between jobs. Finally, conducting the research using the survey instrument outlined here assumes that employers actually know and are willing and able to communicate what they are seeking from graduates. The reality is that they may now know for certain, or that their needs change based on internal and external forces. It is therefore, recommended that further research through focus groups or in depth interviews is used to explore this question. Also it is necessary to compare the government guidelines and national skills strategies to identify any gaps between what employers expect and what government suggests regarding skills needed for employability.

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SCIENTIFIC FIELD OF THE CHOSEN STUDY OF FUTURE UNDERGRADUATE STUDENTS AND ITS RELATION TO EMPLOYMENT INFORMATION NEEDS AND SOURCES

ABSTRACT

Although in recent years the overall number of registered unemployment in Croatia is decreasing, the share of unemployed university graduates is increasing. Therefore, gymnasium graduates today are faced with the challenging decision of choosing study that will enable them to find employment. Although efforts have been made to adjust higher education enrolment quotas to the needs of the labour market, Croatia still has a below average ratio of students in natural sciences studies and biomedicine and health, and above average ratio of social sciences students compared to European Union. With this in mind, the aim of the research is to examine the differences/relationship regarding (1) type of searched information about employment possibilities after graduation, (2) the choice of information sources on employment possibilities after graduation, (3) the importance of different criteria relating to employment possibilities after graduation when choosing the study, (4) the information needs when choosing the study and (5) the usefulness of sources of information about employment possibilities after graduation with respect to the scientific field of the chosen study. The survey was conducted using an online questionnaire on a sample of Osijek gymnasium graduates (n = 264), and the data were analysed using descriptive and inferential statistics. The statistically significant differences were determined in (1) the type of required information regarding employment *possibilities after graduation, (3) the criteria for the selection of the study, and (5) the usefulness of sources of information regarding employment possibilities after graduation. No statistically significant relationship was determined between the (2) selection of sources about employment possibilities, except for one source, nor regarding (4) information needs and the scientific field of the chosen study. The results of this study can help in professional orientation of future undergraduate students both in formal and informal sense in order to stimulate development of eastern Croatia.*

Key words: *information needs, information sources, high school graduates, study decision-making, career decision-making, employment possibilities, scientific field of the study*

1. Introduction

The employment rate and educational attainment were historically strongly positively correlated, therefore “graduate unemployment” or „educated unemployment” has not attracted much attention in the economics literature in the past (Fan and Stark, 2007). However, over the last decades there have been considerable changes both in the higher education system and the labour market resulting in the upward trend of graduate unemployment. There has been a significant rise in the number and diversification of university students and graduates (Núñez and Livanos, 2010), most notably described by the phrase ‘mass higher education’ (Moreau and Leathwood, 2006). On the other hand, the ‘insecure workforce’ has expanded to all segments of the labour market, including to those occupations for which a university degree was usually necessary (Heery and Salmon, 2000).

Due to indisputable youth employment crisis, reaching its peak in the last decade, governing Body of the International Labour Office, meeting in March of 2011, put a youth employment crisis as a topic on the agenda of the 101st Session of the International Labour Conference for a general discussion (International Labour Conference, 2012). Document that resulted from that discussion speak of emerging trends that characterize the new youth employment crisis, one of which is an increase in both discouragement and unemployment among university graduates. Discouragement refers to giving up the job search altogether, and there is evidence of rising discouragement in many countries. These trends are both wasteful and potentially disruptive on the social and political level. Wastefulness implies the disbalance between the “high cost of the investment in higher education and the zero social returns from unemployed graduates” (International Labour Conference, 2012, pp. 21). Disruptiveness reflects in the personal frustration and resentment because of not being able to receive rewards for the time and effort invested in education. For many young highly skilled youths, these frustrations are the key reason for the emigration and the consequent “brain drain” (International Labour Conference, 2012), evident in the Croatia in the recent years, as well.

Although in recent years registered unemployment in Croatia is decreasing, the share of unemployed university graduates is increasing (Statistički ljetopis Republike Hrvatske, 2018). Compared to European Union (EU-28) unemployment rates for young people aged 25–29 having tertiary education is almost double (16.1% vs. 8,2%) (Eurostat, 2018). Since unemployment among people with an academic degree is on the rise, study decision-making of high school graduates pursuing university degree becomes a demanding task of harmonizing personal interests and employment possibilities after graduation.

Career decision-making of young people in Croatia has been investigated on several occasions (Srednja.hr and Algebra, 2013, 2014, 2015, Mazalin and Parmač Kovačić, 2015, Tokalić, 2017). Studies with the largest number of respondents were conducted by online portal Srednja.hr and institution of higher education Algebra in 2013, 2014 and 2015. The latest results from 2015 study, in which 2000 high school graduates and freshmen participated, showed that personal interest (82%) was the most represented criteria for choosing a particular study. Slightly more than half of respondents indicated promising employment in EU (54%) as their criteria for choosing a particular study. Promising employment inside country (49%) and the possibility of having a good salary (49%) followed. More than a half of the respondents (51,8%) indicated that they did not want to enrol natural, technical or engineering sciences studies because they perceived them as hard to finish (Matiček, 2015). Although in recent years efforts have been made to adjust higher education enrolment quotas to the needs of the labour market (Obadić, 2017) according to the recommendations of the Croatian Employment Service, compared to European Union Croatia still has a below average ratio of students in natural sciences studies (4,4% vs. 10,6% EU-28) and biomedicine and health (9,4% vs. 13,1% EU-28), and above average ratio of social sciences students (45,7% vs. 32,2% EU-28) (Agencija za znanost i visoko obrazovanje, 2014, Eurostat, 2017).

According to the Recommendations Concerning Education Enrolment Policy and the Policy of Scholarships published by Croatian Employment Office in December 2018 in Osijek-Baranja County there is an increased need for students of the following orientation: Medicine, Mechanical Engineering, Logopedia, Rehabilitation, Social Pedagogy, Mathematics and Computing, Computing, Dental Medicine, Pharmacy, Geography (teaching direction), Geodesy and Geoinformatics, Veterinary Medicine and Mathematics. On the other hand, Croatian Employment Office recommends decreasing enrolment quotas for the following university studies: Law, Business Economy, Financial Management, Marketing, Management, Entrepreneurship, Business Informatics, Croatian Language and Literature, Informatology, Philosophy and Croatian Language and Literature, Philosophical-Theological Faculty, Culturology - Cultural Management, Culturology - Media Culture, Teacher Education (Hrvatski zavod za zapošljavanje, 2018). Social and humanistic studies dominate the list of studies that need to reduce enrolment quotas.

With this in mind, the aim of this research is to examine the differences/relationship regarding (1) type of searched information about employment possibilities after graduation, (2) the choice of information sources on employment possibilities after graduation, (3) the importance of different criteria relating to employment possibilities after graduation when choosing the study, (4) the information needs when choosing the study and (5) the usefulness of sources of information about employment possibilities after graduation with respect the scientific field of the chosen study. We hope that the results of this study can help in professional orientation of future undergraduate students both in formal and informal sense in order to stimulate development of eastern Croatia.

2. Research aims, instrument and methods

This paper is a part of a broader study of information needs and sources of information of high school graduates in the process of study and career decision-making conducted in Osijek, Croatia in 2018, first part of which was published in 2018 (Stanarević Katavić, Lacović, Dukić, 2018).

In this paper authors aimed to examine the differences/relationship regarding:

(1.) type of searched information about employment possibilities after graduation
(2.) the choice of information sources on employment possibilities after graduation
(3.) the importance of different criteria relating to employment possibilities after graduation when choosing the study
(4.) the information needs when choosing the study
(5.) the usefulness of sources of information about employment possibilities after graduation

with respect to the scientific field of the chosen study.

In order to obtain the required data, a questionnaire containing four groups of questions was designed. The first group contained the socio-demographic questions, the second group asked about studies respondents chose, the third group related to the knowledge about the labour market in Croatia, and the fourth to the information needs and sources regarding various aspects of the study, including employment possibilities after graduation, as well as criteria for making decision on choosing study. Only part of results relating to the information needs and sources about employment possibilities after graduation will be analysed in this paper.

The perceptions of the high school graduates were measured on the five-point Likert scale, with 1 being the lowest rating and 5 being the highest. The survey was conducted from February 23, 2018 till March 8, 2018. The data were collected by means of an anonymous questionnaire via online survey and analysed by descriptive and inferential statistics methods.

3. Sample

The sample comprised 264 high school graduates from four Osijek gymnasiums: 96 (36,4%) respondents were from *I. gimnazija Osijek* (*Opća gimnazija*), 58 (22,0%) from *II. gimnazija Osijek* (*Jezična gimnazija*), 85 (32,2%) from *III. gimnazija Osijek* (*Prirodoslovno-matematička gimnazija*) and 25 (9,5%) from *Isusovačka klasična gimnazija s pravom javnosti*. Almost two thirds of respondents (62,1%) were female.

Out of 264 surveyed high school graduates, there were 5 students (1,9%) who did not decide what to study. With respect to the scientific area of the chosen study, the respondents were classified in eight categories. The most popular first choice of study was a Social science study with almost one third of the respondents in this group (n=78, 29,5%). The most popular study choices in the Social sciences group were Psychology (n=17), Economy (n=15), Logopaedics (n=10) and Social work (n=10). Biomedicine and health care were the second most popular first choice of study with one fourth of respondents in this group (n=65, 24,6%). In this group Medicine (n=32) and Physiotherapy (n=12) are the most represented studies. Technical studies were chosen as first choice by 52 students (19,7%), most of which would like to study electrical engineering or computing (n=30). Natural sciences were chosen as first choice by 26 students (9,8%), Humanistic sciences by 20 respondents (7,6%) and Interdisciplinary study by 12 respondents (4,5%). Only a few students chose a study in other scientific area: 4 in biotechnical sciences (1,5%) and 2 in arts (0,8%) (Table 1).

Table 1: *Respondents according to the scientific area of the chosen study*

Scientific area of the chosen study	**N**	**%**
Social sciences	78	29,5%
Biomedicine and health care	65	24,6%
Technical sciences	52	19,7%
Natural sciences	26	9,8%
Humanistic sciences	20	7,6%
Interdisciplinary study	12	4,5%
Biotechnical sciences	4	1,5%
Arts	2	0,8%
Undecided	5	1,9%
Total	264	100%

4. Results

Results are presented through the following five sub-headings. Respondents who chose Interdisciplinary study, Biotechnical sciences, Arts and those who were undecided were omitted from the analyses of differences/relationship because of the small number of respondents in these categories.

4.1. Type of searched for information regarding employment possibilities after graduation

Respondents were asked to rate on a five-point Likert scale (1 – Not at all, 2 – Mostly not, 3 – Partially, 4 – Mostly yes, 5 – Completely yes) to what extent they have sought information regarding employment possibilities after finishing their studies. Table 2 contains descriptive statistics for the analysed variables.

Table 2: *The extent of seeking information regarding employment possibilities after finishing studies - descriptive statistics*

	Mean	**Median**	**Std. Deviation**
Graduated students and their careers	2,77	3,00	1,291
Possible employment opportunities	3,71	4,00	1,158
Waiting for the first employment	3,05	3,00	1,327
Waiting for permanent employment	2,75	3,00	1,273
Salary for desired future occupation	3,45	4,00	1,178
Employment opportunities abroad	3,30	3,00	1,314
Possibility of advancement and training	3,58	4,00	1,231

Possible employment opportunities was the most searched topic of gymnasium graduates who participated in this study (mean 3,71, median 4,00). *Possibility of advancement and training* was the second most searched for information of gymnasium graduates who participated in this study (mean=3,58, median=4,00). *Salary for desired future occupation* followed as the third most searched for information (mean=3,45, median=4,00). Interestingly, gymnasium graduates were least interested in information regarding *Waiting for permanent employment* (mean=2,75, median=3) and *Waiting for the first employment after graduation* (mean=3,05, median=3,00).

In order to identify the possible differences in the extent of searching for information regarding employability after graduation among respondents who choose studies in the different scientific fields, Kruskal-Wallis test was performed. Table 3 shows differences in the extent of searching for information regarding two topics for which statistically significant differences have been identified according to the scientific field of the chosen study - *Salary for desired future occupation* and *Employment opportunities abroad.*

Table 3: *Differences in the extent of searching for information regarding employability after graduation according to the scientific field of the chosen study (Kruskal-Wallis test)*

Topic	**Salary for desired future occupation**				**Employment opportunities abroad**			
Field of the chosen study	Mean	Median	Mean Rank	Asymp. Sig.	Mean	Median	Mean Rank	Asymp. Sig.
Social sciences	3,46	4,00	118,87	0,036	3,09	3,00	105,63	0,001
Biomedicine and health care	3,78	4,00	139,02		3,60	4,00	134,11	
Technical sciences	3,46	4,00	121,65		3,83	4,00	145,64	
Natural sciences	3,12	3,50	103,60		3,08	3,00	107,29	
Humanistic sciences	2,90	3,00	91,65		2,80	3,00	92,08	

According to the mean ranks, information on the *Salary for desired future occupation* was most extensively sought by those respondents who have chosen Biomedicine and health care studies, and the least by future students of Humanities. *Employment opportunities abroad* were most extensively sought by future Technical sciences students, and the least by future students of Humanities. For other topics (*Graduated students and their careers, Possible employment opportunities, Waiting for the first employment Waiting for permanent employment and Possibility of advancement and training*) there were no statistically significant differences identified.

4.2. Sources of information concerning employment possibilities and opportunities after graduation

In the survey, respondents were asked to indicate sources of information that they have used concerning employment possibilities and opportunities after graduation. The frequencies and percentages of participants' responses are presented in the Table 4.

Table 4: *Information sources concerning employment possibilities after graduation (Stanarević Katavić, Lacović, Dukić, 2018).*

Information source	Employment possibilities	
	n	%
1. Parents/brothers/sisters	133	50,4
2. Extended family	80	30,3
3. Friends	116	43,9
4. Faculty/university websites	86	32,6
5. Faculty representatives visit	43	16,3
6. University festival	26	9,9
7. Website "Become a student"	33	12,5
8. Social networks/forums	73	27,7
9. Media (newspapers, TV, radio)	76	28,8
10. Faculty promotional material	44	16,7
11. Professional orientation service	35	13,3
12. Students who already study	88	33,3
13. Faculty professors	23	8,7
14. High school professors	55	20,8
15. School pedagogue or psychologist	31	11,7
16. Employed in the profession	82	31,1

Out of 16 offered choices that comprised different formal and informal sources of information which could be used for information about employment possibilities after graduation, respondents most frequently obtained this information from parents, brothers and sisters (50,4%), friends (43,9%), students who already study at the desired faculty (33,3%) and from faculty/university websites (32,6%). (Table 4)

A Pearson chi-square test was performed to evaluate the relationship between information sources and different scientific field of the chosen study. The results showed that there is an association between the role of parents, brothers and sisters as information sources for respondents and different scientific field of the chosen study (Table 5).

Table 5: *Parents, brothers and sisters as sources of information concerning employment possibilities after graduation – scientific field of the chosen study (Pearson Chi-Square)*

	Have NOT used parents as information sources		**Have used parents as information sources**		**Total**		**Asymptotic Significance (2-sided)**
	n	%	n	%	n	%	0,001
Social sciences	41	34,5%	37	30,3%	78	32,4%	
Biomedicine and health care	26	21,8%	39	32,0%	65	27,0%	
Technical sciences	18	15,1%	34	27,9%	52	21,6%	
Natural sciences	17	14,3%	9	7,4%	26	10,8%	
Humanistic sciences	17	14,3%	3	2,5%	20	8,3%	
Total	119	100,0%	122	100,0%	241	100,0%	

Table 6 shows share of respondents who have used parents, brothers and sisters as information sources about employment possibilities after graduation within each scientific field of the chosen study. Respondents who chose technical sciences (n=34, 65,4%) and biomedical studies (n=39, 60%) used parents, brothers and sisters as sources of information to the greatest extent, while respondents who chose humanistic studies (n=3, 15%) used parents, brothers and sisters the least as their source of information about employment possibilities after graduation.

Table 6: *Share of respondents who have used parents, brothers and sisters as information sources about employment possibilities after graduation within each scientific field of the chosen study*

	Have used parents as information sources		**Total Count**	
	n	%	n	%
Social sciences	37	47,4%	78	100,0%
Biomedicine and health care	39	60%	65	100,0%
Technical sciences	34	65,4%	52	100,0%
Natural sciences	9	34,6%	26	100,0%
Humanistic sciences	3	15%	20	100,0%

Furthermore, we were interested in the number of used information sources about employment possibilities after graduation according to the scientific field of the chosen studies. Respondents have used on average 3,87 information sources (median 3,00, mode 3,00, std. deviation 3,216). Table 7 contains the means, medians and standard deviations associated with the number of used information sources according to the scientific field of the chosen study.

Table 7: *Descriptive statistics associated with the number of used information sources about employment possibilities after graduation according to the scientific field of the chosen study*

	Mean	**Median**	**Std. Deviation**
Social sciences	3,91	3,00	3,783
Biomedicine and health care	3,78	4,00	2,769
Technical sciences	4,34	4,00	3,041
Natural sciences	3,23	2,50	2,687
Humanistic sciences	3,00	2,00	2,937

Future students of Technical sciences used on average the greatest number of information sources about employment possibilities after graduation (mean 4,34, median 4,00), while future students of Humanities chose the lowest number of mentioned sources (mean 3,00, median 2,00).

4.3.The importance of different criteria relating to employment possibilities after graduation when choosing the study

Respondents were asked to rate the extent to which three criteria relating to employment possibilities after graduation affected their study decision-making: *Possibility of getting a good job, Possibility of advancement and training* and *Employment opportunities abroad*. The responses were measured on a five-point Likert scale (1 – Not at all influential, 2 – Slightly influential, 3 – Somewhat influential, 4 – Very influential, 5 – Extremely influential).

In order to identify the possible differences in the importance of different criteria relating to employment possibilities after graduation when choosing the study among respondents who choose studies in the different scientific fields, Kruskal-Wallis test was performed. According to the results, there were statistically significant differences regarding all three criteria (Table 8).

Table 8: *The importance of different criteria relating to employment possibilities after graduation when choosing the study (Kruskal-Wallis test)*

	Possibility of getting a good job			**Possibility of advancement and training**			**Employment opportunities abroad**		
	Mean	Median	Mean rank	Mean	Median	Mean rank	Mean	Median	Mean rank
Social sciences	3,41	3,50	104,92	3,32	3,00	105,65	2,82	3,00	99,95
Biomedicine and health care	4,02	4,00	137,64	3,85	4,00	134,95	3,51	3,00	132,07
Technical sciences	3,88	4,00	132,01	3,65	4,00	124,29	3,46	4,00	129,00
Natural sciences	3,88	4,00	131,71	3,92	4,00	137,96	3,65	4,00	141,27
Humanistic sciences	2,85	3,00	87,10	3,20	3,00	104,93	3,20	3,50	119,98
Asymp. Sig.		,004			,046			,016	

Possibility of getting a good job was the most important for future students of Biomedical and health care sciences, and the least important for future students of Humanities. *Possibility of advancement and training* was the most important for future students of Natural sciences, and the least important to future students of Humanities. *Employment opportunities abroad* was the most important for future students of Natural sciences, and the least important to future students of Social sciences.

4.4. The information needs when choosing the study

At the end of the questionnaire, there were seven items referring to topics and information that high school graduates wished they had more information about when deciding which study to choose:

1. *Traits which predispose me to choose a particular study/profession*
2. *Labour market analysis and forecasting for the next five years*
3. *Comparison of similar studies at different universities*
4. *Weaknesses and opportunities of different study programs*
5. *Advantages and disadvantages of studying abroad*
6. *Advantages and disadvantages of studying in hometown*
7. *Advantages and disadvantages of different cities and regions in terms of studying*

A Pearson chi-square test was performed to evaluate the relationship between information needs when choosing the study and different scientific field of the chosen study. The results showed that there is no association between these variables.

Furthermore, we were interested in the number of information needs of respondents who choose studies in the different scientific fields. Table 9 contains the means, medians and standard deviations associated with the number of information needs.

Table 9: *Descriptive statistics associated with the number of information needs according to the scientific field of the chosen study*

	Mean	Median	Std. Deviation
Social sciences	4,01	4,00	1,805
Biomedicine and health care	3,38	3,00	1,893
Technical sciences	3,67	3,00	2,055
Natural sciences	4,26	4,50	2,201
Humanistic sciences	3,20	3,00	1,609

Respondents who chose Natural sciences studies had the highest mean and median number of information needs (mean 4,26, median 4,50), while the lowest average number of information needs (mean 3,20, median 3,00) was determined for the participants who are interested in Humanities.

4.5. The usefulness of sources of information about employment possibilities after graduation

Respondents were asked to rate on a five-point Likert scale (1 – Not at all useful, 2 – Slightly useful, 3 – Somewhat useful, 4 – Very useful, 5 – Extremely useful) how much a particular source was useful in getting information about employment possibilities after finishing the study. 16 information sources were offered (Table 4).

In order to identify the possible differences in the usefulness of sources of information about employment possibilities after graduation among respondents who choose studies in the different scientific fields, Kruskal-Wallis test was performed. According to the results, there were statistically significant differences regarding the following four information sources: *Parents, brothers and sisters* (p=0,008), *Faculty promotional material* (p=0,042), *Faculty representatives visit* (p=0,000) and *Professional orientation service* (p=0,036) (Table 10).

***Table 10:** The usefulness of sources of information about employment possibilities after graduation according to the scientific field of the chosen study (Kruskal-Wallis test)*

		Social sciences	Biomedicine and health care	Technical sciences	Natural sciences	Humanistic sciences	Asymp. Sig.
Parents, brothers and sisters	Mean	3,38	3,91	3,69	3,04	3,00	0,008
	Median	3,00	4,00	4,00	3,00	3,00	
	Mean rank	113,46	141,57	128,56	93,38	99,80	
Faculty promotional material	Mean	2,22	1,75	2,33	2,38	1,80	0,042
	Median	2,00	1,00	2,00	2,00	1,00	
	Mean rank	127,60	103,15	132,45	136,13	103,85	
Faculty representati ves' visit	Mean	1,77	1,54	2,46	2,77	1,50	0,000
	Median	1,00	1,00	2,00	3,00	1,00	
	Mean rank	116,15	99,11	146,34	156,38	99,18	
Professional orientation service	Mean	2,03	1,49	1,69	1,65	1,30	0,036
	Median	1,00	1,00	1,00	1,00	1,00	
	Mean rank	135,55	108,62	124,69	116,58	100,65	

According to the mean ranks, future students of Biomedicine and health care found *Parents, brothers and sisters* the most useful source of information about employment possibilities after graduation, while future students of Natural sciences found it the least useful, followed by future students of Humanistic sciences.

On the other hand, future students of Natural sciences found *Faculty promotional material* the most useful source of information about employment possibilities after graduation, while future students of Biomedicine and health care found it the least useful, followed once more by the future students of Humanistic sciences.

Faculty representatives visit were also the most useful source of information about employment possibilities after graduation to future students of Natural sciences, and the least useful to future students of Biomedicine and health care and future students of Humanistic sciences.

Professional orientation service was the most useful source of information to future students of Social sciences and the least useful to future students of Humanistic sciences.

5. Concluding discussion

Although a significant increase of highly educated citizens in Croatia in the last decade is seen as a positive trend (Statistički ljetopis Republike Hrvatske, 2017), the share of unemployed university graduates is increasing (Statistički ljetopis Republike Hrvatske, 2018). Croatian Employment Office by the end of each year publishes Recommendations Concerning Education Enrolment Policy and the Policy of Scholarships for the majority of Croatian counties. According to the last published Recommendations from December 2018, social and humanistic studies dominate the list of studies that need to reduce enrolment quotas not only in Osijek-Baranja County, but at the national level as well (Hrvatski zavod za zapošljavanje, 2018).

Since there is a gap in the employment possibilities after finishing the studies in the different scientific fields, with this study authors aim to determine whether there are differences/relationships in information needs, sources and seeking information regarding employment possibilities with respect to the scientific field of the chosen study.

Regarding **the type of searched information** about employment possibilities, results indicate that future students seek most extensively information about *Possible employment opportunities.* However, at the same time gymnasium graduates seek the least information regarding *Waiting for the first employment after graduation* and *Waiting for permanent employment*. *Possibility of advancement and training* was the second most searched information, followed by *Salary for desired future occupation* and *Employment opportunities abroad*. These results indicate either that future students don´t take into consideration the waiting period between graduation and finding the first or the permanent employment, or that this information is not easily available. Furthermore, besides *Salary for desired future occupation* that was most extensively sought by future students of Biomedicine and health care studies, and the least by future students of Humanities, and *Employment opportunities abroad* that was most extensively sought by future Technical sciences students, and the least by future students of Humanities, there were no other information for which statistically significant differences in the extent of seeking were identified. The finding that that there are no differences in the extent of seeking information about employment possibilities between future students in the different scientific fields, while there are gaps in their employment possibilities after finishing studies, is a topic for further consideration and study.

Regarding **sources of information concerning employment possibilities and opportunities after graduation,** last years´ study has shown that respondents most frequently obtained this information from parents, brothers and sisters (Stanarević Katavić, Lacović, Dukić, 2018). This finding is in line with other studies conducted abroad (Julien, 1999, Witko et al., 2005, Bright et al., 2005, Dimaki et al., 2005). Family, and especially parents have the most important role as sources of information in career decision-making. Evaluation of the relationship between information sources and different scientific field of the chosen study showed that there is an association between the role of parents, brothers and sisters as information sources for respondents and different scientific field of the chosen study. Respondents who chose Technical sciences and Biomedical studies used parents, brothers and sisters as sources of information to the greatest extent, while respondents who chose Humanistic studies used them the least as their source of information about employment possibilities after graduation. The recurring finding of the importance of family/parents as information sources in the career decision making of young people, clearly raises the question of formalising support for parents for supporting their children in their career planning process, and even more so for parents whose children are interested in studying study courses after which it is more difficult to find employment.

Regarding the possible differences in the **importance of different criteria relating to employment possibilities after graduation** when choosing the study among respondents who choose studies in the different scientific fields, statistically significant differences were identified regarding all three criteria**.** *Possibility of getting a good job* was the most important for future students of Biomedical and health care sciences, and the least important for future students of Humanities, followed by future students of Social sciences. *Possibility of advancement and training* was the most important for future students of Natural sciences, and the least important to future students of Humanities, followed by future students of Social sciences. *Employment opportunities abroad* was the most important for future students of Natural sciences, and the least important to future students of Social sciences, followed by future students of Humanities. Not only that future students of Humanities and Social sciences are in a less favourable position in finding employment after graduation, moreover they find less important factors relating to employment possibilities after graduation when choosing the study compared to the future students in a more favourable position regarding employment opportunities after graduation.

In order to identify the possible differences in **the usefulness of sources of information about employment possibilities after graduation** among respondents who choose studies in the different scientific fields, statistically significant differences regarding four information sources were identified. *Parents, brothers and sisters* were found the least useful sources of information by future students of Natural sciences, followed by future students of Humanistic sciences. *Faculty promotional material* was the least useful source to future students of Biomedicine and health care, followed by future students of Humanistic sciences. *Faculty representatives visit* were also the least useful source to future students of Biomedicine and health care, followed again by future students of Humanistic sciences. *Professional orientation service* was the least useful to future students of Humanistic sciences, followed by future students of Biomedicine and health care. Interestingly, among students who found named information sources the least important future students of Biomedicine and health care and Humanities are the most represented. Only *Parents, brothers and sisters* were found the least useful sources of information by future students of Natural sciences. Results regarding usefulness of each information source gives indicators for which scientific fields named sources should be rethought and possibly raised to a higher level of quality.

Results of this study indicate that further investigation in the career decision-making of high-schools graduates is needed, concentrating especially on future students of Humanities and Social sciences since they are heavily represented among the less required occupations (Hrvatski zavod za zapošljavanje, 2018). Also, information about waiting period between graduation and finding the first employment should be made available to the public, and more organized forms of support in gathering employment information should be provided not only to future students of Humanities and Social sciences, but to their family/parents as well.

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KNOWLEDGE MANAGEMENT SYSTEM IN HIGHER EDUCATION

ABSTRACT

In modern business environment, knowledge is one of the major resources on which the business is based. In today's knowledge economy, man's ability to think and solve problems, to acquire knowledge and to convey them to other people are more widely used. In contemporary conditions, companies are learning organizations where employees are encouraged to make suggestions and participate in decision-making, and knowledge management systems need to be established in order to find the best ways to acquire and use knowledge. Part of the process of knowledge management involves career management as a development of an action plan and finding ways to eliminate the disadvantages or use of the existing benefits of individuals. Depending on features, individual needs, motives, goals, time and external factors, there are different types and categories of career management strategies. Some organizations provide career counselling services through workshops and training where they help employees and other interested parties actively manage their career. Examples of information provided by such organizations to students are core competencies required by employers, study counselling and professional practice, information on job opportunities and networking opportunities. This paper presents and analyses the current knowledge management system in higher education with the research goal to determine if there is a need for a career management system for students. To illustrate the current state of knowledge management systems at higher education institutions, and for the purposes of research, the following scientific methods were used: analysis and synthesis, historical method, comparative method, induction and deduction. It is expected that the career management system would greatly contribute to preparing students to enter the labour market after graduation, as it would facilitate finding job opportunities and train them to better present themselves to the employers and to clarify what employers expect.

Key words: *Knowledge Economy, Knowledge Management, Learning organization, Career Management*

1. Introduction

Businesses operating in modern markets must strive for competitive advantage. Competitiveness and profitability are fundamental goals of modern business. In order to achieve the world class of products and services, it is necessary to continually improve the quality of business operations, which is based on increasing the productivity of the work and knowledge of every employee in the company. (Đurakić, 2011) The basic imperative of the modern economy is constant improvement of the productivity of knowledge work, which is also the most significant factor in the competitive match of companies in the modern market. The modern way of business involves reworking of business functions where companies need to turn to proactive thinking that implies understanding and creating change and giving greater importance to those business functions that enable the company to realize, maintain, and strengthen its competitiveness.

Following the introductory consideration of the concepts of knowledge management and career management as part of the process of knowledge management, the paper presents the opinion of students of the first and second year of undergraduate study at the College of Slavonski Brod on implementation of career management system in their higher education institution. The College of Slavonski Brod as an educational institution has implemented a knowledge management system that is used for transmitting the knowledge to its students, but has not yet established a career management system for its students.

2. The role of knowledge in contemporary organizations

In the contemporary business environment, the sources of competitive advantage are most often in the form of inexhaustible assets, where the most important role is knowledge. Organizations should have a competitive advantage in the form of lower costs and product differentiation along with the strategy of long-term product offerings and high quality services, including constantly innovating to realize the success on the market they are part of. As consumers are more and more informed, companies need to invest more and more efforts to meet their requirements and in such conditions, business quality is an elementary competitive factor based on continuous improvement in productivity of work and knowledge. (Đurakić, 2011)

Knowledge management can help universities to achieve their goals more effectively, where knowledge transfer is a very important part of the process of knowledge management in higher education. Institutions of Higher Education have an important role to play in building an economy of knowledge and learning society based on education, research, creativity, innovation and intensive use of information and communication technologies. Institutions of higher education are knowledge-based organizations responsible for the creation and dissemination of knowledge. Their mission is to create educated people who will effectively contribute to society. Higher education institutions need to provide their students with knowledge that will help them achieve their full potential in a rapidly changing world today. Since traditional education does not meet the needs of an information society based on knowledge, today's higher education institutions need to be transformed into learning organizations or organizations that have developed knowledge management systems. (Dukić, Jozinović, 2016)

Career Management is a process step in the process of human resource management as part of the process structure as a structural element of the management system. Without this process step and written procedure as a documentary support for managing this process step, it is not possible to document properly and to demonstrate human resource management in the organization. To be able to do this, it is necessary to ensure the competence of process managers and participants in the process of understanding the management system and process approaches and methodologies of business process modelling. (Drljača, 2012)

Dukic, Kozina and Milkovic explored to what extent the project of knowledge management arose in Croatian polytechnics. From the perspectives of polytechnic students, they studied the extent to which the polytechnics fulfilled their task of implementing the project of knowledge management, with emphasis being placed on the assessment of the acquired knowledge and the manner of their transfer. The results of the research have shown that, for the full realization of the project, additional efforts need to be made in a numerous areas. The students who have been surveyed believe that the project of implementing the knowledge management systems at Croatian polytechnics has not become a reality. Students are not satisfied with the acquired knowledge and they believe that polytechnics have focus more on theory than on knowledge and practice implementation. (Dukić, Kozina i Milković, 2015)

3. Sample and methodology

For the purpose of this research, the method of survey was used as a way of collecting data. The survey was conducted on March 27, 2019. It includes 108 students, of which 60 students are from the first year of study and 48 are on the second year of undergraduate study program Management on College of Slavonski Brod. The data collected through the survey were analyzed by the method of descriptive statistics. Other scientific methods used in the paper are analysis and synthesis, historical method, comparative method, induction and deduction.

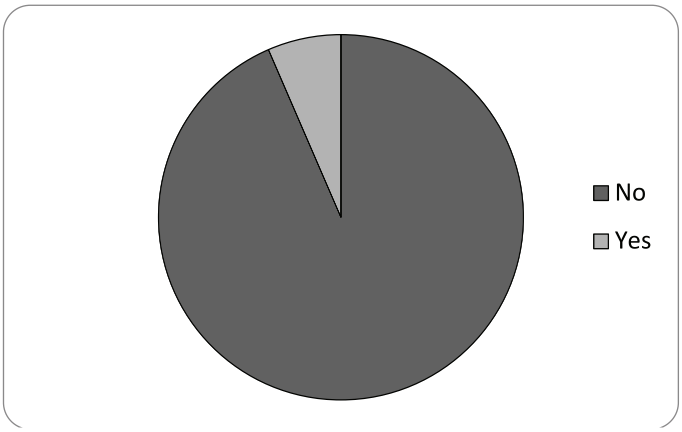
Table 1: *Sociodemographic characteristics of respondents*

Chatacteristic	Number of respondents	Percentage
Gender		
1. Male	23	21.30
2. Female	85	78.70
Year of birth		
1. 1995	1	0.93
2. 1996	1	0.93
3. 1997	4	3.70
4. 1998	45	41.67
5. 1999	49	45.37
6. 2000	8	7.40
First year of study on College of Slavonski Brod		
1. 2017/2018	49	45.37
2. 2018/2019	59	54.63

Source: made by authors

As can be seen from Table 1, there were more women than men in the sample - women make up 78.7% of the sample and men 21.3%. Approximately there is the same number of students born in 1998 (41.67%) and those born in 1999 (45.37%). Of the total number of students surveyed, 45.37% enrolled at College of Slavonski Brod in 2017/2018 academic year and 54.63% of students enrolled at 2018/2019 academic year.

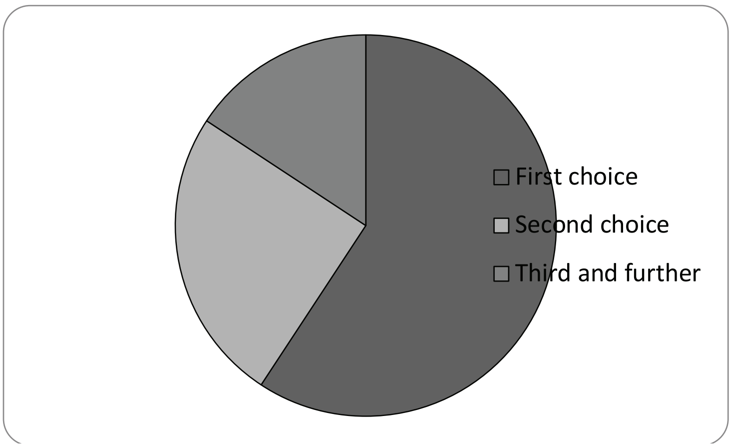
Graph 1: *Students who have previously studied at another institution of higher education*



Source: made by authors

The share of surveyed students to whom the Polytechnic in Slavonski Brod is the first higher education institution they studied on in relation to students who have previously studied at another university, is shown in Graph 1. Of the total number of surveyed students, 7 or 6.5% of them previously studied on some other higher education institution, while for the 101 student or 93.5% of them the College of Slavonski Brod is the first enrolled higher education institution.

Graph 2: *The choice of a university*



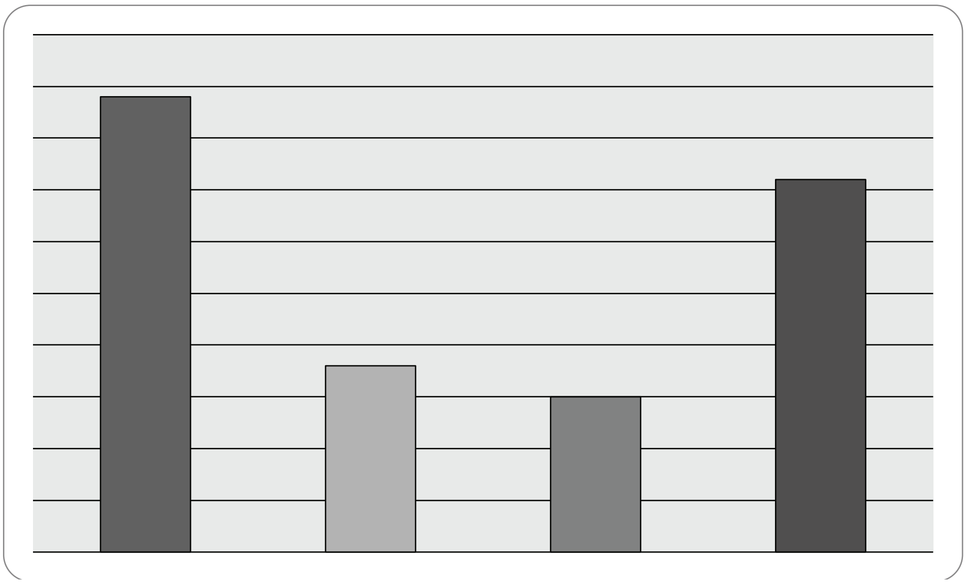
Source: made by authors

Graph 2 shows the number of students at the College of Slavonski Brod to whom this higher education institution is the first choice as opposed to students who actually wanted to study at another higher education institution. According to the survey results, 64 students or 59.3% of them said that the College of Slavonski Brod was their first choice, while 27 students or 25% of them said it was their the second choice. For the 17 students the College of Slavonski Brod is the third choice and further.

4. Results

After the initial sociodemographic questions, the questions in the survey were focused on the attitudes of the surveyed students about their further steps - whether they would post enrol at graduate studies after graduating undergraduate studies or they would take employment and do they know what they want to do after graduation. After that, they were asked about their knowledge of making a CV and letter of application and to what extent they are familiar with what employers require of their future employees and what the most common questions on job interview are. At the end, the students also expressed their opinion on how useful it is to make a career plan and to have a career counsellor at the College of Slavonski Brod.

Graph 3: *Plan after graduation of undergraduate study*

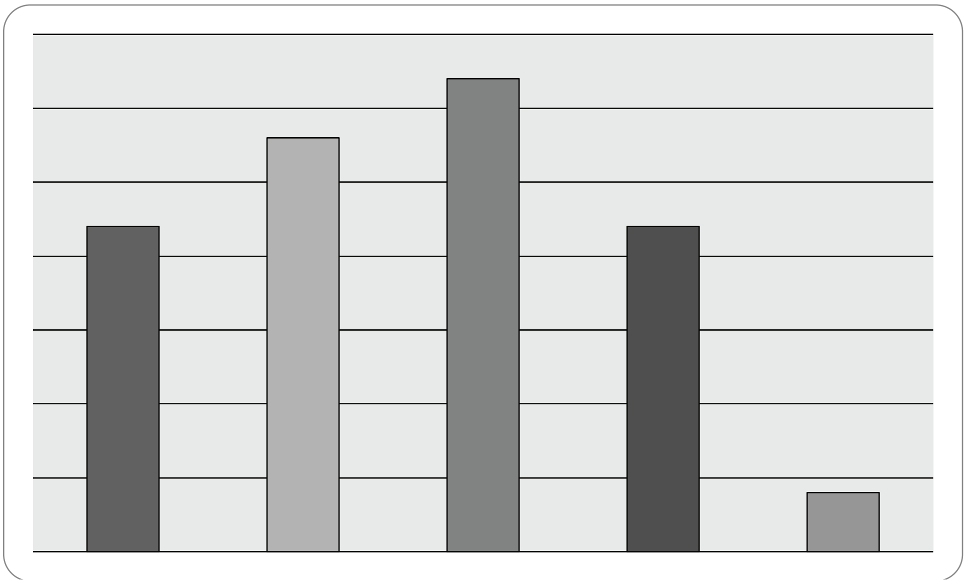


Source: made by authors

The first question that students were asked about their future career is what they plan after completing undergraduate study at the College of Slavonski Brod. Most of the students, the 40.7% of the total number of the surveyed students responded that they plan to continue studying at the College of Slavonski Brod and enrol in professional graduate study program in Management. There are many students who do not know what are they going to do after completing undergraduate studies - 33.3% of those surveyed do not know whether to continue studying or to take employment. Graduate studies at another university are planned by 16.7% of students, while 13.9% of those surveyed are planning to take employment after completing undergraduate studies.

When asked what they want to do after completing their education, the majority of them, 63 students or 58.3% of the total number of students surveyed, said that they know what they could do, which job they could be employed with. That they do not know what to do after school, answered 30 students or 27.8% of them, while the smallest part of the surveyed students, 13.9% know exactly what are they going to do after graduation.

Graph 4: *The ability to create a CV and job application*

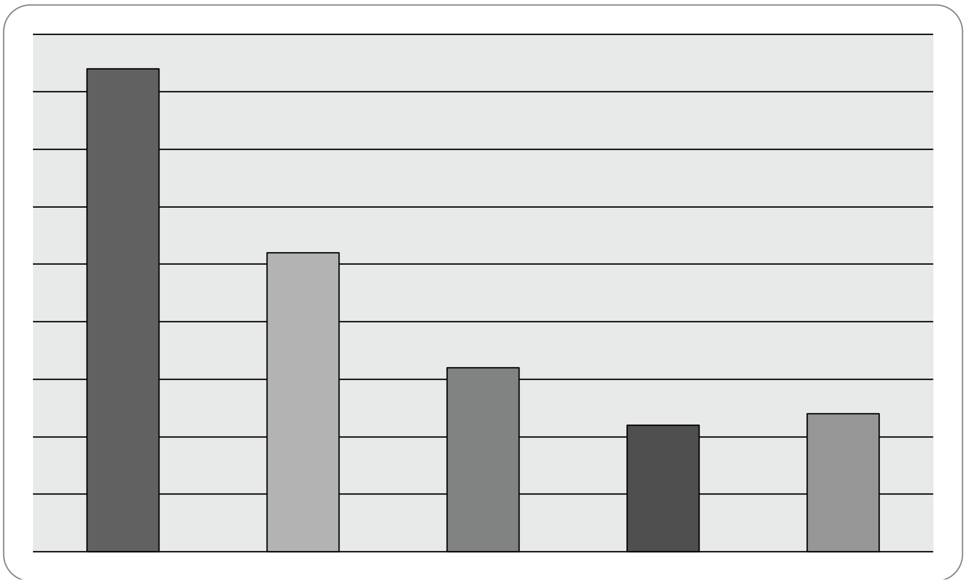


Source: made by authors

How competent students are, in their opinion, to independently make a resume and a job application, is shown in Graph 4. As can be seen from the graph, most of them, or more precisely, 29.6% of the students surveyed think that they are in the middle or can make a resume and job application but not on their own. The next group, the 25.9% of students, thinks that with the small assistance they can make a CV and a job application. Some of the surveyed students who think that they can completely independently make a CV and job application is the same as that part of students who almost nothing know about making the documents set out above (20.4%). The smallest part of the students belong to a group that does not know how to make the documents and there is only 3.7% of those students.

When asked about the extent to which the most common questions on job interviews were, the majority of students, in this case, 40.7% of them, were found in the middle that and they don't have too much knowledge in that area. To be fully acquainted with the most common questions about job interview answered 9.3% of students surveyed, and 3.7% of them do not know anything about it. Another question posed to students is to what extent are they familiar with the characteristics the employers are looking for in their employees and the most of the respondents, 38.9%, responded that they were neither familiar nor unfamiliar with the specified characteristics. In this case, 13.9% of students think that they are fully aware of the characteristics employers are looking for and 4.6% do not know anything about that area.

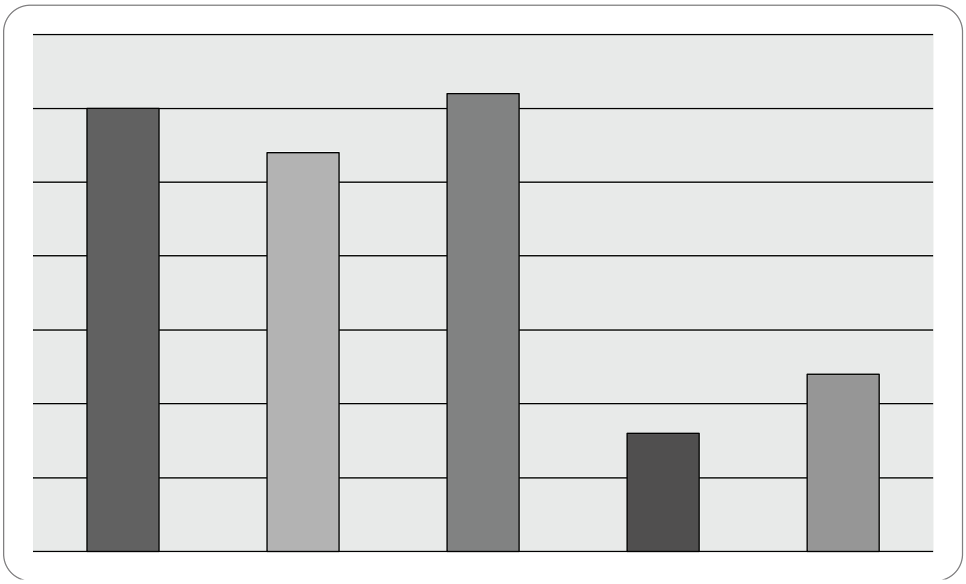
Graph 5: The usefulness of creating a career plan



Source: made by authors

As can be seen in Graph 5, on the question of how useful the making of career plan is, the majority of students (39.3%) consider this to be very useful. A little less useful is considered by 24.3% of the students surveyed and this percentage decreases to the last level, where it is again slightly increasing. At the last level, students who considere a career plan useless make up 11.2% of the total number of students surveyed.

Graph 6: *The usefulness of implementing a Career Centre and Career Counsellor*



Source: made by authors

The answer to the question of how useful they consider the implementation of the career center at the College of Slavonski Brod by which the students would to be able to talk to a career counselor can be seen in Graph 6. the biggest part of the surveyed students, 31 of them (28.7%) consider the implementation of a career center nor useful or unuseful . The next group is the one who thinks the implementation of a career center and interview with a career counselor would be very useful and that group is made of 27.8% of surveyed students. A slightly less useful set forth proposition is considered by 25% of students while 11.5% of them think that the implementation of a career center is useless.

The last question students were asked was whether they had been talking to a career counselor or visiting web site for career counseling such as e-direction.hzz.hr.. At the aforementioned question, most of them, or 75.7%, answered that they did not visit the career counseling websites nor talked to a career counselor. 15% of the students surveyed visited this kind of websites, 5.6% of them used both forms of counseling and the smallest part, 3.7% of the students only talked to a career counselor. From this it can be concluded that a large part of the students are not even familiar with the advantages of the career center, career counselor and career plan because they have not had the opportunity to deal with the above mentioned forms of counseling.

5. Conclusion

The competitive advantage of each company lies in the knowledge it derives - this is the starting point for a modern economy that is increasingly oriented to the advantage of intellectual capital over natural resources. (Đurakić, 2011) A strategy that will enable the company to win competitive advantage through efficient use of knowledge needs to be built. In today's so-called knowledge economy, more and more important becomes the ability to manage knowledge. The only viable advantage of contemporary organization comes from what the company knows, how it efficiently uses what it knows and how quickly it gets and uses new knowledge. Contemporary organization is an organization that learns, remembers and acts based on information and knowledge available in the best possible way. Knowledge management implies the acquisition of collective knowledge in order to achieve business objectives of the enterprise in a way that ensures that people have the knowledge they need when they need it and when they need it.

The College of Slavonski Brod, as an educational institution that conveys knowledge to its students and prepares them for the future labour market, should have an embedded knowledge management system. Although at the College of Slavonski Brod there is a system of knowledge management, the College has not yet introduced a career management system as part of the aforementioned system. For the purpose of this paper, a survey was conducted among students of the first and second year of undergraduate study programs in order to see their attitudes towards the implementation of a career management system at College of Slavonski Brod. The surveyed students mostly expressed a positive opinion about establishing a career centre headed by a career counsellor to help them develop a career plan they also consider useful. The same survey should also be carried out among students of a specialist graduate study in order to see their attitudes about implementing a career management system at the College of Slavonski Brod. The most of specialist graduate students, unlike undergraduate students, many of whom plan to continue studying at a graduate study, are preparing for the labour market after the graduation on current level of study.

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9 Managerial Challenges and Competitiveness

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IMPACT OF ISO 26000 INTERNATIONAL STANDARD ON COMPETITIVENESS OF COMPANIES

ABSTRACT

The last few decades are characterized by the increase in socially responsible activities by companies. Corporate social responsibility (CSR) emphasizes that the company, in addition to its basic economic role, necessarily has other, wider social roles. With the aim of clearer measurement of CSR, an international ISO 26000 standard has been developed. This standard seeks to define the basic principles of CSR, along with a series of recommendations for improving CSR practices around the world. ISO 26000 represents a volunteer standard for companies, which means that it does not set strict standardization requirements, but primarily a set of recommendations developed to support CSR activities. The aim of the paper is to explore the impact of applying the ISO 26000 principles on the company's competitiveness. In addition to theoretical considerations, the paper presents and discusses the results of the research on attitudes of representatives of 90 companies in Bosnia and Herzegovina on a given topic. Finally, an appropriate conclusion is made, along with concrete recommendations on how to use CSR in the function of greater company competitiveness.

Key words: *CSR, ISO 26000, competitiveness*

1. Introduction

Modern business requires companies to be socially responsible and meet the expectations of the wider community and their stakeholders. Within the theory of corporate social responsibility (CSR) there are numerous concepts and principles of action. However, for practical business, it is necessary to have instructions that are combined in the form of the ISO 26000 standard. This is a non-compliant standard dedicated to CSR. The first part of this paper deals with theoretical considerations of CSR, ISO 26000 standard and competitiveness, while in the second part, the paper gives an overview of empirical research in Bosnia and Herzegovina. After that, discussions and conclusions follow.

2. Theoretical framework

In the following chapters, the paper will present the concepts of CSR, ISO 26000 standard, competitiveness, and their interconnectedness.

2.1. Corporate social responsibility

CSR is a very complex concept that is oriented toward companies stakeholders, the environment, the community, business ethics and the simple fact of doing good. At the beginning of the last century, the concept was not used in today's form, assuming that the basic mission of the company was to realize the interests of its owners. The company's basic objective was to maximize profits or meet any other owners' interests. There were, therefore, no critical ideas in the wider public on CSR, nor did any social interest groups had the potential to impose a social agenda. Since the 30s, managers have begun to show particular care for workers, consumers, and society, while at the same time ensuring the satisfaction of owners' interests. This was happening in the wake of the development of neoclassical management theories that emphasize the importance of human potential to better achieve organizational goals. During 60s questions such as equality in employment, protection of the environment and consumerism will enter the business world, which will create the conditions for the development of the concept of CSR that we know today. This concept implies proactive action with the aim of effectively and efficiently fulfilling the requirements of the community. CSR has continued to reshape and transform a number of business practices, including the way companies of the twenty-first century perceive and report on both their financial and non-financial activities to their stakeholders and the world at large (Idowu, 2019).

Based on everyday activities of the company, it is clear that every company has wide space of responsibility because, besides profits, they also must take into account the quality of life of people (Holjevac, 2006, 156). Numerous authors have defined CSR differently, some of them in completely opposed ways, which will later form two basic perspectives on the concept of CSR. One group of authors led by Milton Friedman considered that companies should not be socially responsible because doing their business is imminently socially responsible By gaining profits, Friedman states, companies meet market needs and at the same time increase social well-being. This idea leads to the writings of Adam Smith, founder of economic science. Friedman believed that CSR reduces profitability and increases costs, leading to a decline in business systems (Robbins, Coulter, 2005, 100). The sole task of the company is to increase profits as long as the rules of the game are maintained, which implies free competition without fraud (Friedman, 1970; Torrington et al., 2004, 25). In short, economic profit is the only social responsibility of business managers (Kurtić, 2009, 9), while all else undermines the foundations of a free society (Friedman, 1997, 214). Friedman formulated this idea in a controversial article published in 1970 in the New York Times titled "The Social Responsibility of Business is to Increase its Profits". If donations are to be granted, then, according to Friedman, they should be donated by individual shareholders or individual workers, not by companies (Porter, Kramer, 2002, 2). Contrary to this, most authors, especially in the last three decades, believe that businesses must strive to achieve wider social goals. This is especially noticeable in the era of information technology. Starting from Drucker's argument that a customer is vital to the company, Denning states that customers, through the development of the Internet, globalization and the consequent customer choice, have influenced the change of paradigm of CSR. Denning sharply concludes that Friedman's argument is "the world's most stupid idea" (Denning, 2013).

In order to better understand the present view of the concept of CSR, below are some of the definitions of this term. Certo and Certo believe that from the management's point of view, CSR includes the obligation of management to take measures to protect and improve the welfare and society as a whole and the organization's interest. For this reason, the manager must strive to achieve both organizational and social goals (Certo, Certo, 2008, 50-51). This definition imposes social responsibility as an "imperative" for modern business. Management is increasingly required to conduct business in a socially responsible manner, ie it is expected to act in such a way that does not represent only the economic interests of the company but also the welfare of society as a whole (Bahtijarević-Šiber, 2008, 561). CSR is increasingly seen as a means by which the company strives to strike a balance between its own desire for profit and society needs, which it influences (Bagić et al., 2006, 15). Kotler states that CSR is a commitment to enhancing community well-being through discretionary business practices and contributing to the resource cost (Kotler, Lee, 2007, 3).

Similarly to the above-mentioned definition, CSR implies that a company integrates environmental and corporate care into the decision-making system, above strictly statutory obligations (Stanić et al., 2016, 827). The definition mentioned by Stanić and other authors emphasizes the environment or society, the system in which the company operates. Ćuzović (2010) gives a broader view, stating that CSR represents the concept of permanent improvement of business performance while respecting the economic, ecological and ethical principles of different market players, such as owners, managers, workers, customers, business partners and society as a whole. This definition starts from a stakeholder theory that puts the focus on the stakeholders, as key CSR subjects. This approach expresses managers' awareness that the success of their organizations is long-term dependent on the appreciation of the interests and needs of different influential groups in decision-making and action (Kurtić, 2009, 94). Influential groups are most often defined as individuals or groups within and outside the business system that can influence or affect them to achieve the goals of that system (Tafra-Vlahović, 2009, 167).

2.2. ISO 26000 standard

Standardization represents a natural continuation of the quality management process and implies a kind of agreement between buyers and manufacturers about the essential characteristics of products and services. Standardization strives for internationalization, leading to the development of the International Organization for Standardization (ISO) which is an international institution whose main objective is to set up and improve international standards (ISO standards). Standardization is a specific procedure for finding optimal solutions, i.e. determining what uniformity properties a product, material, technological process etc. must have (Sikavica, Novak, 1999, 23). Standards can be prescribed by law, made by the will of a business organization, or by the agreement of a large number of economic and other organizations (Kurtić, 2005, 47).

ISO represents a voluntary organization whose member countries recognize the authority of this organization in relation to the adoption and maintenance of standards. This organization is responsible for issuing international industrial and commercial standards, so-called ISO standards. ISO series standards, since their acceptance, have been widely used in the world. The success of these standards can be explained by the comprehensiveness and applicability in almost all human activities, activities of the industry, service activities, governmental and non-governmental institutions, education, healthcare, etc. (Umihanić et al., 2013, 93). As such, ISO standards make a positive contribution to the world we live in (Barut et al., 2015, 564). ISO standards provide solutions and benefits for virtually all sectors of activity, including agriculture, construction, machinery, production, distribution, transportation, medical devices, information and communication technologies, environment, energy, quality management, conformity assessment and services (BAS, 2017).

When it comes to the standardization process and the introduction of a new standard, this is a matter of agreement between ISO members. Each new standard necessarily goes through six stages of a clearly defined process before it is publicly announced as an ISO standard. The first phase of this process implies determining the need for a particular standard, as well as the willingness of ISO members to work on developing this. If these conditions are met, then the potential standard enters the preparation phase, where the working version of the standard is developed. The third stage implies referring to the comments and critiques of the working version of the standard until reaching a common consensus. The result of this phase is the draft International Standard or DIS. Thereafter, there is a voting phase where each member of the organization has the ability to vote for the acceptance or rejection of DIS. If DIS does not receive 75% of the votes, then it returns to the previous stages for finishing. If voting is passed, then it becomes the final version International Standard and enters the approval phase. During this phase, the standard will again circulate among the members to complete the final vote, again with the required minimum 75% approval. If the standard passes this phase, then the publication phase is followed, within which standard is sent to the ISO Central Secretariat for Publication (Martincic, 1997). In line with the rapid development of new technologies, there is also an alternative way of introducing a new standard, which allows the standard that has previously been shown on the market, to be immediately introduced into the approval phase. ISO only develops standards for which there is a clear market demand. The work is done by experts in areas directly arising from industrial, technical and business sectors that have recognized the need for the standard and then put the standard into use. These experts can join others with relevant knowledge, such as representatives of government agencies, test laboratories, consumer associations, and academia, as well as international governmental and non-governmental organizations (BAS, 2017).

ISO 26000 represents a relatively new standard within ISO standardization. ISO 26000 reflects international consensus on the meaning of CSR and on the CSR issues organizations of all sorts, sectors, and sizes should address in their operations (Moratis, Widjaja, 2018, 48; Toppinen et al., 2018). Namely, the need to establish a standard for the area of CSR was revealed in 2001 by ISO/CAPOLCO, the Consumer Policy Committee. In accordance with the introduction of the new standard, the further extension of ISO 26000 was led by the ISO Technical Steering Committee, which organized an ad hoc CSR group. ISO 26000 was developed in the largest-ever stakeholder consultation process (Moratis, 2018, 6). This group was represented by a large number of interest groups, composed of representatives of individual countries, non-governmental organizations, and companies. The result of this group is a comprehensive overview of initiatives and issues related to standardization of CSR. Thereafter, in 2004, an international conference was held discussing the need for the adoption of standards for CSR. At the conference, it was concluded that there was a need for such a standard, and the ISO's Working Group on CSR (WG SR) was established under the guidance of the ISO member of Brazil (ABNT - Brazilian Technical Standard Association) and Sweden (SIS - Swedish Standards Institute). On this conference participated 99 countries and 42 organizations with a status of associate membership. Among the interest groups that subsequently participated in the development of this standard were: industry, government, workers, consumers, non-governmental organizations, services, logistics, research and so on. The draft of ISO 26000 standard was put to the vote in September 2009, and the procedure lasted until February 2010.

Standard 26000 today represents the core of international expert knowledge about CSR. Standard is a powerful tool that helps organizations to move from good intentions to good practices. It is also expected that the future of ISO 26000 standard will lead to a global positive shift, with the support of a large number of stakeholders, as well as a large number of developed countries and developing countries, the United Nations and the International Labour Organization (Balzarova, 2008, 284). Accordingly, many European countries have begun to achieve planned CSR goals, so Belgium is the first European country to adopt the Law on Voluntary labeling of "Responsible Production", France has adopted the first law on compulsory triangular reporting for companies that are listed on stock exchanges, while Britain, as the country that moved most in that respect, set the first Ministry for Social Responsibility in 2000 and launched more than 60 governmental initiatives to promote it. In 2005, ISO launched an initiative for the adoption of a new series of ISO 26000 standards, which will internationalize the CSR system (Ćuzović, 2010, 154).

When it comes to the nature of this standard, ISO 26000 is an international standard that provides social responsibility guidelines for its use in all types of organizations, both private and in the public sector of developed and developing countries, regardless of their size and degree of development. Given that society increasingly requires business in a socially responsible way, the purpose of the standard is to help organizations by providing guidelines. Therefore ISO 26000 cannot apply as a standard for certification as ISO 9001: 2000 and ISO 14001: 2004 standards. It was not intended or suitable for certification or regulatory or contractual use. Specifically, the standard consists of seven clauses (subject matter and scope, terms and definitions, understanding of social responsibility, principles of social responsibility, recognition of social responsibility and involvement of stakeholders, guidelines on key social responsibility issues, guidelines for integrating social responsibility into the organization), two annexes (an attachment to examples of voluntary initiatives and tools for social responsibility, abbreviated terms) and bibliographies. In the introduction to ISO 26000, it is emphasized that the perception and reality of the organization's operations on the principles of social responsibility can influence, inter alia, its competitive advantage, reputation, ability to attract and retain workers, members, customers or users, maintaining morale, commitment, and productivity (Čiček, Bešker, 2012, 41). It is also important to note that, in the case of workers, investors, donors, sponsors, and financial institutions, and its relations with other companies, governments, media, suppliers, affiliates, clients and the community in which it operates, ISO 26000 is viewed as a significant factor in modern business.

ISO 26000 creates seven key areas of social responsibility, which are at the same time the characteristics of the definition of social responsibility. These areas are (Smith, 2011, 4): Organization Management; Work and community development; Human rights; Work Practices; Environment; Post-operative practices; Relationship with consumers. ISO 26000 seeks to provide guidance and apply socially responsible practices in each of the seven areas of CSR. It is the responsibility of organisations to consider the needs of the stakeholders in these areas when designing work processes or executing business-related activities (Mo-Ching Yeung, 2017, 4). In accordance with the above-mentioned areas of intersection, ISO 26000 is based on seven principles (Baćović, Simić, 2010, 154): the responsibility of all the stakeholder (managers, owners, workers, customers, business partners and society as a whole); transparency of internal and external decision-making; ethical business of all players in the chain of reproduction; respect for the demands of all interest groups; respect for legal regulations (national legislation and company law); respect for the provisions of international law and respect for human and basic consumer rights. The general principles include the principles of respecting internationally recognized conventions and declarations, compliance with national law provisions and the recognition of the rights of the rightsholder. Essential principles include the acceptance of the environment needs, the pursuit of internationally recognized human rights, the application of positive practices in the field of work, the application of internationally recognized principles of management, the practice of fair business practices and the involvement of the community. Finally, the operational principles are responsible for corporate actions and failures, the integration of the problem of social responsibility and the moving public towards the social community (Alić, 2016, 100).

In addition to ISO 26000, several other ISO standards are related to business system management and CSR and overlap with ISO 26000 (Balzarova, Castka, 2018, 5). These are the standards that relate primarily to aspects of quality, environment, health, and safety at work, such as ISO 14001, OHSAS 18001, ISO 8000, ISO 9001, ISO/TS 16949, ISO 22000. The appearance of ISO 26000 within the regulation of the organization's obligations to the the environment despite the existence of international standards ISO 14000 and EMAS (Eco-Management and Audit Scheme) is an attempt to globally harmonize the responsibilities of organizations from the wider social aspect to a comprehensive and harmonious approach (Čiček, Drljača, 2012, 36). Standard SA 8000 also complies with ISO 26000 in a large number of cases. The difference is that the SA 8000 does not provide clear environmental guidelines, community organization engagement, and its impact on development, as well as customer-related issues. Also, if the organization wants to establish a CSR management system without implementing guidelines of ISO 10001 (for planning, design, development, deployment and customer/client satisfaction through a client protection code) and ISO 10002 (to handle complaints in the organization), it will be obliged to look at the requirements of the ISO 26000 standard (Mujkić, Bešker, 2012, 10). ISO 26000 differs from other standards by not offering certification, but only providing guidelines for building social responsibility. Therefore, ISO 26000 is an attempt to cover the guidelines of all other standards. For this reason, the application of the ISO 26000 standard will be viewed in empirical research through the indicators of the key principles of this standard.

2.3. Competitiveness of companies

Although often used in literature, there are still different definitions of a company's competitiveness. Some authors emphasize that the differences in definition demonstrate the complexity and multidisciplinary nature of this concept. The simplest definition of the concept of competitiveness in a wider sense states that competitiveness relates to the ability of an economic entity (companies, industries, regions or states) to compete with their rivals (competitors). It is related to the rivalry between economic entities regarding the market or access to human and material resources or technology (Stojčić, 2012, 145). This refers to domestic and/or foreign markets (Škuflić et al., 2011, 2). This definition broadly defines competitiveness, which may be the ability of companies, as well as other economic entities, such as industry, region, but also cities, an entire country. Without a sufficient level of competitiveness, ceteris paribus, the economic entity fails to survive on the market. The concept of competitiveness thus defined is observed in a relative relation (with other competitors) and can be expressed as a set of the relative performance of the company compared to competitors. Based on that, the competitive advantage relates to the relative position of the company in relation to its activity (Šimić, 2016, 169).

Other definitions, such as those from Peteraf and Barney, emphasize the creation of new value as the basis of the company's competitiveness, suggesting that the company has a competitive advantage when it is capable of producing a greater economic value than its largest competitor in the product market. The economic value refers to the difference between the perceived benefit of the buyers and the economic cost of the company (Talaja, 2013, 51). Buckley and others also state that the company is competitive if it can produce better quality products and lower prices than its competitors (Stojčić, 2012, 145). Porter argues that the competitive advantage is basically growing from the value that a company can create for its customers. This may be in the form of prices that are lower than the competition or in the form of unique benefits that go with the premium price (Porter, 1985). Competitiveness can also be seen in the context of a company's productivity. Namely, the company is competitive if it can turn its resources into value more efficiently than its competitors. Efficiency and effectiveness are directly in the function of competitiveness, i.e. the achievement of certain competitive advantages of the company. Also, in the context of international trade, competitiveness implies the possibility of delivering goods that can withstand the test of international markets (Stojčić, 2012, 145). This implies that a company can meet the formal legal requirements of a foreign market, but that it can also meet the demanding needs of foreign consumers.

Talaja (2013) states that the existing definitions of competitiveness can be categorized into two groups: those that explain the competitive advantage through company performance and those that are explained in the term of value creation. Both sets of definitions are observed in the relative relation of the company with its competitors. The first group of definitions considers competitiveness as a result of fulfilling a company's business performance, while the other group is more direct, reducing competitiveness to the core business - creating new values. In the last group of definitions, innovation plays a major role in the function of achieving the company's competitive advantage. Most authors agree that competitiveness is the imperative of modern business. Although there are differences in the definition of competitiveness, the authors agree that competition itself determines the company's market performance and its potential to respond to market needs. The key to business success lies in establishing and maintaining a competitive advantage in the market (Alpeza, 2010, 1). Competitiveness directly determines whether a given company will survive, or, as Porter (1985) points out, competitiveness is the basis for success or failure of the company. Competitiveness should not be seen as a short-term goal but as an integral part of the company's strategy.

2.4. Impact of CSR on the competitiveness

CSR significantly influences the company's competitiveness in a way that it is a direct source of competitive advantage or that it affects other sources of competitive advantage of the company and thus forms the very competitive edge. Ćuzović (2010) stresses that CSR can bring a lot of benefits for the company: cost reductions, easier access to the market, the ability to obtain loans, increase sales, increase worker loyalty (Čavalić, Bećirović, 2018), and recognizable corporate image. Each of the above benefits represents a potential source of competitive advantage for the company (Ivanović-Đukić, 2011, 45). Namely, the goal of CSR is to, while preserving profitability, create high living standards for interest-influencing groups outside and within the company (Bišćević Alibašić, 2014, 45).

CSR brings a number of positive effects on business. Turban and Greening (1997) conclude that companies with developed social performance can have a significant competitive advantage. Porter also comes to similar conclusions, as he writes that there is no conflict between economic and social goals within the new thinking about competition, but on contrary, there is long-term synergy (Tafra-Vlahović, 2009, 174). Davis and other researchers have shown that CSR contributes to the development and enhancement of the company's value, and consequently, avoiding these activities reduces economic opportunities for the company (Madrakhimova, 2013, 115). Many believe that the company has no choice but to act in a socially responsible manner because the wealth of shareholders and even the survival of a company depends on it (Van Horne, Wachowicz, 2012, 6). The European Commission considers that social responsibility is important for the EU's sustainability, competitiveness and innovation, and the EU economy as a whole. The Commission further states that social responsibility brings benefits to risk management, cost reduction, access to capital, customer relations and human resources management (European Commission, 2015).

The concept of CSR is not just a passing fad but an imperative in the business world that all businesses will have to accept sooner or later if they want to keep their place on the business scene (Bašić, 2017). Ethics and CSR require the company's full commitment. They must be an integral part of the overall corporate culture (Kotler et al., 2007, 200). Companies cannot survive unless they assume responsibility (Russell-Walling, 2012, 174-175). A key element of successful business is trust that can only be built on the basis of mutual recognition of common moral standards, codes of conduct and reliability (Krkač, 2007, 367). In this respect, ISO 26000 is an extremely important standard for harmonizing socially responsible practices around the world in order to improve business and competitiveness of the company. The next part of the paper will explore the impact of this standard on the competitiveness of companies in Bosnia and Herzegovina.

3. Measurement of the impact of ISO 26000 on the competitiveness

In order to measure the impact of ISO 26000, a random sample of 90 companies across the territory of Bosnia and Herzegovina was analyzed. The basis for sample structuring was data from the register of the Indirect Taxation Authority of Bosnia and Herzegovina. Taking into account that CSR is usually reserved for larger companies, the sample was made from the population of medium and large companies, according to the Indirect Taxation Authority of Bosnia and Herzegovina register. The respondents were representatives of the given companies. It is important to note that there is no clear data about the use of ISO 26000 in these companies, so the empirical research focused on the key principles of this standard. This is accordant with the fact that ISO 26000 cannot be used for certification and it was done before by other researchers (Fuckner, Rezende, 2019). Guidance for this standard state: “This international standard is not a management system standard. It is not intended or appropriate for certification purposes or regulatory or contractual use (Bird, 2010). Results of descriptive statistical analysis are showed in table 1.

Table 1: *Descriptive statistical analysis of using ISO 26000*

Variable	Mean	Standard deviation
Our company makes its business decisions in accordance with the principles of CSR.	3,54	,914
Our company respects basic human rights.	3,67	,924
Our company respects its workers and holds the best working practices according to the International Labour Organization.	3,82	,787
Our company is responsible for the environment.	3,76	1,042
Our company follows fair business practices.	3,90	,900
Our company is responsible for its customers.	4,06	,812
Our company is responsible for community and social development.	3,61	,991

Source: Authors creation

Mean, as shown in table 1, ranges from 3.54 to 4.06. The minimum value of mean is for the statement "Our company makes its business decisions in accordance with the principles of CSR", while the highest mean value has the statement "Our company is responsible for its customers". The table 1 shows that standard deviation values are less than 1, except for one variable, which is 1,042. The results show that the average deviation from the mean is almost statistically negligible. When it comes to the resources that are the basis of the company's competitive advantage, they are observed through 5 attributes, which are shown in the table 2.

Table 2: *Descriptive statistical analysis of resources as sources of competitive advantage*

Variable	Mean	Standard deviation
The competitive advantage of your business is to a large extent based on financial resources (cash/cash reserves/ investments, etc.), real and disposable debt and capital that the company uses and any retained earnings.	3,58	,971
The competitive advantage of your business is largely based on physical resources (equipment, office spaces, manufacturing or sales facilities, raw materials or any other tangible assets the company has).	3,91	,843
The competitive advantage of your business is largely based on human resources (experiences, traits, knowledge, ability to reason, wisdom, skills, capabilities, and competencies of all workers in the organization).	4,02	,887
The competitive advantage of your business is largely based on intangible resources (brand names, patents, reputation, trademarks, copyrights, reported projects and databases).	3,18	1,066

Variable	Mean	Standard deviation
The competitive advantage of your business is largely based on structural-cultural resources (company history, organizational culture, work systems, organizational policies).	3,50	1,124

Source: Authors creation

The representatives of the surveyed companies awarded the highest scores for the statement "The competitive advantage of your business is to a large extent based on human resources (experiences, traits, knowledge, ability to reason, wisdom, skills, capability, and competencies of all workers in the organization)". The lowest rating is given to following statement "Competitive advantage of your business is largely based on intangible resources (brand names, patents, reputation, trademarks, copyrights, reported projects and databases)". The mean moves in the interval of 3.18 to 4.02. The table 2 shows that standard deviation values range from 0.843 to 1.124, indicating that the average deviation from the arithmetic mean is more significant than the dependent variable of application of the ISO 26000 standard. Below is a descriptive analysis of the different kinds of competitive advantage.

Table 3: *Descriptive statistical analysis of different competitive advantages*

Variable	Mean	Standard deviation
Efficiency	1,49	,503
Quality of products/services.	1,14	,354
Innovation	1,79	,410
Reactions to wishes and customer requirements.	1,54	,501
Investing in marketing activities.	1,82	,384

Source: Authors creation

The table 3 outlines the foundations of the company's competitive advantage. Unlike table 2 which shows resources that create potential for competitiveness, in table 3, companies state their competitive advantages. Based on the results presented, we can see that most of the surveyed companies perceive "Investing in marketing activities" as the main foundation of their competitive advantage. After that follows "Innovation", "Efficiency" and "Reaction to wishes and customer requirements". Lowes mean was for the variable "Product/Service Quality", which is discussed in the following chapter. The standard deviation that measures the dispersion of data in the sample ranges from 0.384 to 0.503.

__Table 4:__ Descriptive statistical analysis of foundations of competitive strategy

Variable	Mean	Standard deviation
Low cost thanks to the accessibility of natural resources.	3,03	1,086
Low labour costs.	2,74	1,023
Low costs generated by the efficiency of the production process.	3,21	1,137
Design and image of the product.	3,66	1,103
Quality of products/services.	4,40	,872
Offer new products and innovative ways of post-sales support.	3,82	1,137
Fast response to wishes and customer/customer requirements.	4,30	,917
Significant investment in marketing activities.	3,43	1,142

Source: Authors creation

Descriptive analysis of the foundations of the company's competitive strategy, showed in table 4, suggests that average ratings of all variables range from 2.74 to 4.40. The table 4 shows that standard deviation values range from 0.872 to 1.142, indicating that deviations from the mean are mostly statistically significant compared to other variables of the empirical research. Highest mean is related to the quality of products/services which is in contrast to results in the table 3. Lowest mean has the variable “Low labour costs”. Based on empirical research, in the following chapters, the paper will offer discussion and adequate conclusions.

4. Discussion

According to the results presented in the empirical part of the paper, it is evident that the companies in Bosnia and Herzegovina generally consider that they are socially responsible - that they apply the basic principles of the ISO 26000 standard, which represents an international standard of CSR. It is important to note that ISO 26000 standard cannot be certificated, so the paper only measured the impact of perceived implementation of ISO 26000 principles (in given companies). When it comes to specific stakeholders, companies are mostly oriented towards costumers. After them, companies take care of workers, the environment, community, and wider social development. These answers are quite expected because they imply that, in accordance with their own mission and goals, companies take care mostly about their consumers (who generate profits). After that, there are workers who represent the key internal force of any company, and then the environment (ecological activities) and the wider social community (philanthropic activities). The results are in line with the assumptions of the Pyramid of CSR, which emphasizes that companies tend to be essentially economic responsible, which primarily reflects the satisfaction of customer needs, i.e. the provision of quality products and services to the market. After that, they follow the legal, ethical and ultimately philanthropic responsibility. What is interesting is that respondents to the smallest extent, compared to other responses, believe that business decisions are made in accordance with the principles of CSR. This is understandable considering all the complexity of the area of CSR and the related principles. That is why ISO 26000 was introduced - to solve the problem of lack of CSR rules.

When it comes to resources that are the basis of the company's competitive advantage, respondents consider that human resources are key for competitiveness. These resources can be expressed through experience, traits, ability to reason, wisdom, skills, and competencies of workers in the companies. It is to be understood that this response is expected because, in the last few decades in the relevant literature, human resources are precisely the basis for the differentiation of companies i.e. the creation of long-term sustainable competitive advantage. Respondents believe that the relatively small contribution to achieving competitive advantage is due to intangible resources such as brand names, patents, reputation, trademarks, copyrights, reported projects, and databases. Such an answer can be interpreted in the context of the low level of intellectual property protection in Bosnia and Herzegovina, but also as a result of the fact that the domestic economy is not characterized by a significant development of the ICT sector, which for the most part achieves its competitiveness through the above-mentioned intangible resources. Companies state that their competitive advantage is based on the investment in marketing activities, which means that they perceive marketing activities as key for gaining competitive advantage. They consider that the quality of products/services does not determine their competitive advantage. On the other hand, this factor has the highest rating when it comes to competitive strategy, meaning that companies are not quite sure about what is the main factor of their competitiveness. The core of the company's competitive strategy is the quality of products/services, suggesting that a differentiation strategy is preferable. Respondents say that they do not use labour costs as a basis for competitive strategy, which implies that they are not prone to low-cost strategies. Taking into account the price of labour in Bosnia and Herzegovina in relation to most European countries, it is clear that the answers are extremely questionable, which may mean that the respondents deliberately avoided presenting that they use lower labour costs in the function of achieving competitiveness.

When it comes to researching the impacts of applying ISO 26000 standards to company competitiveness, responses clearly indicate that there is a certain correlation between these variables. This proves that CSR has a real impact on the competitiveness of the company i.e. resources, foundations, and strategies for achieving it. The results are in line with current research efforts that seek to justify the application of CSR. Namely, the goal is not only to offer ethical/moral arguments for the stated but to show that there are clear profit motives that should condition the application of CSR activities.

5. Conclusion

The turbulence of the market and the ongoing changes impose pressure for companies for long-term quality improvement as one of the prerequisites for survival. In addition to the aspirations to quality, the key determinant of modern business is CSR. The paper presents the historical development of CSR. It shows that this area from the 1960s to the present has always created a fierce academic discussion of the nature and necessity of social responsibility, but also whether CSR can be in the function of achieving company goals. The compromise principles of CSR are best expressed in the comprehensive ISO 26000 standard, which seeks to standardize CSR operations through seven priority principles.

The paper presents the theoretical and empirical influence of CSR on the competitiveness of a company. Competitiveness is defined as the ability of an economic entity to be better than its competitors. Based on the theoretical considerations of this connection, the paper empirically researched the influence of the application of the principles of ISO 26000 standard on the competitiveness of companies in Bosnia and Herzegovina. The results have shown that these companies are largely socially responsible for their customers and workers, and least to the environment and to the social community. Companies mainly use human resources to build a competitive advantage. As a general conclusion of this paper, it can be stated that there is a partially statistically significant impact of the application of the ISO 26000 standard on the competitive advantage of companies. This relates mostly to the application of the principle of respect for human rights, community responsibility, and social development. In accordance with the aforementioned but also other results presented in the paper, the following recommendations can be listed:

- Companies in Bosnia and Herzegovina should use CSR activities to improve their own competitiveness. In addition to the ethical and moral obligation to carry out the given activities, companies should use CSR as a distinctive feature of their own competitive advantage in the market, with the aim of gaining profit.
- In addition to customers and workers, companies in Bosnia and Herzegovina should pay close attention to stakeholders from the environment and the wider community as subjects of CSR activities. In the long run, the company can best capitalize its CSR performance through the development of a network of stakeholders who will be there to financially and in any other way support socially responsible initiatives.
- Companies in Bosnia and Herzegovina must have a clear vision of what is the base of their competitive advantage. The paper showed that there is a collision in answers when it comes to a variable that relates to the quality of products/services in relation to their competitiveness.
- In order to improve competitiveness, companies in Bosnia and Herzegovina must pay special attention to ISO 26000 principles regarding respect for human rights, community responsibility, and social development. These principles, according to the results of empirical research, have the greatest influence on the company's competitive advantage.

Finally, future research in this area should be devoted to understanding the impact of CSR and ISO 26000 standard on other indicators of business performance. In addition, it is necessary to continue to work on the improvement, but also the concretization of ISO 26000 standards, with the ultimate aim of international CSR standardization.

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GLASS CEILING: GENDER INEQUALITY IN THE WORKPLACE

ABSTRACT

The aim of this paper is to provide a sociologically-based analysis of the phenomenon of glass ceiling in Croatia in comparison with the EU context and in eastern Croatia within the Croatian context. The purpose is to contribute to the analysis of the problematics of gender workplace discrimination and inequality and of women's access to all levels of professional hierarchy, with the focus on the concept of glass ceiling and both the challenges and criticism it faces us with.
The mixed-methods approach used in this research includes both quantitative and qualitative focus: semi-structured interviews conducted in 2018 with women holding different top positions in business and the analysis of secondary data gathered from Croatian and European sources (Ombudsman's research on gender representation in companies in Croatia, Eurostat, ILO, McKinsey, UN, Croatian Bureau of Statistics etc.).
The results suggest that general theses on more difficult and obstacle-laden advancement of women can be supported, that there are significantly more men in leading and management positions and that there are additional efforts that need to be make in order to achieve social gender equality apart from only formal and legislative equality. Gender inequality is pronouncedly present in the field of work, and particularly so above a certain top level, and awareness needs to be raised regarding huge costs of this situation growth-wise and development-wise.

Key words: *glass ceiling, gender, inequality, workplace*

1. Introduction

(Post)modernizing processes have among other things been characterized by emancipation movements, which have inter alia resulted in ever greater entrance of women into the paid labour market. Still, women keep facing certain barriers and difficulties in the workplace. A big portion of these barriers is related to gender inequality. The term *gender* is used rather than *sex* because sex relationships in a society cannot be reduced to the mere difference of sex characteristics or models of behaviour, but they are formative relationships founded in the very mechanisms of sociality, primarily through the relationships of power. To be a man or a woman, and of certain faith, nationality, race, class etc., means statistically substantial likelihood to live not only different but also unequal lives. Gender should be understood as performative, as something that is done (West and Zimmerman, 1987), and not as a manifestation of sex as given. Gender is in this sense not an exclusively individual characteristic, but a feature of social structure on many levels. This institutional and structural dimension of gender as pertinently connected among other things with the processes of economic and social development, will be of interest in this paper. The differences between sexes cannot justify social inequalities, gender stratification and forms of discrimination that have for centuries characterized social lives of people. Women today in the EU and Croatia alike have the formal right to education and declaratively equal labour market participation access, but various instances of horizontal and vertical professional segregation can easily be detected. The sphere of work is gendered in the sense that even within the same occupation men and women are concentrated in different jobs and workplaces. It can therefore be said that sexual division of labour is a key characteristic of gendered institutions such as the labour market and work organizations comprising it.

The aim in this paper is to analyse the phenomenon of glass ceiling in Croatia in comparison with the EU and in eastern Croatia within the Croatian context. The concept of glass ceiling is layered, complex and multi-level. Firstly, the focus is put on the concept as it appears in recent theoretical contributions and contemporary sociological research, with particular focus on gender workplace discrimination and inequality and on women's access to all levels of professional hierarchy. After that, available data is gathered from various up-to-date sources, such as UN gender statistics, Eurostat, ILO, McKinsey, Croatian Bureau of Statistics etc., which are relevant in providing possible support for the detection of the existence of the so called glass ceiling. The perspective is thereby comparative throughout. Much of collected data relates to employment rates, part-time employment, education levels, fertility rates, perceptions regarding gender equality, gender pay gap, representation of women in politics and especially in top managerial positions, because they mean the best chance of professional advancement, pay and social status. Attention is then shortly given also to Slavonia and Baranja, eastern Croatian regions, regarding the status of their care for and perception of gender equality and its correlation with economic development. The mixed-methods approach used in this research is realised by complementing the secondary-data based analysis with semi-structured interviews conducted in 2018 with three young women holding different top positions in business, the brief qualitative findings of which will be presented after the quantitative data snapshot. The sample is limited and does not allow generalization, but serves as a deeper qualitative illustration of first-hand experience of real women.

The results suggest that the existence of glass ceiling and general theses on various barriers to advancement of women can be supported, that there are significantly more men than women in leading and management positions and that there are still many efforts that have to be made in order to achieve social gender equality apart from only formal and legislative equality. Gender inequality is particularly visible in the field of work above a certain limit, which is hardly detectable and delicate, as if made of glass. Special effort is made to signal undesirable and costly consequences of the lack of social awareness regarding gender equality, especially in terms of democratization and economic development, regional, national and global.

2. Theoretical background and the concept of glass ceiling

After its appearance in an article from the Wall Street Journal (Hymowitz, Schellhardt, 1986), the notion of glass ceiling has been used in the last few decades to denote delicate and not explicitly visible barriers that can be detected in certain areas (e.g. mindset or paradigm limits detectable in the field of sustainability indicators, Bell, Morse, 2001, 304; women's muscular strength and research on gendered bodies, Dworkin, 2001; persons with disabilities, Braddock, Bachelder, 1994; hospitality industry, Knutson, Schmidgall, 1999 etc.). Still, the metaphor of glass ceiling (whether low or high, stained, cracked, broken, shattered, firm, weak, circumvented etc.) has predominantly been used to frame discussions on women and work, especially challenges women face regarding professional upward mobility (e.g. Sabharwal, 2015; Bullard, Deil Wright, 1993; Naff, 1994; Sneed, 2007). The glass ceiling is "a barrier so subtle that it is transparent, yet so strong that it prevents women and minorities from moving up in the management hierarchy" (Morrison, Von Glinow, 1990, 200). Although research on the phenomenon of glass ceiling is diversified and layered and spreads over many fields (Powell, 1999), the primary question to be addressed is whether such a barrier exists and if so in what contexts and under what conditions (c.f. Blum, Fields, Goodman, 1994). The concept has become increasingly used because it is, among other things, congruent with a contemporary movement to diversify participation in senior-level positions in society (cf. Baxter, Wright, 2000). There is a variety of variables comprising these barriers and limits that materialize into conscious and sub-conscious discriminatory practices (cf. Padavic, Reskin 2002; Ridgeway, 2001).

According to Abercrombie, Hill and Turner (1994, 456-459), to summarize in this paragraph the main shifts in the labour market they mention, the number of women in the labour market has grown in the last half a century, with about 20% of all women employees working part-time. This is due to the increasing number of married women returning to work after bearing children and choosing to spend less time out of the labour market for domestic reasons. The authors divide the reasons for this into the factors leading to demand for women employees (e.g. the growth of routine non-manual work and services where women have traditionally been employed; interest among employers in hiring part-time employees to match fluctuations in work flow; the fact that part-timers are often less well protected by employment legislation and collective agreements negotiated by trade unions, and are therefore cheaper to hire and easier to dismiss etc.) and the factors increasing the supply of female labour (e.g. limitations on family size, giving women more opportunity to work and for longer periods; changing social conceptions of women's roles; the increasing qualification of women via the educational system etc.). Women compared to men work in a narrow range of occupations (occupational segregation), few of them have top jobs (vertical segregation), and on average they earn less. On average, men earn more than women in all Western economies, although the gap has somewhat closed in most countries over the last fifteen years.

While men and women may be present at similar organizational levels, women are not given the same amount of responsibility or supervisory tasks as males (Ohlott et al., 1994). There have been various attempts to explain the mentioned situation: optimal bias theory and type-based mentoring (Athey et al., 2000), person-organizational fit theories (Van Vianen, Fisher, 2002), institutional sexism and discrimination (Cohen et al., 1998), human capital theory (Baldwin, 1996), managerial leadership behaviour theory (Bartol et al., 1981), critical mass theory (Jacobs, 1992), occupational captivitiy theory (Yamagata et al., 1997), neoclassical economics (Weiler, Bernasek, 2001), glass ceiling effects (Maume, 2004) etc. The notion that a glass ceiling is a unique form of gender (and minority) bias, and that this bias is more severe at later stages of career development than at labour market entry was also affirmed (Maume, 2004). There is obviously considerable variability in theoretical approaches to studying glass ceiling. Among the frequent explanations in sociology are human capital theory (where important factors are the fact that men possess greater education and training, and the continuous work experience), then various explanations based in psychological traits, and discrimination (from early socialization, development of different aspirations, domestic roles conflicting with work, to employers' unequal treatment that all reinforce women's disadvantage). Legislation may redress discrimination, and Croatian Gender Equality Act and Anti-Discrimination Act have together with provisions from the Labour Act, and together with a series of conventions and directives, contributed to certain positive shifts, but the pay gap and professional horizontal and especially vertical segregation remain. Why have so few women occupied top positions when there is legislation and significant history of women seeking equal rights and opportunities? Cultural values, norms and stereotypes that run deep expose a sexual division of labour and different roles in the family as relevant factors in explaining gender inequality at work. Literature discussed dual labour markets (Averitt, 1968), but the evidence that the market for female labour is "secondary", in the sense that it provides low pay, unstable jobs, little chance to acquire skills, and little career progression, is not completely clear-cut. Different groups of women are in different sorts of market. In order to be able to arrive at founded conclusions, the following two chapters look into data from various sources and interviews, in a comparative fashion, trying to address the existence of glass ceiling regarding professional upward advancement of women and its context and conditions in Europe and Croatia.

3. A quantitative snapshot: *ex post facto* data on EU and Croatia

Considering the fact that women started earning their salaries only in the last century, it is entirely justified to expect challenges and barriers in achieving full equality. By granting the rights to education and work and ensuring the legislative framework, women's struggle has not finished. The share of women in the market is increasing constantly, but "gendered" work i.e. traditional division of labour still exists. Despite their formal education, skills and competences, women earn less than men of the same education level on average, they advance at work more slowly and less frequently, and seldom occupy the most responsible and best paid positions. This is unfortunately supported by data regarding the EU and Croatia on employment rate, education, political representation, pay gap and professional upward mobility.

The employment rate shows the proportion of the working age population that is in employment (Croatian Bureau of Statistics, 2013; 2018b). In Croatia the overall employment rate — for persons aged 15–64 — was 50.7% in 2012, the lowest among all EU-28 Member States and 13.5 percentage points below the EU-27 average. The Croatian employment rate for persons aged 20–64 had increased to 62.9% by 2008, but during the financial, economic and public debt crisis it decreased each year from 2009 to 2012. An increase in the employment rate through to 2008 was also observed for the EU-27 as was the reversal of this trend in 2009 and 2010, after which this rate stabilised within the EU-27 just above the level it had been in 2005. One of the Europe 2020 targets is that, by 2020, 75% of persons aged 20–64 in the EU should be in employment; for Croatia the target is 59%. According to the Report on Equality between women and men in the EU (2019), the employment rate for men is at 77.9% as compared to 66.4% for women in 2017, and the gender employment gap stood at 11.5 percentage points, the same figure for the last 3 years. The number of working women in

Croatia was 46.2% in 2012 and men were at 60.5%. But additional problematics is in the so called secondary status of the jobs women perform, part-time employment, traditional attitudes towards women's roles and the gender pay gap. Part-time employment in Croatia averaged 97.56 thousand from 2002 until 2018, reaching the highest point of 127.20 thousand in the third quarter of 2008 and a record low of 69.40 thousand in the first quarter of 2017 (Trading Economics, 2019). The EU average for comparison moves around 30 thousand. Average fertility rate (women aged 15-19) has thereby fallen from around 18% in 1998 to around 9% in 2016 (UN, 2019). Furthermore, the number of highly educated men in Croatia (completed Bachelor's or equivalent, population 25+ years) was 15.1% in 2001 and 18.2% in 2011, and there were 12.7% such women in 2001 and 18.28% in 2011 (UN, 2019). According to 2016 data (Croatian Bureau of Statistics, 2017), 65.0% of men in Croatia completed secondary school, while only 20.3% of them completed higher education, which is 5.3% less than the number of women who completed the aforementioned level of education. However, the employment rate for women in the age group 15−64 was nevertheless 9 percentage points lower than for men, and in 2016, it amounted to 52.4%. Furthermore, the employment rate for women and men was different depending on the number of children and it is noticeable that the difference in the employment rate for men and women grows as the number of children grows. Thus, the employment rate for women with one child amounted to 65.0%, while for men with one child, it was 8.6 percentage points higher. When it comes to women with three and more children, it amounted to 56.6%, which is as much as 21.9 percentage points lower than for men. In addition, 2.7% more women had a part-time job.

The average monthly net earnings of women employed in legal entities in the Republic of Croatia amounted for 2016 to HRK 5 294 and that of employed men to HRK 6 060 (Croatian Bureau of Statistics, 2018a). Using data from the European Structure of Earnings Survey, the ILO estimates that female-dominated companies (where over 95% of workers are women) in the EU pay around EUR 9.90 per hour, in contrast to the EUR 11.60 per hour paid by companies with a similar workplace profile but more equal mix of male and female workers. This means a gender pay gap of 14.7% (ILO, 2018, 77). Working in undervalued sectors is not the only explanation for the gender pay gap. The same report shows that in many countries women are more highly educated than men working within the same occupational categories, but nonetheless earn lower wages. This illustrates the fact that the closing of the gender gap in education has not done enough to reduce the gender pay gap, because men's and women's education are rewarded differently. Women tend to earn less per hour than men do for the same profession, regardless of whether it is a highly skilled white-collar profession or a lower-skilled job. Eurostat data (2018) indicate that the largest gender gap in hourly earnings exists for managerial positions (23%). Even for the professions with the lowest salaries, such as clerical support workers (office clerks, secretaries etc.) and service and sales workers, the pay difference between women and men is still 8% in the EU. McKinsey data (2018) show that for every 100 men promoted into management, 79 women are promoted to such positions. In the EU-28, managers are on average twice more likely to be male. What is more, women are still overwhelmingly the second earners in the family, far less economically independent than men. In total, 78% of second earners in the EU are women. It is therefore not surprising that, if on top of the gender pay gap, working hours and total working life are taken into account, a real difference in the economic independence between men and women can be observed. The gender gap in overall earnings reaches almost 40% in the EU.

More women in power means higher quality of government. In November 2018 (Report on equality between women and men in the EU, 2019, 34) only 6 of the 28 national parliaments across the EU were led by a woman (21.4%). According to EIGE (2019), on average, parliament members in the EU comprised 69.8% men and 30.2% women. Although the proportion of women is higher than ever, still seven out of ten members of national parliaments in the EU are men. At the same time, there is considerable variation between countries. Parliaments in Sweden, Finland and Spain have at least 40% of each gender, while women account for less than 1 in 5 members (and major political parties are mostly led by men). Moreover, men accounted for the large majority (69.5%) of senior ministers with women holding only 30.5% of these positions. Governments were gender-balanced (at least 40% of each gender) in Sweden, France, Germany, and Denmark. In Spain, there was a clear majority of women in government (61.1%). However, in all other countries, most senior ministers (more than 60%) are men. The latest data available (EIGE, 2019) show that 32.1% of members of local assemblies across the EU are women. Only Sweden's assemblies included at least 40% of each gender (43.0% women, 57.0% men). Those in Greece, Croatia, Cyprus and Romania comprised more than 80% men and less than 20% women. Across the EU, women hold only 14.9% of local leadership positions (mayor or other leader of the municipal council).

According to the Report on equality between women and men in the EU (2019, 27-39) EU-28 average of women on the boards of the largest publicly listed companies in the EU is at 26.7% and 40% at least is seen as gender balance zone. Change in the proportion of women on the boards of the largest publicly listed companies in the EU, for Croatia is only 1.15% with only 5 EU countries lower than that. Proportion of women among executive and non-executive members of the two highest decision-making bodies of large companies in the EU-28 is 17.2% non-executives and 20% senior executives. Fewer than 1 in 10 companies has a female chair or CEO. The gender overall earnings gap in Croatia stands at 24.4% (the average gender overall earnings gap in the EU is 39.6%). Management and supervisory positions are overwhelmingly held by men. Within each sector men are more often promoted than women, and paid better as a consequence. This trend culminates at the very top, where amongst CEOs 6.3% are women. Women take charge of important unpaid tasks, such as household work and caring for children or relatives on a far larger scale than men do. Working men spend on average 9 hours per week on unpaid care and household activities, while working women spend 22 hours – that's almost 4 hours every day (the Gender Pay Gap in Croatia, 2018). In the labour market this is reflected by the fact that more than 1 in 3 women reduce their paid hours to part-time, while only 1 in 10 men do the same. Women tend to spend periods off the labour market more often than men. These career interruptions not only influence hourly pay, but also impact future earnings and pensions. Segregation in education and in the labour market means that in some sectors and occupations, women tend to be overrepresented, while in others men are overrepresented. In some countries, occupations predominantly carried out by women, such as teaching (even though principals are dominantly men) or sales, offer lower wages than occupations predominantly carried out by men, even when the same level of experience and education is needed.

Finally, attention is paid to the position of eastern Croatian region of Slavonia and Baranja in this comparative context (according to Dremel and Matić, 2018). After local elections in 2017, leading positions in local and regional authorities are occupied by 17.9% women and 82.1% men. 0% of women hold the position of the head of county in five Slavonian counties (Virovitica, Požega, Osijek, Vukovar, Slavonski Brod), while there are 10,2% women heading cities and towns, 26.9% women among the members of county councils (29.7% women in Virovitica-Podravina County, 21.6% women in Požega-Slavonia County, 35.7% women in Brod-Posavina County and only 16,4% women in Osijek-Baranja and 18.6% in Vukovar-

Srijem County). Amongst higher political representatives in 2016 there are 28.2% women, with only 26.4% female ambassadors (Croatian Bureau of Statistics, 2017).

In addition to quantitative increase in the number of women, it is essential to raise awareness and sensitivity to gender issues. According to Kamenov and Galić (2011), a quarter of men in the sample think that gender equality is already accomplished, and 13.7% women agree. Inhabitants of rural areas, where Slavonia and Baranja are mostly represented, estimate very low exposure to discrimination of women, which indicates lower gender discrimination sensitivity. The lowest scores are in eastern Croatia, where more than half of the respondents declare a complete lack of interest in this topic.

Regarding strategic planning of regional development in the Republic of Croatia (Strategija regionalnog razvoja RH, 2017), the objectives stated in the Strategy are multidimensional, integrative and care for sustainable development, but nowhere on 327 pages can the phrase *gender equality* be found. This testifies to the lack of awareness that sustainability, development and gender equality are highly related phenomena. The situation with respective strategic development planning documents of counties is even more problematic, because four out of five Slavonian counties have not even issued their regional strategic development documents for the period after 2013, with the exception of Vukovar-Srijem county (till 2020). Even though all documents stress the importance of human rights and religious, gender, ethnic and other equality, no social dimension of it is elaborated and no actual measures are presented. Additionally, in Slavonia and Baranja a pre-modern traditional type of women prevails with 28.3% (Tomić-Koludrović, 2015) and the attitude prevails that the majority would not get engaged with the issues of gender equality. At the same time, the mentioned Slavonian counties are the least developed ones.

States and political parties in the EU have introduced a wide array of instruments, including legislative and voluntary quotas, affirmative action and other measures, to promote equal opportunities for women and men in politics. However, the general lack of long-term strategies and the lack of push for change from political parties and governments in many countries undoubtedly explain the slow progress of women's representation. According to Reskin and Heartman (1986), gender pay gap and segregation in the labour market is extremely stable despite huge changes in gender equality and anti-discrimination legislation, education of women and the shifts in employment patterns. The mentioned changes are mirrored to a degree in the changes of traditional family life, although, despite improvements, women still spend by far more hours doing housework and caring for children and the elderly in the family.

4. A qualitative complement: semi-structured interviews with women in business

Interviews were conducted with three women based on the prepared protocol and in a half-structured manner in order to allow the interviewees to elaborate on their experience and opinions. Many more women were contacted, but did not respond, including the Gender Equality Ombudswoman as an informant. However, the interviews were proceeded with because generalization was not aimed for and the available respondents were given a wider thematic and temporal frame with the aim to maximize information power i.e. the amount and relevance of the data obtained from the respondents (Malterud, Siersma, Guassora, 2016). The participants signed the informed consent in which objectives, purpose and methodology were described, and data confidentiality was guaranteed. The respondents are all female, aged 32, 30 and 29, all of them hold a master's degree and occupy full time positions of the head of controlling, higher specialist for digital strategy and development and HR assistant in their respective companies. Their working experience is 9 years, 5 years and 9 months and 5 years and 6 months. All three participants invested in additional professional education (additional MBA, NLP certification and ScrumMaster education in project management).

Because of the limited text space in this article, the highlights from the interviews are presented. The interviewees were asked about returning to work after maternity leaves, satisfaction with their job in relation to their education and expertise, intimate and family-planning related questions posed to them during job interviews, barriers experienced during promotions and advancement in comparison with their male colleagues, perceptions of prejudice and stereotypes connected with fitness of women for top positions, age of advancement and possible pay gap compared to men, and some interaction patterns with male and female superiors.

The research has shown that all three women experienced certain difficulties in job advancements, in all three companies, and they retold a series of examples of barriers their female colleagues faced. One respondent had to sign a resignation after returning from maternity leave, and said hers was fifth such case in her company. Prior to bearing her child, she had been recruited in the best talents program, but after returning to work she was degraded and given the reimbursement she had received nine years before that. The employer based the explanations for such conduct in adjustments to new working and/or market conditions. Two out of three respondents left their previous jobs because top business policies were unbearable for them and they thought they had been underpaid, especially considering the amount of work and responsibility on the one hand and their education and competence on the other. No interviewee experienced any negative experience during job interview procedures or any discriminatory intimate questions posed (marital status, intention to have children etc.). However, they all commented that managers avoided posing such questions because they were aware of their illegal discriminatory status, but made, after the interviews with candidates, additional effort to check their private matters when possible. It would be worthwhile to additionally conduct research on the types of strategies employers use thereby.

All three women in the sample were promoted at least three times, but they pointed out that the process of advancement had been slow and inert, and the system inflexible. They think their promotions resulted from their hard work and effort, witnessed by excellent formal assessment results. They all had the experience of competing with a male colleague. One interviewee complained when her male colleague was supposed to be promoted before her and she succeeded in being promoted instead. The other respondent had a similar experience but did not react and failed to be promoted. Interestingly, when asked about their motivation for further advancement, all our respondents stated that they did not feel the need to advance or saw no possibility for it (maybe because they advanced to their current positions not long ago, only a year before the interview).

When it comes to the perception of gender equality, the respondents feel that men and women in Croatia are not equal. However, their personal experience is such that both men and women get promoted, and one woman even mentioned the policy of hiring women in a male team to motivate men and boost their productivity. They recognize professional segregation though: positions in IT, sales, production and logistics are mostly for men in their view, while women work more in the fields of HR, PR, marketing and finance. This was reflected in management positions too they claimed – with an interesting additional elaboration, that all respondents happened to share, that women managers and bosses discriminated equally or even more against female employees. One respondent described the shift in the behaviour of women once they became directors or management board members: she noticed that women tended to acquire certain male patterns of behaviour and tried to resemble their male peers in order to maintain the position. Two respondents however had the experience of female managers who treated female employees better and they thought this was due to the fact that they were aware that women needed to stride a more difficult path and make much more effort to succeed, because they themselves had this experience. All three respondents noticed that female superiors were more frequently frustrated and nervous, because they could not adequately dedicate sufficient amount of time to their families and children, which led to poor work atmosphere. One participant said that she had experienced resentment from her female manager when she had decided to use the maximum allowed maternity leave, and she thought this was so because her boss had not been in the situation to stay at home for that amount of time. Some female directors were to the knowledge of our respondents accused of mobbing their female subordinates.

Although two out of three respondents have experienced no law infringement against them and no significant problems in their positions, all respondents agree in their concluding remarks related to the position of women in the workplace and the labour market that it could be said that jobs are still gender specific to a great extent. They all also agree that women generally have lower chance of employment in top positions predominantly because of childbirth and maternity leave. They think that women get paid less than men, but that this could depend on a woman's attitude to her superiors. Generally, they think that women experience more difficulties compared to men in achieving job advancements. They do not see specific differences between men and women when it comes to the age of advancement, although it seemed to one respondent that advancement for women was not likely around the time she had a child. The ombudswoman's research on the representation of women in managerial positions in Croatia (Pravobraniteljica, 2014) confirms this: the number of men aged 18-24 in joint stock companies is 2.5 times bigger than the number of women of the same age. Women rarely enter supervisory boards before they are 30, and men do in their twenties, while women enter management boards when aged 35 on average, and men already when aged 30.

Finally, all respondents agree that the greatest challenge is to establish balance between career and family. Also, they frequently mentioned a specific mind-set that top positioned men have, which women need to acquire and develop once they advance. They all have noticed a number of stereotypes attached to women, such as that they are far more emotional and impulsive, while men are more analytic and rational. However, they also think that it is sometimes clever to make use of women's emotional intelligence at work. Also, the respondents have noticed the existence of the opinion that if a woman has children it is hard for her to advance, but at the same time if she had already accomplished advancement and is now without children, something is wrong with her or she is to be pitied. They see such attitudes as belonging to widely spread patriarchal cultural norms and traditional expectations of women.

The opinions of our respondents have confirmed general theses on more difficult achievement of job promotion for women and on the greater number of men in top positions. They all think that making parental leaves more easily available and culturally acceptable for men is one of the crucial places for policy.

5. Concluding remarks

The research results show that glass ceiling in Croatia can be detected according to the secondary data and that it is comparatively more present in Croatia than in the EU and even more dramatically in eastern Croatian region within the Croatian context. Qualitative insight has enabled an illustration of job advancement difficulties and barriers in the experience of women working in business. The size of the sample is thereby a limitation, but the generalization is not attempted and the available respondents were given close attention in order to achieve deeper and more elaborate insights. Sample specificity, use of established theoretical background and quality of dialogue have thereby contributed to the relevance and the so called information power (Malterud, Siersma, Guassora, 2016). Wider implications of the results suggest that the struggle to achieve gender equality and fight patriarchy in different social areas, including the labour market and the workplace, is a process not yet completed. Stereotypical perceptions of female characteristics and women's subordination are a part of deeper social structures of long duration. Historical and social patterns reflect the relations of power and the seeming everyday normalcy of the social roles makes discriminatory practices resilient and presents a great challenge. Current horizontal and vertical segregation regarding gender in the labour market reflects the historical position of women and is today detrimental not only to individuals but also to the entire society. Qualifying certain jobs as female or male brings benefits to neither men nor women, and the whole society is at loss when any proportion of working positions is filled according to gender, for instance, rather than talents (Reskin and Hartmann, 1986, 9).

This research has shown that there is professional gender segregation, that there are fewer women in top positions and that women often experience discrimination in the sphere of work and employment. The thing that most certainly is missing is the persistence in the implementation of gender equality policies. The main policy points thereby include insisting on diversity in all positions and fields, introducing quotas, increasing income during maternity leave, introducing workplace flexibility and promoting inclusion. Education and awareness raising can contribute to fighting stereotypes and induce positive social changes. Gender mainstreaming policies in companies are ever more intense. The situation has due to education, legislation and policies improved and there are more women in top positions than ever before, but they are still underrepresented in politics and business, and especially so in top positions, which is described by the metaphor of glass ceiling and the improvements in breaking or at least cracking it.

What needs to be done to complement this approach of detecting a glass ceiling is to focus on the fact that it is often more about implicit criteria than formal discrimination and that different career patterns need to be considered, because some women are focused on work, some are flexible and some are focused on the family (Hakim, 1996). Namely, not all employed women are a homogenous group. Also, hypotheses based in different theoretical explanations are yet to be tested in future research project. Finally, but not less relevantly, an immensely important issue for research is to see what challenges women continue to face once in leadership positions, because they often are placed in precarious positions setting them up for failure and pushing them over the edge - a phenomenon recently termed as "glass cliff" (Ryan, Haslam, 2005). Some research also suggests the need to test the hypotheses on the so called sticky floors (Booth et al., 2003), which hold women down to low level jobs and prevent them from seeking high management positions. Further research with longitudinal and experimental studies is needed to provide support for these inferences. Also, the research on the glass ceiling addressing the question of whether or under what conditions such a barrier exists should be complemented by research on the perceptions of a glass ceiling, because they may inhibit women from seeking and obtaining promotions.

It is necessary to change the perception of the public regarding the importance of achieving gender equality, because it is among other things an issue of social and economic development. Equal labour market opportunities are essential in developing healthy democracies. The fact that women do majority of housework and childcare is mainly not problematic from the point of view of quantity of work, but from the point of view of social power. Gender inequality is not a matter of male conspiracy or hostile attitude. Due to the fact that Croatia is a democratic society which constitutionally recognizes gender equality as a value and that anti-discrimination mechanisms have been established in Croatia as a member of a wider community that promotes principles of equality, it is more than utterly timely and necessary to recognize undesirable elements in gender relations as well as the need to change and/or adjust to new relations in practice. Gender balance in institutions can improve the functioning of democracies and citizens' trust, which is why a real commitment to gender equality should be demonstrated and a balanced representation of women and men in social institutions strived for.

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DETERMINATION OF PROJECT MANAGEMENT MATURITY LEVELS AS A SUPPORT FOR THE COMPETITIVE ADVANTAGE

ABSTRACT

Project management has become an unavoidable discipline and a precondition for successful action in the context of achieving the competitive advantage of any modern organization, and the notion of project management's maturity indicates the degree to which the organization has developed and implemented good project management practices. In this sense, they use and develop models of maturity determination of project management, which evaluate its development and as a result classify the organization. The level of project management's maturity level varies in line with application of the chosen model, i.e. the dimensions estimated by the model, and may be dependent on the context of organizational action. Determining the maturity of project management in the organization gives an insight into the current state of its development and appropriateness, which is then the basis for implementing strategies for improving the project management process. Building an appropriate level of development of project management in the organization can have a big impact on the success of its projects. The aim of this paper is to present the typology and areas of use of project management maturity model and to compare them in line with the context of application. By applying the results of this paper, the organization will have at its disposal information to help them choose the optimal model, thereby contributing to the progress of their project business, or significantly contributing to the organizational efficiency.

Key words*: competitive advantage, project management, project management maturity models*

1. Introduction

Due to its flexibility and adaptability, project management is recognized as a profession and used to achieve business goals, strategies and tasks within the time frames and budgets. In addition, the need for project management has been recognized through the benefits it brings to the organization and that are important for its competitiveness and success. Only a few of these benefits are: lower operating costs, increased profitability, improved control over changes, good relations with stakeholders, higher quality of products and services, etc. (Kobrehel, Barilović, Vrečko, 2016).

Project management maturity (PMM) is the level of development of a project management of an organization and can be measured by applying an adequate model. PMM should be measured within the organization according to the model that best suits it, in accordance with its strategies, goals, scope, employees etc. There are over 160 different models (Tekes, 2014) on the market today, which organizations can choose and measure their level of maturity of project management. Until recently, the notion of maturity was used to describe the organization's state when performing certain tasks. Today, the notion of maturity has a greater meaning, used to improve organizational efficiency in order to improve the services of the organization itself (Crawford, 2006).

Most of the models used differentiate between five levels of project maturity, which measure the level at which the organization is observed. By using the selected model, organizations can position themselves to a certain level and accordingly create the necessary strategies for further progress. By developing the level of maturity of their project management, the organization develops its internal competencies, eliminates difficulties in the work, and accelerates the success of their projects. Also, by raising the maturity level, the organization develops employees' competencies, communication channels, scope of work and business processes, all for the purpose of achieving competitive advantage.

The aim of this paper is to typologically present areas of use of eleven selected (most commonly used) models of project management maturity and to compare them comparatively with respect to the context of application. By applying the results of this paper, the organization will have at its disposal information to help them choose the optimal model, thereby contributing to the progress of their project business, and consequently possible contributing to their competitive advantage.

This paper is formatted in four sections. Firstly, the theoretical concepts related to the project management maturity levels are briefly discussed. Then analytical comparative research method and the result are discussed. Finally, the conclusions and implications of the study are laid out.

2. Theoretical review

The correlation between the Project management maturity level and the competitive advantage has recently gained higher attention among scholar, although this does not represent an area which is widely explored. In their works Huang (2017), Viana and Mota (2016) and others have succeeded in demonstrating that the right selection of the PMM level may positively correlate with enhancements of a competitive advantage. In order to attain clear position on this statement, first a sound understanding of available applied PMM has to be performed. In this optics a theoretical overview of the existing and most commonly used Maturity models is presented in this chapter. Models will be presented through their specifics, with reference to the project maturity levels they encompass.

2.1. Capability Maturity Model

The Capability Maturity Model (CMM) is a methodology developed to enhance software processes. This model, developed in 1986, is based on mature and immature software companies. It is important to constantly work on improving the process when the software is concerned. The CMM model consists of five levels that companies can rank and position. Each level encompasses certain process areas that are specific to a particular stage. Of course, levels cannot be skipped (Borko, 2001).

The initial process is the first level. Processes are not foreseeable, process control is difficult and not repeatable, there is a lack of reaction. This is the initial process where the company is not yet sufficiently developed to have controlled processes. The second level is the level of repetition, i.e. standards and structural processes. At this level, processes are planned, executed, documented and controlled. Some of the project management skills are defined as the processes are controlled at the project level. Controlling it is a very important factor. The result of the second level is the reaction process. Organizational standards and institutionalized processes (level of definition) make the third level. All processes of this level are characterized and understandable. Processes are also applied to other projects i.e. are standardized and can be repeated. They are also defined at the organizational level and understood by all involved in the project. Managed Level - Quantitative Management, is the fourth level. This level implies control by statistical and quantitative techniques. Project management is recognized here, and processes are integrated with organizational processes from level three. Executives are the ones who make decisions. The last, fifth level, is the level of optimized processes or levels of optimization. At this level, the project organization is fully mature, whose processes are fully applicable to all projects, are constantly improving and introducing new, innovative technology solutions. As well as at the level of managed processes, executives make decisions, but they are also focused on constant improvements (Paulk et al., 1995).

Successful CMM also developed Capability Maturity Model Integration (CMMI), which is used to measure the maturity of the product development and service development process. It contains the best practices pertaining to the development and maintenance of activities that cover the product life cycle from concept to deliver and maintenance. CMMI is defined as the process of improving objectives and priorities to provide process quality guidelines and benchmarks for assessing current processes at five levels of maturity (Jiang et al., 2004).

Each of the five levels, apart from the first one, consists of process areas that together form the basis for the next project phase. The elements used to evaluate the CMMI are specific and generic goals, but the grades are derived based on the evidence recorded. The maturity levels according to the CMMI model are (Benzinger, 2014): the first level - the initial level, the unpredictability of the process, does not have much control over the processes themselves; the second level - the management of established processes that are elaborated: third level - definition, processes become proactive, the outcomes can be predicted and, accordingly, they work and execute projects; fourth level - quantitative management with focus on improving the process; fifth level - the level of optimization of the process.

2.2. Projects in Controlled Environment (PRINCE 2)

The PRINCE 2 Maturity Model within the organization serves to discover the best practices for determining the status of project management within the organization. It is important to concretize the processes in order to achieve improvement in project business. By answering several questions, insight is given to the current state of affairs, and accordingly it looks at what stage the company is, and concrete solutions are offered to achieve the highest level of maturity. The PRINCE 2 maturity model of project management covers five levels (Prince2 Maturity Model, 2017): The initial phase - the success of projects at this stage is quite questionable, the implementation and performance methodology is not embedded within the organization; Steering phase - partly accepted methodology, unpredictable success of projects that are being started or are already being implemented; Definition phase - acceptance of a certain variable of the accepted methodology, prediction of projects is noticed; The quality phase - the methodology comes to the fore, accepted by the organization, is predominantly prediction of projects, performance; The optimization phase - predictability of all potential projects, the methodology at this level was fully adopted.

There are also some things that are not in favour of this method, such as the overarching questionnaires that need to be passed to get results, some misleading message to project managers that they are here just for reporting to higher instances. There is no part that would point to better risk management and there is no strategy for project delivery. Each method has its advantages and disadvantages. It is essential for companies to be targeted and to be accepted by project management.

2.3. Portfolio, Program and Project Management Maturity Model (P3M3)

The P3M3 method is a Portfolio, Program and Project Management Maturity Model that serves to monitor the maturity of a portfolio, program and project management within a company. This method is based on an overview of the whole organization, not just the process itself. Through this method, an insight into the relationship between portfolios, programs and projects within the enterprise is gained in order to see how the relationships between them are and how the processes themselves work (Axelos Global Best Practice, 2018).

The specificity of this method is to be subdivided into sub-models, which is a portfolio, program and project management, and at all three levels can observe the relationship while these sub-models can be viewed through seven different perspectives (Axelos Global Best Practice, 2018): Organizational Management; Control of control; Managing benefits; Risk Management; Management of stakeholders; Finance management; Resource Management.

Like the first two methods, P3M3 has five levels of maturity on which the company is positioned (Axelos Global Best Practice, 2018): level of process awareness - there is no standardized project tracking process; level of repetition of the process - coordination around the process is limited; the level of defined processes - the processes being controllable; level of process management - methods that improve processes are implemented; optimization level - continuous improvement and optimization of the process.

This method is intended for companies that have a developed portfolio, program and project management within their work.

2.4. IPMA Delta

The IPMA Delta model offers the ability to look at competences at different levels from the perspective of the project, individuals working within the organization and the organization itself. This method is like the CMM and P3M3 methods, just because the IPMA Delta does not know the levels, but maturity is observed through competence classes. Based on the questionnaire, it is determined where the company is currently located and based on this determination it helps in eliminating possible problems in order to make the organization as efficient as possible.

The classes are arranged so that they can get insight into the minimum knowledge and use of the process and thus lead to observation of how to improve processes, standardization and quality of work. The assessment is based on the IPMA Organizational Competence Baseline (IPMA OCB) (Prado, 2017).

The IPMA Delta Model shown offers a 360-degree view within the organization. The O module (O as an organization) consists of 5 organizational areas that are being studied and are divided into 18 elements. Evaluation is carried out through a questionnaire based on an assessment of the situation within the organization. The other two modules: Module P examines the situation within the organization based on the evaluation of the projects being implemented and their success; Module I - a module that is based on the assessment of managers, team members as well as relevant stakeholders within projects or organizations (Hanninen, 2016).

2.5. Berkeley PM Maturity Model

The Berkeley model is very similar to other models shown. This model has so far been applied within many organizations. The goal of this model is to help organizations achieve higher levels and achievements through the development of their organization. The Berkeley model is most widely applied within software development companies and those who are working on developing new products. The model itself consists of five levels that companies can position. The model is used by studying, measuring and comparing, to see where the organization is currently located (Kwak and William, 2000).

The Berkeley model also has five levels that are distributed in the following way (Strelchuk, 2014): Ad hoc level - the initial state of the organization, project management processes are poorly defined, processes that are defined, are implemented by an individual but not necessarily at all projects; Level of consistency - disciplined approach to basic project management processes, process within the project are repeated and documented, PM methodology developed; Level of integration - standardized management processes are implemented within the organization; Level of comprehensiveness - project management is integrated, quantifiable data is used for evaluation; Optimization level - it is constantly improving processes and its innovativeness within a developed methodology.

2.6. INK Management Model

The goal of INK (Institute of Nederlandse Kwalitet) modelling measurement maturity planning is to achieve a continuous balance between stakeholders, results and benefits that contribute to achieving the desired performance. The INK model of maturity of project management has developed nine elements that need to be well-managed, stabilized and standardized so that the project management organization works well and achieves excellent results at the highest levels. Areas that are relevant for consideration in the INK model (Leadership, Staff Management, Strategies and Rules, Resource Management, Process Management, Employees, Users and Partners, Society, Executive Committee and Finance) provide a full overview of the importance within the organization and these areas need to perfect the organization that follows the rules of this model of maturity of project management (Van Vliet, 2009).

Leadership: Within the INK model, it is a significant segment. It is important to continually work on patterns of behaviour within an organization that have certain responsibilities. Leaders within the organization must have the capability to inspire others within the organization, with a continuous repetition of vision and mission so that the goal is everyone in the focus. Personnel Management: Utilizing the overall knowledge and potential of staff, i.e. project team, to work on team upgrades. Strategies and Rules: Shifting Mission and Vision to Goals to Follow Everyone Working on a Project Within an Organization Through communication, continuous improvement of performance is achieved, and all are aware of the goals and the way they come. Resource Management: For the organization it is important to manage the resources available to them (financial resources, materials, information). It is also important to maintain good communication with partners and suppliers in order to gain value. Process Management: The ways in which an organization designs, identifies, and manages processes within an organization. Employees: Employee concerns imply inclusion of their opinions and experiences and maintaining employees who are satisfied within the organization. Happy and satisfied employees can contribute more than those who show dissatisfaction. Users and Partners: It is important to maintain good relationships with users and parcels as their rating is what contributes to the reputation of the organization itself. Society: In today's business it is important to have feelings for the company in which the organization is located, as business is related to society and the environment. Executive Board and Finance: What is most important to the board and those who give the funds is to meet the goals that follow the agreed strategy and to spend the funds in the agreed parameters and in the agreed time. In this way, the organization justifies trust.

The INK method uses five fundamental characteristics to ensure the well-functioning of the nine previously mentioned areas (Van Vliet, 2009): Inspirational Leadership - Leadership Going Down, Guided By Vision, Fulfilling Obligations, and Realizing Realistic Ambitions within the Organization; Build trust - everyone in the focus should be meeting the common goals; Collaboration - Joint, team work results; Orientation to Results - Management must maintain the level of awareness that everyone is aiming for achieving results; Continuous improvement and innovation - continuous learning and keeping pace with changes inside and outside the organization.

The INK model offers learning opportunities within the organization and focuses on just advancing through two levels of evaluation: organizational and level of achievement of goals. Through continuous improvement and work to learn from your own experience within the organization, it gives you more chance of project management to build stronger business bases.

2.7. Maturity Increments in Controlled Environment (MINCE)

Maturity Increments IN Controlled Environments is a model developed to enable estimates of enterprise project maturity, reporting results in a standardized manner, and determining key areas for increasing maturity (Meisner, 2011). In this model, the company is watched through six "towers" representing aspects of change-related businesses. They are continuously found in companies that want to improve their ability to implement internal changes and improve themselves by adapting to a changing environment. "The Towers" are (Meisner, 2011): People as the most important business potential, especially at the time of change; Methods and techniques required by qualified employees to achieve significant results; Clients as end-users of products or services of companies must see their value; Implementation of project-oriented activities; Knowledge that describes how an enterprise carries on lessons learned in the realization of activities, projects or programs to avoid repetition of errors and support services in order to make projects or programs implemented to the best degree.

MINCE estimates companies by calculating maturity within each "tower". Today, a new approach to maturity assessment according to five criteria is used (Remcomeisner, 2010): Leadership that represents the degree to which an organization is capable and willing to assume a leading position; Employees are the most important criterion because the company will be more powerful according to how well they perform tasks; Policy related to how the company accomplishes its mission and vision, to transform them into approaches to day-to-day tasks; Funding that combines policy, employee and leadership criteria in everyday business, and includes financial issues; Guidelines that include how the company provides guidance in anticipating different business scenarios.

2.8. Maturity Model in Project Oriented Company - POC

Gareis (2004) considers that project-oriented enterprises are characterized by specific processes that can be grouped accordingly whether they relate to unique projects, project portfolio or permanent project organization. These specific processes can be presented in a graph that resembles a spider web. There are seven elements within that network.

Project management is defined as a business process of a company that is oriented towards projects from the initial idea until the project is completed, and sometimes involves solving some of the discontinuities that happen on the project. Program Management is as structured as project management. It also covers all processes from the beginning to the end of the project. Coaching and Auditing Projects and Programs represents the quality assurance of projects or programs management. This implies any type of consultation in order to apply the prescribed procedures as efficiently and successfully as possible and to maintain the quality level. Project Portfolio Management or project portfolio coordination aims to optimize the results of project portfolios, define priorities, coordinate internal and external resources and all new knowledge and documents. Networking between Projects occurs at those moments when there is a common problem that can be solved at the same time or when there is a chance to exploit the common opportunity. The goal of creating these shared networks is defining potential problems so that at the same time, two or more projects jointly achieve the desired results. Human resource management implies people's recruitment, guidance, education or development and the release of labour. Organization of the POC means that within project-oriented organizations there are permanently organized units for each area related to projects (Gareis, 2004).

2.9. Project Management Maturity Model PjM3

The PjM3 model was developed by Kerzner (2001) by studying the area of project management. In his model some maturity levels can overlap, but as with the CMM maturity model, each level must first be achieved in order to move on to the next.

According to this Model, there are five levels for achieving excellence. The first level is the Common language. At this level, the company recognizes the importance of a good understanding of basic knowledge about project management and thus the understanding of terminology. The second level is the Joint Process whereby the enterprise must recognize that common processes need to be so well defined that they can be reused on other projects. The third level is Unique Terminology and implies that a company recognizes the effect of combining all the methodologies into a single one, which has project management at its centre. The fourth level is called Benchmarking. It emphasizes the importance of improving the process to maintain competence. The Fifth Level of Continuous Improvement is the level at which an enterprise evaluates information previously collected at level four and must decide whether the same information will in some way help to form a single methodology from level three.

2.10. Excellence Foundation for Quality Management and Project Excellence Model

The European Foundation for Quality Management Excellence Model is a quality management model. This generic quality management model can be used in all organizations, regardless of size, structure, maturity, etc. Basically, the most important thing is that performance should meet all the expectations, needs and demands of all stakeholders in the project. The basis of the model are nine criteria that include leadership, people, policy and strategy, partnership and resources, results, client scores, social results, and key performance results. They are divided into two groups (Nabitz et al., 2000): Trainers and Results.

This model assumes that trainers direct and lead to results. The EFQM model itself began with development earlier, but only after it was awarded in 1999 it was given the opportunity to present itself as a full-fledged model of excellence (European Foundation for Quality Management, 1999).

The Model of Project Excellence, which is complementary to the EFQM Excellence Model, consists of 12 areas that play a key role in project management. The success of a project depends on the decisions made, which need to be fully aligned with the project objectives and everything that has an impact on the project (both internally and externally). Relationship refers to the organizational areas: project manager and team members (e.g. experience, skills); project (size, urgency of implementation); organization (management support, structure); external environment (political, technological).

2.11. Organizational Project Management Maturity Model (OPM3)

The OPM3 model is the only project management maturity model that is significantly different from other models and has little or no connection to the CMM model. It is inspired by an increased interest in those models of maturity that show the steps of improving and maintaining the organizational ability to transfer the organizational strategy to successful delivery of the project to organizations of any size. The purpose of this model is to enable the company to use organizational practices as a basis for research and subsequently to make its own decisions. The OPM3 model is comprised of three of the related elements on which the enterprise achieves maturity (Project Management Institute, 2003).

The knowledge element describes organizational project management and maturity of organizational project management, explains why they are important and how the project management's maturity can be recognized. The assessment element represents the methods, estimates, and procedures that a company can use to assess its maturity. The improvement element provides a process for moving from the current maturity level to its increase.

3. Research

In order to achieve the stated goal of the work, the comparative analysis was applied in the framework of the researchist, i.e. methodological approach, with the previously sifted typology of the most commonly used models. The four basic aspects / criteria of the observed model of project management maturity will be considered: time overview, maturity level, area of use and constraints. Table 1 lists all the project management models presented above, which are presented through a theoretical review. The same comparative analysis is applied according to the selected criteria, followed by analysis and interpretation of the results of the research. A specific thematic coverage of large collaborative R&D&I projects (Vlačić, Dabić, Aralica, 2018), specifically in the context of their absorption capacity (Vlačić et al, 2019) is excluded from this analysis.

Table 1: *Comparative analysis of project maturity models*

	Name of the Model	Author	Year	Maturity levels	Area of use
1	**Capability Maturity Model (CMM)**	Software Engineering Instituteare	1991/1992	**Level 1** (Initial) **Level 2** (Repeatable) **Level 3** (Defined) **Level 4** (Managed) **Level 5** (Optimizing)	Software Development, Government Offices
2	**PRINCE2 Projects in Controlled Environments**	Office of Government Commerce	2004./2013.	**Level 1** (Initial) **Level 2** (Repeatable) **Level 3** (Defined process) **Level 4** (Managed process)	Organizations that run business on projects
3	**Portfolio, Programme, Project Management Maturity Model (P3M3)**	Office of Government Commerce (OGC)	2006.	**Level 1** (Initial Process) **Level 2** (Repeatable Process) **Level 3** (Defined process) **Level 4** (Managed Process) **Level 5** (Optimized Process)	There is no originally designated area of use, it can be used in all areas; derived from CMM
4	**IPMA Delta**	International Project Management Association (IPMA)	2013.	**Level 1** (Initial) **Level 2** (Defined) **Level 3** (Standardized) **Level 4** (Managed) **Level 5** (Optimising)	Deliver value to the customer
5	**The Berkeley Project Management Process Maturity Model**	Department of Civil Engineering University of California at Berkley	1997.	**Level 1** (Ad-hoc stage) **Level 2** (Defined/planned stage) **Level 3** (Managed/Managed at project level stage) **Level 4** (Integrated/Managed at corporate level stage) **Level 5** (Sustained/Continuous Learning stage)	The area of use from software development to those organizations that develop new products
6	**INK Management Model**	Instituut Nederlandse Kwaliteit (INK)	1992.	**Level 1** (Activity Orientation) **Level 2** (Process Orientation) **Level 3** (System Orientation) **Level 4** (Chain Orientation) **Level 5** (Orientation Transformations)	Area of use - organization in general
7	**Maturity Increments IN Controlled Environment**	MINCE2 Foundation	2007.	**Activities** **Processes** **Systems** **Chain toss**	Controlled environment - Organizations that carry out individual and organizational transformations
8	**Maturity Model of the project-oriented Company (POC)**	Roland Gareis, Projekt management Group	2005.	**Maturity dimensions - Network view:** Project management Program management Quality assurance of project or program management Assign a project or program Project portfolio management Human Resources Management in a Project-Oriented Enterprise Organizational design of a project-oriented enterprise Business Process Management in a Project-Oriented Enterprise	Project-Oriented Enterprises

	Name of the Model	Author	Year	Maturity levels	Area of use
9	**PJM3 Model**	APMG	2012.	**Level 1** (Awareness of Process) **Level 2** (Repeatable Process) **Level 3** (Defined Process) **Level 4** (Managed Process) **Level 5** (Optimized process)	Model developed for project management
10	**EFQM Project Excellence Model**	European Foundation for Quality Management	1988/1999	**Enabler:** **Leadership** **People** **Policy / Strategy** **Partnerships and Resources** **Processes** **The results:** **People** **Clients** **Society** **Key performance**	Model developed for all businesses regardless of structure, size
11.	**Organizational Project Management Maturity Model (OPM3)**	Project Management Institute	2008/2013	**Knowledge** **Assessment** **Improvement**	Model developed for organizations dealing with project, program and portfolio management

Source: Modification of Author Vlahov (2014)

Time View

When it comes to timing, the time of the formation of the models themselves is considered. Within the table presented above, the project management maturity models started to develop even in the early nineties of the last century. CMM has begun its development from 1991 to 1992, which provides a great time frame for developing new models according to the older model. Models, of course, can also be redesigned based on older releases and appear several times in several different editions (OPM3 is proof that there are even three versions of the model in a few years).

According to the table shown, the first model that was investigated came out in 1988, and last came out in 2013. By studying models from time to time, an insight is gained into the fact that there is no time frame for issuing the models themselves, but it rather depends on studying needs within the industry or enterprise and are being publicized when the need for a new model is established. Each model is subject to improvement, given the new challenges and the current market needs for which it is intended.

Maturity levels

According to the comparative analysis of the model of maturity of project management, five models have five levels of maturity, two models have four levels of maturity, one has three levels of maturity, and one model has a network view of the maturity level.

When compared to the maturity level, in models with five levels there are some similarities at the same levels. The first level mainly involves initial processes, process management awareness, but no specific use of standardized processes; projects are looked at and carried out separately - when one finishes the other starts. The second level implies a little better sense of the processes and maintenance of the processes within the organization's project management. Processes are implemented only on certain, "essential" projects; At this level gradual introduction of certain standards into project management organization is achieved but it is still far from the level at which it should be. The third level implies greater representation of developed organizational standards within project management but there is still room for progress. Based on these defined organizational standards, projects are better monitored and there is certain feedback for future projects, which will help to better estimate the costs, time needed for performance and improving the interconnection of project team itself. The fourth level in all models with five levels of maturity refers to processes that are managed at a constant level. Within the fourth level, everyone should be involved within the project management organization, from team members to the highest ranking of project management. It is understood that at this level, timelines will be met on time, without deviation and with certain costs. The fifth level has defined optimizing project management processes. All processes are monitored at all levels, project management works flawlessly in all respects, it tries to optimize and further improve its business.

In other models of maturity of project management there are similar maturity level determinations. Maturity models with four levels of maturity, their levels were based on different ways. Thus, the model of maturity of project management MINCE sees maturity through the development of activities, processes, systems and eventually through the supply chain. PRINCE2 employs maturity levels in a similar way to the five maturity levels mentioned above, so here are the initiation, repetition, process definition and process control stages. PPM for enterprise innovation has levels designed based on input, project management, management program and management segment as the fourth level. OPM3 has three levels of maturity: knowledge, evaluation and process improvement.

POC have only a different level of elaboration of the levels themselves and have established a network view of maturity dimensions that consist of project management, management program, quality assurance project or program management, project or program assignment, project portfolio management, human resource management in a project-oriented enterprise, organizational design, business process management (Vlahov, 2014: 83).

After examining all models, similarities can be observed in the concept of maturity levels. Most of them have the initial stage in which the company is looking for, and there are not enough developed processes to progress to higher levels. At this first level of project management organization they operate unorganized and unprepared but still manage to do the job. From the second level, the work system improves, and project management is developing, conceptualizing the job based on certain processes and standards. As more and more standards develop, a project management organization is developing and the organization itself advances to maturity levels. At the very fifth level, the project management organization has control over the entire business and only improves business by learning and setting new goals to develop the organization.

Areas of use

Developed models are originally intended for an organization or industry, however, with their upgrading most of them can be used in all industries. Their development can be appropriate for all areas within which organizations have functional project management. Within the presented table of comparative analysis of the design maturity model, the areas for which they are intended may vary. There are models developed for software development (led by CMM), after which there are models developed for project-oriented companies, then there are models for the innovative industry and many others who have projects in their business and have developed project management. Given the development of the areas themselves and their constant growth and progress, the maturity models should also be adapted accordingly. It is difficult to adjust the older maturity level measurement if the company has progressed and developed within more modern parameters to make it more competitive. When selecting the model itself, it is necessary to study how much it can be used within the organization, since it has already been stated that the models do not have enough flexibility and the wrong model could negatively affect the organization's own structure. Along with proof of the correlation between project management's maturity and business success, one can see the opportunity for many companies to incorporate models within their business.

Limitations and further research

By looking at the models of maturity mentioned, their similarities and differences can be noticed. Each model has some separate rules and types of measuring within organizations. As the models were developing, they were upgrading and it all began with the development of CMM. What further limits the models is their simplicity within the steps and the tracking of development and growth at maturity levels. In addition, as CMM is developed for software development, there are more difficulties for those models that are developed based on that and are not used for that purpose alone.

The largest limitations of the project's maturity modelling model are based on (Vlahov: 2014) according to Cabanis, (1998), Kujala and Artto (2000), Dinsmore (1998) to Jugdev & Thomas (2002):

- their inflexibility (not inclined to deviations)
- they are not focused solely on solving problems but only on raising awareness
- are not prone to change
- the entire organization is not being considered
- comprehensive level assessment questionnaires
- external experts need to implement models and evaluate the situation

What seems to be a separate problem are sometimes unclear ways to reach certain levels, and how it is at all to be measured. People who are not specialists in the area of project management maturity will in some cases not be clear how to move from one level to another. Some models have no available methods of measurement, and even those who have them are sometimes too complicated to be clear about how to use them. For this reason, most organizations must engage external experts who are trained to perform measurements depending on the model chosen.

A recommendation for future research on the area of project management maturity would be to carry out primary research on their application at specific national level, but also to investigate whether there are any experts at given national level environments (and what number) who can implement such models in an organization. Furthermore since we did not methodologically evaluate the direct impact of the maturity levels and the level firms' competitive advantage, we would also recommend this to be done on limited scope and sector.

4. Conclusions

Project management has been developing more and more lately. Accordingly, there is also the development of models that evaluate its development in different types of organizations. The number of such models on the market is quite large (some authors mention over 160 different models) and organizations face the problem which model would be the most acceptable in their case.

By reviewing the project management maturity models mentioned above, one can gain insight into their advantages as well as an insight into their importance for developing this discipline in different organizations. By using an adequate maturity model organizations can first assess the level at which their project management is located and, after analysing the existing situation, set up a proper strategy that will raise its level of development to a higher level and thus contribute to business development.

The purpose of this paper was to present and compare the most frequently used models of project management maturity in the world now and to facilitate the organizations in the decision-making process which model to use. By doing this it is highly probable that their efficiency and effectiveness in internal and external operations may increase at undefined level, thus contributing to their competitiveness. Recommendation to organizations would be to hire external specialists specializing in their implementation, as needed, in the process of implementing a model.

Considering all the positive and negative aspects of some models of project management maturity, it is an indisputable fact that by using suitable model organizations can improve their project business outputs and at certain level contribute to increase their competitive edge.

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THE GLASS CEILING PATTERNS: GAP EVIDENCE

ABSTRACT

The business case for gender diversity in senior and executive management positions still seems compelling all over the world, despite the fact how numerous studies have shown that companies that have the best practices for promoting women, outstrip their competition on the scale of profitability and performance in general. Nevertheless, women disproportionately are still failing to obtain and attain high-level management positions throughout different societies, sectors and professions.

This paper is focused primarily on the glass ceiling theory issues aiming to explore if there are empirical evidences proving objective reasons for its influence on women careers development and advancement in the EU 28 Countries in a period from 2002-2014. Therefore, a correlation and regression analysis are used to revealing insights into gender inequality present at top managerial positions through different business sectors, levels and professions using different independent variables in order to test the non-market work in relation the glass ceiling effect.

For the analysis in this paper extensive, globally consistent, open-source data were used. Predictor variable (independent variable) is population by tertiary education. The control variables (independent variable) are: Percentage of employed women without children (EWWC), Percentage of tertiary educated employed women with 1 child (EW1C), Percentage of tertiary educated employed women with 2 children (EW2C), Percentage of tertiary educated employed women with 3 or more children (EW3C).

Research results given reveal ratio tertiary educated woman/men does not affect gender pay gap but increase of tertiary educated employed women without children and decrease of EW1C significantly does.

Finally, conclusion, limitations and further research development in the topic frame are stated.

Key words: *glass ceiling, gender pay gap, women career development, gender diversity*

1. Introduction

The dispute over glass ceiling theory, on whether it is a workplace reality or a myth, still provokes controversies in academia, even thou it made its first appearance as a concept more than forty years ago, in 1978. by Marilyn Loden (Vargas, 2018) and as it seems is about to outlive its author.

Approaching an issue of defining the term glass ceiling goes to the complexity of influences on a woman careers developments in different societies on a macro as well as micro level that extends further beyond labour market itself. In accordance to the 1995. U.S. Glass Ceiling Commission "glass ceiling is the unseen, yet unbreachable barrier that keeps minorities and women from rising to the upper rugs of the corporate ladder, regardless of their qualifications or achievements (U.S. Glass Ceiling Commision, 1995, 4).

Although there is undoubted scientific evidence on that it would on average have been better to have invested in corporates with women on their management boards than in those without (Curtis, M., et.al., 2012, 3), why do we still cannot find enough gender workplace equality anyplace across the globe showing how sapience conquers in a battle of cracking the glass ceiling.

2. Literature Review

Though predominant in proving the glass ceiling existence, evidence on its causes and effects do not reveal the same patterns across the literature investigation. The debate on the glass ceiling theory started very alive in the academia during 1990-ies focused on a cause of the phenomenon reposed in an authority (Wright, Baxter & Birkelund, 1995,), positions in hierarchy of the corporation (Frankforter, 1996.), earnings (Duleep & Sandres, 1992.), occupation (Fernandez, 1998.). The debate continues equally fierce till nowadays proving how woman face a glass ceiling at the very top of the career ladder (Weinberger, C.J., 2011), lag in income levels cross nationally (Gang, I.N., et.al. 2003.) and confront gender discrimination (Cotter, 2001, 671).

The interdisciplinary approach developed through an effort in combining socio-economic factors influencing glass ceiling persistence. Traditional patterns are inwrought into societies values and norms through the processes of socialization and internalization in a form of gender roles and stereotypes (as stated by sociological approach to gender roles understanding). They also reflect social and hierarchical status in a traditional employment frame expecting men are to have higher work-related competence and effectiveness/performance than women (Foschi, 1996) consequently followed by devaluation hypothesis for woman assuring the Gender Pay Gap (England et al. 1988; England et al. 2000). Evidence on devaluation are extensively shown throughout leadership positions proving societal and cultural sources of Gender Pay Gap (Busch, A.; Holst, E. 2009.).

Family-work considerations have proved to still remain highly relevant to today's glass ceiling despite reduced time spent in non-market work and a trend toward a more equal division of non-market work between the genders (Bertrand, M. 2018, 2).

In order to find evidence of other socio-economic factors to influence the glass ceiling, other than discrimination we lean on the work of Arulampalam, A., et.al. (2007) testing the glass ceiling existence across EU-28 countries from 2002-20014. using a family-work independent variables as a predictor to support a glass ceiling theory in order to test the hypotheses of Gender Pay Gap in correlation and regression analysis.

3. The socio-economic problem of Gender Pay Gap across EU

According to Eurostat (2018) data showing mean hourly wages by professions in 2016 women earned 16,2% less than men in EU-28. In Croatia 2016 the difference sums up to 8,7% placing the country into a group of EU-28 countries with a lowest gender pay gap altogether with Romania (5,2%), Italy (5,2%), Luxembourg (5,5%), Belgium (6,1%), Poland (7,2%) i Slovenia (7,8%). The largest differences observed was found in Estonia (25,3%), The Czech Republic (21,8%), Germany (21,5%), The United Kingdom (21,0%), Austria (20,1%). An average nigh countries are Finland (17,4%), Latvia (17%), non EU Switzerland (17%), Netherlands (15,6%) and France (15,2%).

In 2017. across EU-28 countries women occupy 34%, and men 66% manager's positons.

The greatest share of women manager's positions is evident in ex-socialist countries: Latvia (46%), Poland (41%), Slovenia (41%); Hungary (39%), Lithuania (39%) with unfortunate exception of Croatia. In Croatia woman take 29% managerial positions. Closest to EU average are United Kingdom and Ireland with 36% and Portugal and Belgium with 34% women managers. The smallest shares were found in Luxembourg (19%), Cyprus (21%), the Czech Republic (25%), the Netherlands, Denmark and Italy (all 27%).

In accordance to Eurostat (2018) data from 2014 a comparison is provided on hourly earnings men and women for different professions in nine groups of professions shown in u Table 1.

Table 1: *Hourly earnings men and women in EU-28 and Croatia, average in EUR*

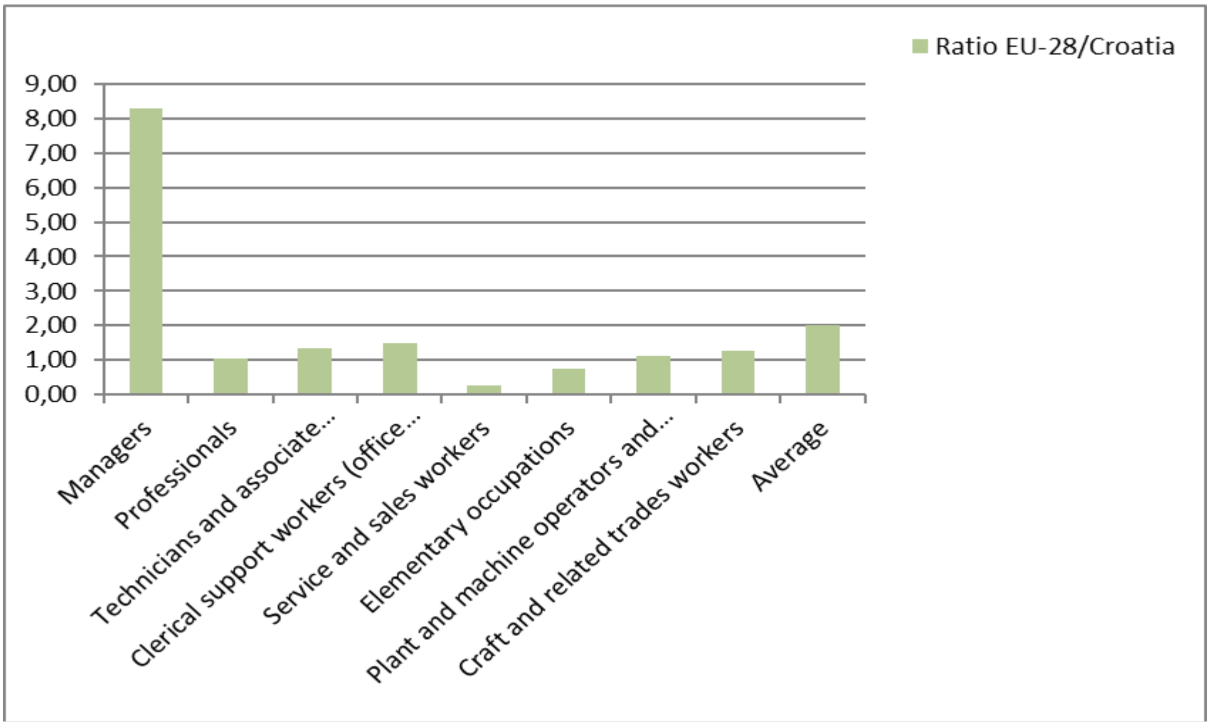
	EU				Croatia			
	Women	Men	Diff EUR.	Diff. %	Women	Men	Diff. EUR	Diff. %
Managers	22,82	31,96	-9,14	-28,60	12,88	13,34	-0,46	-3,45
Professionals	18,95	24,28	-5,33	-21,95	7,19	9,11	-1,92	-21,08
Technicians and associate professionals	15,1	18,67	-3,57	-19,12	6,1	7,12	-1,02	-14,33
Clerical support workers (office clerks, secretaries etc.)	13,08	14,46	-1,38	-9,54	5,34	5,71	-0,37	-6,48
Service and sales workers	10,49	11,04	-0,55	-4,98	3,88	4,71	-0,83	-17,62
Elementary occupations	8,59	9,8	-1,21	-12,35	3,12	3,75	-0,63	-16,80
Plant and machine operators and assemblers	8,46	11,49	-3,03	-26,37	3,39	4,43	-1,04	-23,48
Craft and related trades workers	7,87	12,71	-4,84	-38,08	3,13	4,49	-1,36	-30,29
Average	13,72	16,64	-2,92	-17,55	5,46	5,98	-0,52	-8,70

Source: Authors according to Eurostat (2018)

The profession with the largest differences in hourly earnings were managers, in EU lower earnings for women than for men was 28,6%. Small differences were observed in professions with the lowest salaries in absolute numbers, but in percentage the smallest differences were for clerical support workers; office clerks, secretaries etc. (9,54%) as well as service and sales workers (4,98%). In Croatia gender pay gap in manager's professions is evidently lower (3,45%), but noticeable within the group of Professionals (21,08%), Technicians and Associate professionals (14,33%) as within the occupations with lower earnings in general Craft and related trades workers (30,29%) and Plant and machine operators and assemblers (23,48).

Besides the overall Gender Pay Gap present, as shown in Table 1., it is evident how in-between EU-28 and Croatian female managers positions extremely high with ratio EU/Croatia 8,29 (other occupations ratio EU/Croatia varies from 1 up to 2). The analysis is given in Chart 1.

Chart 1: *Different hourly earnings between men and women ratio % EU-28 / % Croatia*



Source: Authors according to Eurostat (2018)

The Gender Pay Gap difference in managerial positions especially (as shown in Chart 1.) is not so emphasised in Croatia as in EU-28, especially in managerial positions where is reaches 8,29 times higher scale for the EU-28 countries when compared to Croatia, representing a step back for the EU-28 female workers at managerial positions.

4. Methodology

4.1. Data

For the analysis in this paper, extensive, globally consistent, open-source data were used. Dependent variable is_Gender Pay Gap. In Eurostat data the unadjusted gender pays gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. In this paper the GPG is calculated on the basis of the four-yearly Structure of Earnings Survey (SES) 2002, 2006, 2010 and 2014, and with the scope as required by the SES regulation, national estimates based on national sources for the years between the SES years, from reference year 2007 onwards, with the same coverage as the SES.

Predictor variable (independent variable) is population by tertiary education calculated as percentage tertiary educated female/percentage tertiary educated male, Ratio TE F/M =

$$\frac{percentage\ of\ female}{percentage\ of\ male}.$$

The educational attainment level of an individual is the highest ISCED (International Standard Classification of Education) level successfully completed, the successful completion of an education programme being validated by a recognised qualification, i.e. a qualification officially recognised by the relevant national education authorities or recognised as equivalent to another qualification of formal education. The classification of educational activities is based on the International Standard Classification of Education (ISCED). Data until 2013 are classified according to ISCED 1997 and data as from 2014 according to ISCED 2011 (coding of educational attainment). Tertiary education: this aggregate covers ISCED 2011 levels 5, 6, 7 and 8 (short-cycle tertiary education, bachelor's or equivalent level, master's or equivalent level, doctoral or equivalent level, online code ED5-8 'tertiary education'.

The control variables (independent variable) are: Percentage of employed women without children (EWWC), Percentage of tertiary educated employed women with 1 child (EW1C), Percentage of tertiary educated employed women with 2 children (EW2C), Percentage of tertiary educated employed women with 3 or more children (EW3C). The definitions of employment and unemployment, as well as other survey characteristics follow the definitions and recommendations of the International Labour Organisation. The definition of unemployment is further précised in Commission Regulation (EC) No 1897/2000.

The analysis comprises 224 observations. According to descriptive statistics of the total number of tertiary educated female without children on average it is 79% employed. The average of 82% tertiary educated female with 1 child are employed in average, 84% tertiary educated employed women with 2 children are employed out of the total and 78% tertiary educated employed women with 3 or more children. Standard deviations in-between different EU-28 countries are very low, 7% on average, aside the percentage of tertiary educated employed women with 3 children (11%). The average gender pay gap in-between female and male is 14,6% with a very high range 29% (min. 0,9; max 29,9% in some countries) and average tertiary educated ratio percentage female and male is 1,26 (Std. Deviation 0,23).

4.2. Experimental design

This research attempts to answer the following question: do more tertiary education women, measured by ratio percentage tertiary education of female/percentage tertiary education male, (Ratio TE W/M) lead to less Gender Pay Gap (GPG). A correlation analysis (Pearson's Correlation Coefficient) is employed to examine the relationship between GPG as dependent variable and Ratio TE W/M as Predictor variable (independent variables). In second step Partial correlation is used. Partial correlation measure association between GPG and Ratio TE

W/M, while controlling the effect of additional - control variables. Control variables were included in model and a connection of the whole group of variables was tested. The intention in use of control variables was to determine does female employment (especially their decision on the choice of being employed or not) to less GPG. In third step Hierarchical Multiple Regression was used. In the analysis start is from linear regression model for n values. Estimates of the parameters α, β_1 to β_k is performed by using method of the least squares

$$y_{ij} = \alpha + \beta_1 x_{i1} + \beta_2 x_{i2} + ... + \beta_j x_{ij} + ... + \beta_K x_{iK} + e_i. \qquad (1)$$

$$i = 1,2,...., n$$
$$j = 1,2,..., K$$

Whereby n denotes the number of observation, y_i denotes the value of the dependent variable Y, x_{ij} of the independent variables X_j. The value of the dependent variable y_i je linear combination K independent variables x_{ij}, the unknown values of the random variable e_i and the values of unknown parameters α, β_j. Random variable e_i is a mistake of relation and its presence is a result of statistical error in relation between phenomenon.

$y_{ij} = GPG \quad x_1 = ratioTEW/M \quad x_2 = EWWC \quad x_3 = EW1C \quad x_4 = EW2C \quad x_5 = EW3C$

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5 = betacoefficents$

$\alpha = const.$

$e = st.error$

5. Results and discussion

The analysis has shown no statistically relevant correlation (Pearson r) in-between Ratio TE W/M and GPG. Respectively the assumption on tertiary educated woman accomplish lower pay has not been proved with this test (r = -0,051, n=224, p>0,01). A method of partial correlation the analysis included control variables (EWWC, EW1C, EW2C, EW3C) to test whether there is an influence of a decision of tertiary educated woman on their employment to less GPG. The Partial correlation analysis has shown how there is not a statistically relevant connection in-between Ratio TE W/M and GPG (r = 0,060, df = 199, p>0,01).

Furthermore, simple correlation has shown statistically positive correlation in-between GPG and EWWC, (r = 0,378, p<0,01) meaning that the increase in the number of employed tertiary educated woman without children increases a gender pay gap on behalf of men. These result are mathematically founded in fact that higher frequency of lower female pays increases the difference in-between lower female pays in comparison to more paid man. The correlation GPG and EW1C is negative (r = -0,283) and statistically relevant (p<0,01) showing how increase in percentage of employment in EW1C decreases gender pay gap. The same result was found in relation GPG and EW3C, the connection is negative and moderate strong (r = -0,374) and statistically relevant (p<0,01), following by the percentage of EW3C and more the decrease in wages has shown. No statistically relevant relationship has been determined in-between GPG and EW2C. However, statistically relevant positive correlation has been detected (although not strong) in-between Ratio TE W/M and EW2C (r = 0,226, p≤0,01), and

EW3C ($r = 0,307$, $p<0,01$), apropos employment increase in tertiary educated woman is in relation to a higher employment of tertiary educated woman with two, three or more children. This result is explained with a higher financial need of a household with more members.

Correlation coefficient does not consider and not took into account complicated relationships between predictors themselves and predictors and criterion (Thompson, 2006) and Hierarchical Multiple Regression was used, and this role was taken by β weight (Pedhazur, 1997). Hierarchical Multiple Regression result was employed to test the imperativeness of independent variables on Gender Pay Gap. According to Kraha, et all. (2012) in model 1 R^2 implies that just 14,5% of the variation in GPG is explained by variations in Ratio TE W/M and EWWC (adjusted R^2 0,137), in model 2 to by variations in Ratio TE W/M, EWWC and EW1C 29% (adjusted R^2 0,28), in model 3 to by variations in Ratio TE W/M, EWWC, EW1C and EW2C 29,6% (adjusted R^2 0,282), in model 4 to by variations in Ratio TE W/M, EWWC, EW1C, EW2C and EW3C 30,8% (adjusted R^2 0,290). The F-statistics values with statistics probability of 0.0005 shows that the independent variables have significant relationship with the dependent variable. Preliminary analysis has shown how assumptions normality, linearity and multi-collinearity are not disrupted. Collinearity Tolerance > 0,20 and VIF < 10 also indicate that there isn't multi-collinearity between variables.

As already shown by Pearson *r*, Hierarchical Multiple Regression confirms Ratio TE W/M does not affect GPG (model 1 to model 4). By adding each new independent variable, the employment of tertiary educated woman without children, with one and two children show how increase in Gender Pay Gap statistically significantly contributes to an increase in tertiary educated employed women without children and decrease in a number of tertiary educated female with 1 child (model 1 do 3).

By adding an independent variable employment of tertiary educated woman with three or more children model 4 shows a significant contribution to a Gender Pay Gap increase solely thorough an increase in employment of tertiary educated women without children (beta = 0.430, $p< 0,0005$). Unstandardized coefficients B (B =0.549) shows that increase in woman without children employment in 1% raises Gender Pay Gap in average 0,55%. Pearson *r* hs also shown statistically relevant positive correlation in-between GPG and EWWC, or a higher number of lower female wages increases a difference in-between already lower payed female and higher payed men.

6. Conclusion

The typical mistake in an attempt to explain a socio-economic phenomenon of glass ceiling is a single sided, narrowed perspective. Recent research has successfully avoided the trap and adopted socio-economic approach into the study of a glass ceiling phenomenon explaining a multi-lair cause and effect perspective in glass ceiling theory.

The goal of this paper is to give a perspective based on the empirical evidence showing an effect of Gender Pay Gap in correlation to tertiary educated employed woman and influence of number of children to a change in Gender Pay Gap in EU-28 countries.

The analysis of official Eurostat data show how woman in EU-28 have a higher share of tertiary level education when compared to men, but their wages are significantly lower when compared to their male colleges with the same educational level. This difference is especially present in managerial positions and evidently even higher in developed countries than in less developed, especially in post socialist societies.

The EU-28 Gross Gender Pay Gap is twice as high when compared to Croatian. The potential cause could be a fact how in post-socialist countries wages are lower in general when compared to EU higher standard countries throughout sectors.

Data analysis on education, employment and Gender Pay Gap in EU-28 has shown how an increase in a number of employed women without children increases the difference in Gender Pay Gap on behalf of men. Higher level of tertiary educated employed woman without children increases Gender Pay Gap already present. However, increase in tertiary educated woman with one child and three or more children percentage employment decreases Gender Pay Gap in-between man and woman.

The results show how an increase in employment of tertiary educated woman is connected to higher employment of tertiary educated woman with two, three or more children to be interconnected with increase in financial needs of a household with more members. This evidence also shows how, besides increased demands in family labour woman choose to contribute through employment as well.

The legacy of the case of traditional female-male roles in labour division, often taught to be prevailed in our contemporary societies, seem to be so very well hidden under the society's surface. The stepping stone elements inherited from our ancestors in family-work as opposed to female-male terms seemingly still continue to replay the maxim on gender-poled labour division. The demands for child care, housework and other life chores outside of work still fall more heavily on women than on men. Higher paying occupations are more inflexible and require more time commitment. But it seems service development and support are decomposing managerial positions allowing woman a privilege not to be forced in-between choices of family-work, but to have the best of both worlds and live successful and balanced lives.

Further research development in the topic frame are needed through additional statistical analysis and the use of other statistical tools and methods in order to answer a set of causes persistently provoking a Gender Pay Gap as an obvious evidence of glass ceiling persistence in contemporary societies.

Data appendix

Correlations

Correlations							
		Percentage of women employed with tertiary education without children	Percentage of women employed with tertiary education with 1 child	Percentage of women employed with tertiary education with 2 children	Percentage of women employed with tertiary education with 3 or more children	Gender Pay Gap	Ratio TE female/male
Percentage of women employed with tertiary education without children	Pearson Correlation	1	.374**	.093	-.036	**.378****	.045
	Sig. (2-tailed)		.000	.167	.602	**.000**	.506
	N	224	224	224	217	212	224
Percentage of women employed with tertiary education with 1 child	Pearson Correlation	.374**	1	.110	.658**	**-.283****	.142*
	Sig. (2-tailed)	.000		.100	.000	**.000**	.033
	N	224	224	224	217	212	224
Percentage of women employed with tertiary education with 2 children	Pearson Correlation	.093	.110	1	.045	-.092	.226**
	Sig. (2-tailed)	.167	.100		.507	.180	.001
	N	224	224	224	217	212	224
Percentage of women employed with tertiary education with 3 or more children	Pearson Correlation	-.036	.658**	.045	1	**-.374****	.307**
	Sig. (2-tailed)	.602	.000	.507		**.000**	.000
	N	217	217	217	217	205	217
Pay Gap	Pearson Correlation	.378**	-.283**	-.092	-.374**	1	-.051
	Sig. (2-tailed)	.000	.000	.180	.000		.463
	N	212	212	212	205	212	212
Ratio TE female/male	Pearson Correlation	.045	.142*	**.226****	**.307****	-.051	1
	Sig. (2-tailed)	.506	.033	**.001**	**.000**	.463	
	N	224	224	224	217	212	224

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Partial Corr

Correlations				
Control Variables			Ratio TE female/male	Gender Pay Gap
Percentage of women employed with tertiary education without children & Percentage of women employed with tertiary education with 1 child & Percentage of women employed with tertiary education with 2 children & Percentage of women employed with tertiary education with 3 or more children	Ratio TE female/male	Correlation	1.000	.060
		Significance (2-tailed)	.	.396
		df	0	199
	Pay Gap	Correlation	.060	1.000
		Significance (2-tailed)	.396	.
		df	199	0

Regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.381[a]	.145	.137	5.6413
2	.539[b]	.290	.280	5.1530
3	.544[c]	.296	.282	5.1453
4	.555[d]	.308	.290	5.1149

a. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children

b. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child

c. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child, Percentage of women employed with tertiary education with 2 children

d. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child, Percentage of women employed with tertiary education with 2 children, Percentage of women employed with tertiary education with 3 or more children

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1089.984	2	544.992	17.125	.000[b]
	Residual	6428.432	202	31.824		
	Total	7518.416	204			
2	Regression	2181.161	3	727.054	27.381	.000[c]
	Residual	5337.255	201	26.554		
	Total	7518.416	204			
3	Regression	2223.649	4	555.912	20.999	.000[d]
	Residual	5294.767	200	26.474		
	Total	7518.416	204			
4	Regression	2312.142	5	462.428	17.675	.000[e]
	Residual	5206.275	199	26.162		
	Total	7518.416	204			

a. Dependent Variable: Pay Gap

b. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children

c. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child

d. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child, Percentage of women employed with tertiary education with 2 children

e. Predictors: (Constant), Ratio TE female/male, Percentage of women employed with tertiary education without children, Percentage of women employed with tertiary education with 1 child, Percentage of women employed with tertiary education with 2 children, Percentage of women employed with tertiary education with 3 or more children

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-22.536	7.027		-3.207	.002		
	Percentage of women employed with tertiary education without children	.482	.083	**.378**	5.804	**.000**	.999	1.001
	Ratio TE female/male	-1.037	1.709	-.039	-.607	.545	.999	1.001
2	(Constant)	-1.923	7.179		-.268	.789		
	Percentage of women employed with tertiary education without children	.603	.078	**.472**	7.706	**.000**	.942	1.062
	Ratio TE female/male	-.032	1.569	-.001	-.020	.984	.989	1.011
	Percentage of women employed with tertiary education with 1 child	-.384	.060	**-.394**	-6.410	**.000**	.935	1.070

Coefficients[a]

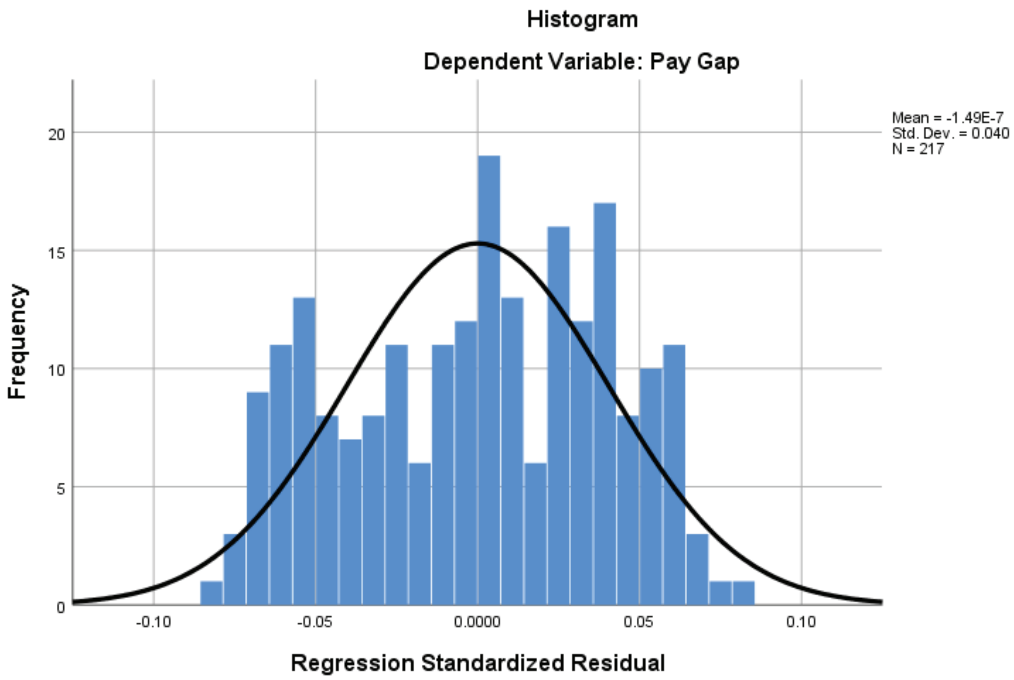
3	(Constant)	3.775	8.463		.446	.656		
	Percentage of women employed with tertiary education without children	.602	.078	**.471**	7.706	**.000**	.942	1.062
	Ratio TE female/male	.376	1.600	.014	.235	.814	.949	1.053
	Percentage of women employed with tertiary education with 1 child	-.383	.060	**-.393**	-6.398	**.000**	.934	1.070
	Percentage of women employed with tertiary education with 2 children	-.075	.059	-.077	-1.267	.207	.958	1.044
4	(Constant)	6.574	8.549		.769	.443		
	Percentage of women employed with tertiary education without children	**.549**	.083	**.430**	6.630	**.000**	.828	1.208
	Ratio TE female/male	1.438	1.692	.055	.850	.396	.839	1.192
	Percentage of women employed with tertiary education with 1 child	-.265	.087	-.272	-3.027	.003	.432	2.315
	Percentage of women employed with tertiary education with 2 children	-.083	.059	-.085	-1.407	.161	.953	1.049
	Percentage of women employed with tertiary education with 3 or more children	-.114	.062	-.168	-1.839	.067	.417	2.399

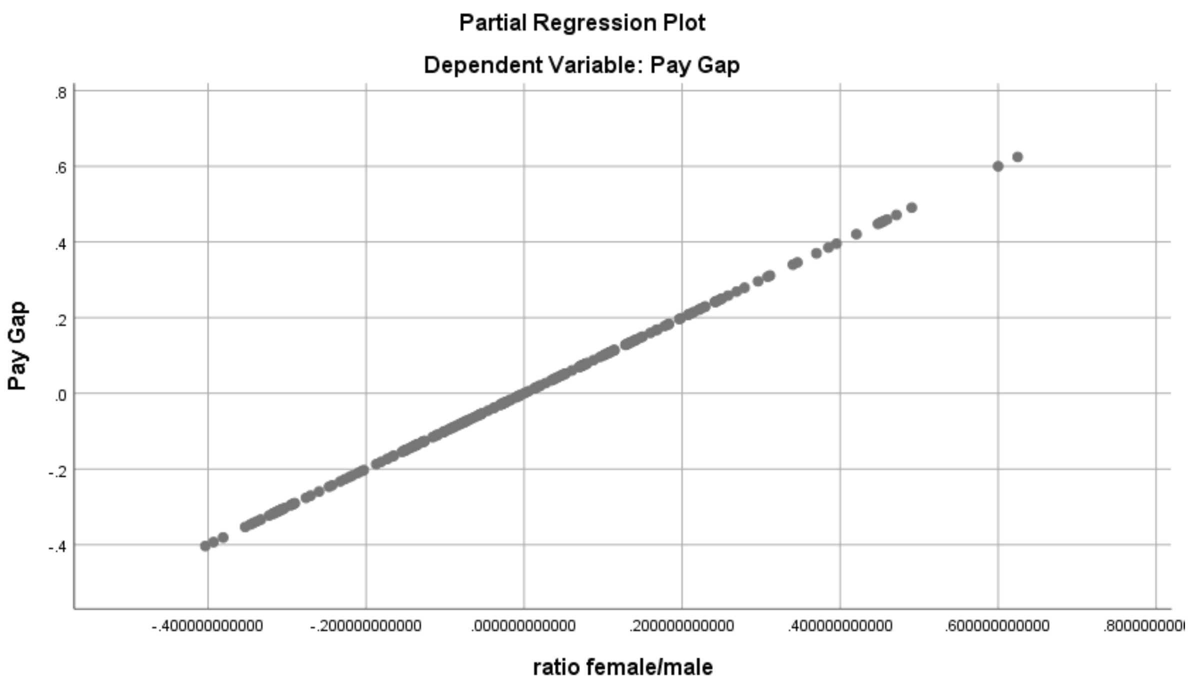
a. Dependent Variable: Pay Gap

Frequencies

Statistics

		Percentage of women employed with tertiary education without children	Percentage of women employed with tertiary education with 1 child	Percentage of women employed with tertiary education with 2 children	Percentage of women employed with tertiary education with 3 or more children	Pay Gap	Ratio TE female/male
N	Valid	224	224	224	217	212	224
	Missing	0	0	0	7	12	0
Mean		79.123	81.659	83.542	77.971	14.601	1.2608391355
Std. Deviation		5.5872	6.4038	6.1992	8.7439	5.9716	.23033745202
Minimum		57.7	65.2	68.4	57.5	.9	.79761904761
Maximum		90.2	93.5	95.4	94.5	29.9	1.8564102564


Histogram
Dependent Variable: Pay Gap
Mean = -1.49E-7
Std. Dev. = 0.040
N = 217
Frequency
20
15
10
5
0
-0.10
-0.05
0.0000
0.05
0.10
Regression Standardized Residual


Partial Regression Plot
Dependent Variable: Pay Gap
Pay Gap
.8
.6
.4
.2
.0
-.2
-.4
-.400000000000
-.200000000000
.000000000000
.200000000000
.400000000000
.600000000000
ratio female/male

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THE IMPORTANCE OF CREATIVITY IN BUSINESS

ABSTRACT

Since the creativity of individuals is the basic foundation for the progress of economy and society, and it is especially the basis for the survival of each company in global market competition, it is important to emphasize the importance of constantly promoting, encouraging and emphasizing the free expression of every individual's ideas in each department and at every level of the company. Generally, creativity is the ability to create new ideas on which basis potentially useful and ingenious innovations can be achieved, whereby the company can greatly improve its business or a part of business practice and thus achieve certain economic and financial benefit. Encouragement of creativity is the foundation for innovation, and only innovations can lead to overall progress. Therefore, the aim of this paper is to determine the importance of creativity in the business activity of a company and its employees' encouragement, as the premise for the company's innovative development. After the theoretical part, the paper presents a previous research analysis about the topic of creativity. The next part of the paper presents the results of the questionnaire survey conducted on a sample of entrepreneurs from the Virovitica-Podravina County, with a purpose to examine the existing business practice regarding the importance of creative work, encouraging creative thinking of employees, and to provide entrepreneurs possible suggestions for improvements of their business practice which would probably enable implementation of new business ideas into their business.

Key words*: creativity, creative thinking, creativity of employees, stimulating creativity*

1. Introduction

The progress of society is impossible without the creativity of individuals who make the society. Human creativity stems from within, and society and its environment can either stimulate it, or do the opposite, they can repress it. In the absence of creativity, some societies lag behind, and only by giving the importance to creativity, societies can grow and develop, and consequently, businesses can grow too. Each individual has different distinctive features and characteristics, but each one of them carries a certain dose of creativity that can contribute to business improvement. The purpose of this paper is to determine the importance of creativity in companies and its encouragement for employees, since the high level of creativity leads to greater company innovation and thus to the improvement of financial results, which ultimately means achieving competitive advantage. Previous research findings about the topic of creativity which led to this research refer to the Componental Theory of Creativity by Teresa M. Amabile, which is grounded in a definition of creativity as the "production of ideas or outcomes that are both novel and appropriate to some goal"[1]. According to the theory there are three components within the individual necessary for creative work, and one component outside the individual. In this regard, it is very important for companies and their leadership to support and accept the ideas from employees, because ultimately, the human factor is the one that enables the entire creativity encouragement system to become sustainable in the long run. Also, this research partially relies on the Integrative Organizational Model of Creativity and Innovation (IOMKI) that has been developed to examine the impact of all factors of creativity and innovation on the ultimate result of small and medium-sized companies in the Republic of Croatia (Jakovljević et al., 2012). The research based on that model has shown that creativity primarily depends on internal support of the company whose main components are creative individuals, creative groups and adequate management and leadership (Peša et al., 2015).

2. Theoretical Framework

Creativity is important for business operations, and therefore for the progress of the entire society and economy. "The main source of competitive advantage and global success is creativity, the ability to create and develop inventive organizations" (Srića, 2017, 49-50). Creativity is the basis for innovation, and primarily depends on the creativity of an individual employed person who generates creative ideas that have the potential to become innovation in an appropriate creative company environment (Peša et al., 2015).

The Croatian Encyclopedia defines the term "creativity" as "the ability to create unique and new solutions, ideas, products etc."[2], while the term "innovation" implies a certain novelty, a renewal, a change, or a development and the application of new solutions, as well as the improvement of already known solutions, all of this as a result from research and development abilities of an individual or a group[3]. Therefore, many ideas that are the result of creativity can be potentially an innovation, or not, but certainly there is no innovation without creativity. "People may also achieve creativity, however, through opposite means – that is, by developing incrementally better alternatives, improving on what already exists, or clarifying the ambiguity

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[1] Amabile, T., M. (2012): ***Componental Theory of Creativity***, Harvard Business School Working Paper, Boston, No. 12-096, available on: https://www.hbs.edu/faculty/Publication%20Files/12-096.pdf (accessed 10 April 2019)

[2] Hrvatska enciklopedija (creativity), available on: http://www.enciklopedija.hr/Natuknica.aspx?ID=33832 (accessed 16 July 2018)

[3] Hrvatska enciklopedija (inovation), available on: http://www.enciklopedija.hr/Natuknica.aspx?ID=27516 (accessed 16 July 2018)

that is associated with the problem… Creativity comes by finding ways to improve processes or functions" (Whetten and Cameron, 1998). Even nowdays we still have the impression that creativity is mostly part of art, history inventions and scientific discoveries (Ozimec, 2006). Through the history of mankind, many individuals created their own inventions only by their own hard work and creativity, but also they are the example and inspiration to others. In general, beyond all possible features, Howkins (2003) emphasized three essential conditions that contain all kinds of creativity, and those are personality, originality and meaning, with a special emphasis on ***people*** that are creative, not things. Bedeković (2010, 67) states that "… creativity features vary between people, where no person possesses or shows all the features all the time, since many of these features can be learned and raised…". This leads to conclusion that each individual is the key to beginning of any creative process, they just need to be aware of their own possibilities. As a person becomes more skilled and confident in their creative skills, they can encourage others around them (whether at home or in the workplace) to share their thoughts and ideas in order to work more creatively; i.e. simple awareness of the need for creativity and the effort to become creative on a conscious level will automatically result in greater creativity (Caropreso and Couch, 1996). "Most of us are not aware that we can be creative in multiple ways, yet anyone can be creative and add value to problem solving. Just because you are not a clever producer of unique ideas, for example, does not mean that you are not creative and cannot add value to the creative process" (Whetten and Cameron, 1998). In an article about innovation, which is defined as relying on everyone's creativity, Margaret J. Wheatley (2001), states that there is no substitute for human creativity, and the only thing that employees want is the support of superiors which would help them contribute to finding better solutions, developing innovations, and expressing their inner creativity. This article also highlights the problem of many companies that force people into "tiny boxes", called roles and job descriptions, with instructions on how to behave, and a suggestion that they are not creative, cannot think and cannot contribute.

Since creativity is an important feature of a successful entrepreneur, and it generally decreases through years, during formal education, with the lack of use and bureaucracy, as well as being repressed by perceptual, cultural, emotional and organizational factors, it is essential to release it and to generate creative ideas and innovations by using creative thinking techniques (Hisrich et al., 2011). Therefore, each company should create an environment that will positively affect creativity stimulation of employees. One of the most commonly used method is brainstorming – a meeting where each randomly speaking participant presents everything that comes to their mind at the moment, and refers to a pre-set problem that should be solved (Klaić, 2017). Brainstorming allows a greater creativity stimulation by grouping and participating people, and although most of the generated ideas do not represent the basis for further development, sometimes it can provide a very good idea that can be focused on a specific product or market area (Hisrich et al., 2011). Therefore, the result of creative process can be a product that is created in the process of transforming the idea into something practical or something that can be the object of exchange, and in many cases, the market determines what can be a creative product, and what cannot (Novotny, 2015).

Generally, companies seek creative people only for individual departments such as R&D, marketing, etc., but they have to think creative on the whole, and every employee should feel free to express their creativity. By working with people of different profiles and professions, one can see that creativity is hidden within each person and within each department of the company (Antoljak and Kosović, 2018). Employees of the company are those who can contribute to business practice, and have the ideas on how to make a product or service better, and find a place for improvement. In this respect, the role of HRM Department is important to recognize, guide and reward each additional employees' effort. Srića (2003) describes an inventive manager who performs his role in the complex environment of the modern market, and must show an enviable amount of creativity (if they want to succeed), and only those who have or can recognize good, original and new ideas can expect to achieve success.

3. Previous Research Analysis

In order to prove how creativity is important, there is a research done on potential employers conducted by the World Economic Forum, published in 2016 in the publication ''The Future of Jobs – Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution''[4]. The purpose of the research was to identify the specific character traits of individuals needed for a workplace, and creativity was pointed out as one of the key job skill required in the near future. Also, another important skill is the ability to solve complex problems, which also requires a high level of creativity as the basis for making quality decisions. The additional aim of this research was to inform companies, government, trade unions and education providers about trends and to provide them guidelines for possible consideration on the upcoming changes in the labor market.

A domestic research[5] of the Croatian Innovation Quotient in 2013 defines creativity as the ability to create new ideas, or as a mental feature of the individual that allows them to think "outside the box", resulting in an innovative or different approach to a particular task. The purpose of the research was the analysis of Croatian companies in relation to their awareness of the importance of creative and innovative business practices that would lead them to a satisfactory level of competitiveness. The research has shown that companies have a lot to improve in the field of creativity and innovation, and also, one of the main guidelines for the innovation development contribution was the motivation of employees in order to suggest ideas more easily and more frequently.

Previous research findings about the topic of creativity which led to this research refer to the Componental Theory of Creativity by Teresa M. Amabile according to which there are four components needed for an individual to produce creative work, and those are: domain relevant skills, creativity-relevant processes, and intrinsic task motivation (three components within the individual), along with the social environment in which the individual is working (the one component outside the individual)[6]. The componential theory of creativity presents a comprehensive model of the social and psychological components necessary for each individual in order to work creative. The theory defines the components of creativity and their influence on creative process, and it has been recognized as one of the major theories of creativity in individuals and in organizations. Concerning to its application in companies, many managers have relied on tools and techniques developed from the theory in order to stimulate creativity of their employees.

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[4] Global challenge insight report (2016): The Future of Jobs – Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution, World economic forum, available on: http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf (accessed 17 July 2018)

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Also, this research partially relies on the Integrative Organizational Model of Creativity and Innovation (IOMKI) that has been developed to examine the impact of all factors of creativity and innovation on the ultimate result of small and medium-sized companies in the Republic of Croatia. The premise of the model is the existence of internal and external support that is essential for the company's innovative development, whereby the internal support includes innovative organizational culture and climate, human resource development strategy, individual and team creativity, and willingness of leadership to change (Jakovljević et al., 2012). Also, the nurturing of creativity and innovation within the company presents the potential for every small and medium sized company that wants to increase its competitiveness and therefore to ensure a long-term market success. Based on that model the empirical research has been conducted three years later on small and medium-sized companies who received an Innovation Award from the Croatian Chamber of Commerce. The sample included 110 (N=110) innovative companies, on which there were 36 (n=36) respondents. In the part of the research related to internal support the authors pointed out the importance of "networked creativity" which includes the creativity of individuals, creativity of a team or group and ultimately organizational innovativeness, all supported by adequate management and leadership. The results of the research have shown that almost all respondents (97%) believe that company's creativity and innovation depend on leadership that should design a creative culture within the company. Also, the authors emphasized the role of leadership in creativity stimulation of employees through the system of rewarding, whereby the immaterial strategy of motivation proved to be something more frequent in relation to material. Furthermore, the support and building a confidence by the leadership has a great impact on the creative work of employees, which confirmed 97% of the respondents. In conclusion, the authors have confirmed that creative individuals, groups and adequate management and leadership (as the main components of internal support), are essential for development of innovative small and medium-sized companies, while the inefficacy of government institutions and a weak link between scientific and economic sector are the main reasons for inapplicability of external support of the model (Peša et al., 2015).

Based on the above described research, in which it has been proved that well-designed internal support of the company can be sufficient for their creative and innovative work, the authors of this research wanted to examine the existing business practice of the companies in local area regarding the internal factors, specifically individual creativity and the support of superiors that would enable employees to express their creativity. This kind of insight into business practice of local companies would enable researchers to identify the aspects that could be improved, as well as detecting the most problematic aspects of business practice regarding creative work and encouraging creative thinking of employees. Also, the researchers would be able to present suggestions for improvement to entrepreneurs, which would probably enable implementation of new business ideas.

4. Methodology and Research Results

For the purpose of insight into existing business practice of the companies, regarding the importance of creative work and encouraging creative thinking of employees, in the area of Virovitica-Podravina County, a survey was conducted on selected entrepreneurs (N=136) in February and March 2019 by a questionnaire survey, and the obtained results were presented with descriptive statistics. The research was conducted by electronic mail and by individual interviews. A part of the respondents was surveyed by exhibitors at the International fair Viroexpo during the days of exhibition in the period 15-17 March 2019. Out of the total number of selected entrepreneurs there were 65 respondents (n=65) that answered the questionnaire.

The survey questionnaire was structured into two parts, in which the first part includes entrepreneur and human resources basic data, while the second part refers to creativity and innovation. The authors used open and closed questions, while the Lickert's scale of intensity has been used to determine the extent to which the surveyed entrepreneurs agree with the importance of creativity in their business activity.

In the part on entrepreneur and human resources basic data respondents were answering questions about the company. The business form of surveyed business entities is d.o.o. (53.85%), craft business (18.46%), OPG (15.38%), j.d.o.o. (9.23%), and d.d. (3.08%). According to the period of conducting business activity, 19.23% operate 1-5 years, 30.77% 5-10 years, 26.92% 10-15 years, while 23.08% have been operating for more than 15 years. Among the survey respondents, 47.69% was the owner of the company, 36.92% one of the executives, while 15.38% was the employee in the company. The most common are companies with 10-49 employees (50.77%), then 1-9 employees (41.54%) and companies with over 50 employees (7.69%).

In the second part of the survey about creativity and innovation the authors formed a Lickert's scale of statements in order to examine the attitudes of the respondents about the importance of creativity. According to the scale the respondents expressed their opinion by intensity levels ranging from 1 to 5, with 1 being fully disagree, and 5 being fully agree. Table 1 represents the statements about the importance of creativity of company's employees and its encouragement, as well as their corresponding mean value of the response.

Table 1: *Statements used for measuring the creativity of employees*

Statement	Mean
We believe that a useful business improvement idea can come from any employee from any company level	4,46
We allow our employees to feel free to express their opinion/ideas for possible business improvement	4,31
It is important to us that our employees are creative	4,08
We encourage cooperation between departments and/or employees in order to improve business	4,08
We are constantly working on encouragement of employee creativity	3,54
We reward the effort and potentially profitable employees' ideas	3,54
The usual way to draw new ideas into the company is brainstorming that we often apply	3,23

Source: authors' research

The statements that have reached the highest mean average refer to the *Belief that a useful business improvement idea can come from any employee from any company level* (4.46) and *Allowing employees to feel free to express their opinion/ideas for possible business improvement* (4,31), indicates that the respondents are aware of the existence of creative individuals in the company that can contribute to business improvement. However, when it comes to rewarding such creative ideas, or organizing a specific activity on which ideas would be expressed, the respondents gave less importance to such kind of activity.

Table 2 represents the statements about using creativity as the ability for business development and improvement in order to achieve competitive advantage, as well as their corresponding mean value of the response.

Table 2: *Statements used for measuring business development and improvement*

Statement	Mean
We are able to customize our products/services and business processes in accordance with market requirements and customer needs	4,54
We are looking for new opportunities for developing existing business activities	4,15
The production processes and technologies we use in our regular business operations are sophisticated	3,85
We apply the research results (our own and other's) into the business	3,48
We are intensively working on developing our own new creative and innovative products/services	3,45
We are among the first ones to introduce new products/technologies into the market	2,69

Source: authors' research

The statement about the *Ability to customize our own products/services and business processes in accordance with market requirements and customer needs* (4.54) has reached the highest mean average which shows that the respondents are aware of the importance of market trends changing, in which they customize their products and services according to customer needs. The aforementioned statement is also the one that has achieved high-intensity rating which adds to the importance of that statement. The concept of a new product or technologies which implies a significant innovation that competition did not offer, defined in a statement *We are among the first ones to introduce new products/technologies into the market* has achieved the lowest mean average (2.69). From this it can be concluded that the respondents are working on improvement of their existing offer and looking for new opportunities for developing existing business activities, but being the first one on the market with a breakthrough innovation is not on their priority list.

In this part of the survey about creativity and innovation respondents were also answering to concrete questions about the importance of creativity encouragement in the company, where the term encouragement implies constant promotion, stimulation and emphasizing free expression of employee ideas in each department and at every level of the company, as a premise for company's innovative development. In the last three years some of the techniques for creative thinking stimulation haven't been used by 92.31% of the respondents, while the other 7.69% mostly used brainstorming and employee meetings. Research activities were carried out by 21.54% of respondents in the last three years, mostly focusing on market research activities, and lobbying to local authorities for financial stimulation of sophisticated production. 24.62% of surveyed companies have implemented some kind of form for collecting employee ideas, meaning by that a brainstorming during which employees are free and encouraged to present their ideas. Within the same question, they mentioned enabling employees to exchange their views at meetings, as well as collecting ideas through weekly employee reports. In an open question where the respondents could state the reasons they felt that employees do not feel free to express their ideas for business improvement, they primarily pointed out the employees fear of their idea not being accepted by superiors, then the consideration that the proactivity was not a part of job description, disinterest of employees, fearful reactions of superiors, etc. Unlike the respondents who feel that employees can freely express their ideas, they have given reasons such as a collaborative atmosphere in the company, the owner's and manager's accessibility, the implementation of good ideas in business, the appreciation of others' opinions, and as the most important reason they pointed out the good team spirit in the company. In the last open question of whether they have developed some new product, process, marketing or organizational innovation in the last three years, 63.08% of the respondents answered negatively, while the others stated the creative marketing approach, the original local product, the specific client's approach, the self-developed formula or recipe of the main product, a production line of their own design, and other.

The authors also wanted to examine the environment aspect in order to see how important external affect is for the companies and its adaption to it, and also, their willingness to take advantage of their own creativity that would enable them to stand out from the competition. In this respect, the authors used Lickert's scale of statements according to which the respondents expressed their opinion by intensity levels ranging from 1 to 5, with 1 being fully disagree, and 5 being fully agree. The statements about the company's view of the environment and its adjustment to external affect are presented in Table 3, as well as their corresponding mean value of the response.

Table 3: *Statements used for measuring the company's environment*

Statement	Mean
We are able to see when the competition is threatening with its new creative and innovative products	4,00
Our company has a high degree of change acceptance from the environment	4,00
We appreciate people from the environment who question what we do and their suggestions for improvement	3,85
Clients and the environment consider us as to be a creative and inventive company	3,77
We are actively seeking for new partners to improve and expand business	3,69

Source: authors' research

The high mean average of these statements shows the companies' awareness of changes from the environment, their willingness for adjustment and also appreciation and acceptance of suggestions for possible improvement.

While analyzing theoretical works and previous research done on this topic, it is clear that there is no progress without innovation, and the base for innovation is creativity which simply means generating many ideas. These ideas can be produced primarily by the company's employees that should be stimulated and encouraged in order to express their creativity. Such business practice is possible only with the support of company's leadership which enables the foundation for creative and innovative work, and therefore allows employees the opportunity to make a certain contribution to the company. Based on current research data, the focus was on the creativity of employees and its encouragement by the superiors who should be aware of the importance of creative and innovative ways of doing business. Also, the leadership of the company is the main internal part that enables employees to think and work creatively. In this respect, it is primarily important to get the leadership of the company and their main executives acquainted with the concept of creativity itself, as well as with the importance of creativity stimulation and the enormous creative potential of their employees. Also, this research has detected some aspects of business practice that could be improved, such as properly rewarding the effort and potentially profitable employees' ideas; as well as the need for more frequent organization of projects and events with the exclusive purpose of generating ideas from employees which would ultimately contribute to promoting the importance of creative work. The most problematic aspect of business practice examined in this research has proved to be work on significant innovations that would enable entrepreneurs to be the first ones on the market, as well as research activities aimed at developing their own creative and innovative products or services.

In order to improve these kinds of aspects of business practice, entrepreneurs should be educated on how to implement new ideas and projects for actively stimulating creativity through motivation of employees, which would ultimately lead to developing an innovative business practice. Previous research based on the Integrative Organizational Model of Creativity and Innovation (Peša et al., 2015) has identified the lack of external support which refers to the inefficacy of government institutions and a weak link between scientific and economic sector, as well as entrepreneurs being insufficiently informed about available support programs for innovative business practice. The local authorities are one of the important external factors which can raise awareness of the importance of creative and innovative ways of doing business, and local development agencies are the ones that can provide direct assistance to entrepreneurs in funding for various projects, as well as providing basic information about projects and programs relating to creative and innovative business practice. In this respect, the recommendations of the authors are to organize free motivational lectures, education, training and workshops in cooperation with local development agencies and academic community on the topic of creative work, creativity potential of employees, and also to provide a concrete information about possible ways of getting support for such kind of business. In this way the entrepreneurs from the examined area would get a concrete stimulus to work more creatively since they would get the insight into such business practice by being introduced to examples of positive practice at such organized events. Also, they would get the ideas that could be developed, improved and implemented. All of this would result in a greater level of awareness of the importance of creativity, which would ultimately lead to greater company innovation.

5. Conclusion

Today's dynamic business environment is impossible without creativity, creative individuals and companies that support expressing free ideas that could even slightly improve business practice. In this respect, companies should create an environment that will stimulate creativity, since that is the only direct way to achieve innovation, ultimately leading to the progress of the entire company. Therefore, it is important to enable and encourage employees to feel free to express their ideas, and every significant idea that contributes to business improvement should be adequately rewarded. For everything mentioned above, it is primarily necessary to instruct employees on how to express their creativity, and to enable them to understand their role and contribution to the company. The superiors who are supposed to provide such kind of instructions should be properly informed on how to guide, motivate and use the creativity potential of their employees in the best possible way.

Based on current and previous research data, the focus of this paper was on the importance of creativity in business practice and encouragement of employees, as the premise for company’s innovative development. The survey conducted on a sample of 65 entrepreneurs in the Virovitica-Podravina County has shown their awareness of the importance of employees’ creativity potential. The research has also shown that examined entrepreneurs have a place for improvement in the field of rewarding effort of their employees and stimulating their creativity through organization of various activities, events and projects in order to motivate employees to suggest ideas for improvement more easily and more frequently. The most problematic aspect concerning the internal part of business practice examined in this research has proved to be work on significant innovations and research activities aimed at development of creative and innovative products or services.

As in previous research, creative individuals, groups and adequate management and leadership have emerged as the main internal components for development of creative work. In this respect, the authors' recommendations are to provide an adequate external support from local development agencies and academic community in order to present the benefits of creativity encouragement to a wider spectrum of entrepreneurs, and also to get them acquainted with the basic information on funding for projects and programs related to creative and innovative business practice. In future research it would be useful to analyze and compare how the external support of local authorities affected the company awareness of the importance of creative and innovative business practices and their possible improvement that would lead to a satisfactory level of competitiveness. Also, it would be recommendable to include other variables, such as whether the company is informed about possible funding and the role of the environment in stimulation of creativity.

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IDENTIFYING KEY DIMENSIONS AND ATTRIBUTES OF COMPETITIVENESS OF SMALL AND MEDIUM HOSPITALITY ENTERPRISES IN CROATIA

ABSTRACT

The global market has resulted in rapid changes and numerous challenges in management of small and medium hospitality enterprises (SMHE's). In today's business environment, competent management of enterprises is particularly pronounced, knowing that time has passed when enterprises have based their competitiveness on material and financial resources.

The last decades of the information age or the age of knowledge, as it is increasingly called, imposes "knowledge" as a key resource for building the enterprise's competitive advantage. How and how to respond to all market challenges today is a chronic problem for business managers.

The purpose of this paper is to focus on facilitating the adoption of new knowledge in the area of SMHE's, that are the backbone of economic development of each country and a key generator for creating new jobs. For this purpose, a multidimensional statistical method - factor analysis – was used. Empirical research was attended by 107 SMHE's in the Republic of Croatia.

The aim of this paper is to indicate which are the most important factors affecting the competitiveness of SMHEs and their individual importance in business management. After factor analysis of 21 variables, 5 specific most important factors were identified for the competitiveness.

The research results showed that strategic networking, adopt to competitors, internal communication, service quality and human resources are the most important for the competitiveness of SMHEs and that their understanding by managers is necessary for business success.

Key words: *small and medium hotel enterprises, factor analysis, competitiveness in hotel industry, case of the Republic of Croatia*

1. Introduction

In today's dynamic, turbulent and unpredictable economic environment, competitiveness has become more important than ever, especially at the firm level. Firm level competitiveness is seen as the ability to perform better than competitors in terms of value creation. There is a lack of research focusing on firm level competitiveness of small and medium enterprises, especially in hotel industry. Different factors from external and internal environment have a high level of influence on competitiveness of SMHE's.
In those circumstances, identifying key dimensions and attributes of competitiveness is crucial for the survival of SMHE's. Numerous dimensions and attributes, which can be used to describe and defined the competitiveness of SMHE's, indicate the multidimensionality of its structure. Using the factor analysis will simplify the task of handling the many factors that influence the competitiveness of SMHE's. The research was based on the survey and direct interviews, conducted with managers of SMHE's through questionnaires. Information was collected during 2016, the sample consisting of 107 SMHE's in the Republic of Croatia.

The statistical analysis is further supported with the review of published studies on hotel competitiveness, provide critiques, and point out future directions in hotel competitiveness research. Such a review shall provide researchers with a good understanding of the status of competitiveness research and with a vision for advancing the existing knowledge of hotel competitiveness.

The SMHE's survival depends not only on financial competitiveness, equally important is that the organisation could prove their status to various interested parties that are affected by the activities of the enterprise. Understanding the factors that have shaped the firm level competitiveness is relevant and essential to the design, planning and implementation of policies that support sustainability on a long-term basis for SMHE's.

2. Literature review

Competitiveness has been a subject of study in the manufacturing and related sectors since the early 1990s. However, only recently have some researchers started to examine the tourism and hospitality competitiveness, both conceptually and empirically, with a particular focus on tourism destinations and the hotel industry. The goal of this paper is to review the published studies on hotel competitiveness, provide critiques, and point out future directions in hotel competitiveness research. Such a review shall provide researchers with a good understanding of the status of competitiveness research and with a vision for advancing the existing knowledge of hotel competitiveness.

Over the last decade, trade liberalization and globalization processes have significantly increased customer expectations and competition between firms. Nearly, simultaneously, global markets have begun offering an abundance of opportunities for SMEs (Gradzol et al., 2005). In order to respond to the increased pressures by the globalization process and benefit from global market opportunities, SMEs have begun facing main challenges: to transform themselves and increase their individual competitiveness (Fassoula, 2006). At the same time, governmental policy at the macro level is attempting to improve the competitiveness of national economies through creating favourable framework conditions for economic activity and promoting various instruments and measures for SME development. According to the literature based on experiences in industrialized countries, the cluster concept has been shown to be an efficient instrument for strengthening regional and national economies, but its applicability for improving the competitiveness of participating SMEs has yet to be fully examined. In a global market economy, service firms must identify the key resources that can possibly generate a competitive advantage. They should also explore how they can access and capitalise on those resources in order to improve their business performance and stay competitive in the marketplace. The relevance of resources varies according to industry, time and space and may depend on external industry conditions. Old resources such as personal contacts and low prices alone might be losing their competitiveness potential while intangible resources such as quality or brand are gaining in importance. New resources not previously known or explored might bring new potentials for competitiveness (Mihalič, Buhalis, 2013).

At the micro level, Porter (1998) argues that a firm can gain competitive advantage over its rivals in two ways, namely through cost advantage and differentiation. By lowering costs, Porter describes the ability of a firm to produce and sell comparable products more efficiently than its competitors, while differentiation is the ability to fulfil customer expectations, through providing unique products or services. In any of these definitions at a macro or micro level, the central element is productivity.

Intellectual capital and its relation to innovation capacity are common factors observed in the different schemes for the assessment of competitiveness (Solleiroa, Castanon, 2005; Gloet, Terziovski, 2004). Hamel and Prahalad (2005) link sustainable competitive advantage with core competence and define it as an advantage that one firm has relative to competing firms. Competitiveness remains a difficult concept and is still not precisely defined in various contexts as is shown by the definitions given above. Nevertheless, competitiveness is obviously seen as involving elements of productivity, efficiency, and profitability as a means of achieving rising standards of living and increasing social welfare (Huggins, 2000).

3. Research methodology

Factor analysis is a set of (mathematical) statistical procedures that allow in greater number of variables, among which there is a connection, establishing a small number of fundamental variables that explain this interconnection. The fundamental variables are called factors. The original variables, those that are observed in the factor analysis are called manifest variables, and factors that are determined by factor analysis of manifest variables' relations are called latent variables. Factor analysis, as one of the methods of interdependence, is often used in scientific research in various fields of research. It is used to examine the interdependencies within a large number of manifest variables, and seeks to explain them by a small number of mutually independent latent variables or common factors that are considered to be the causes or sources of co-variation between the original manifest variables. It is also used to test theoretical concepts (by hypothesis) and structural models, whereby it can be considered as a method by which the subjectivity of researchers (scientists) in their research papers is minimized. The main objective of factor analysis is to determine the latent structure of a set of manifest variables by explaining covariance patterns of manifest variables or summarize information contained in a large number of original variables into a smaller number of common factors with minimal loss of information, and gain a better understanding of the relationship between variables (Lončarić, 2009). Determining the factors that underlie the appearance in one area of research may point to basic sources of variations and co-variations phenomenon that without it can look completely unclear and unspecified, even when the size of the correlations between them are known (Fulgosi, 1984). Factor analysis is also used to assess the reability and validity of measurement scales for surveys.

Research on the global trend in supply of small and medium hotel enterprises based on 107 samples collected in the period of March to October 2016. Data were collected by means of mail survey questionnaire completed by owners or their general managers of small and medium hotel enterprises located across Croatia. For the selection of the sample used is a list of hotels in Croatia, available at the web address[1]. The said websites in March 2016, found 350 small and medium hotel enterprises. A random sample formed from a defined frame of choice. The sample using a random number generator selected 250 small and medium hotel enterprises, and the survey so that small and medium hotel enterprises contacted by email for willingness to participate in the study, some were contacted by telephone, and a some of small and medium hotel is interviewed by the author personally. One hundred seven (107) questionnaires were answered properly. This response rate (42.8%) is considered to be satisfactory and sufficient for the adoption of the relevant conclusions.
The survey consisted of two parts. Part I is comprised of background and demographic information, such as gender, age, degree, major, property type, property size, job position, job responsibilities/description, and experience in the hospitality industry. Part II is comprised of questions that require the respondents to rate the importance of indicators of competitiveness that were identified in the literature review. The participants were asked to assign a level of importance to each of the indicators using a 5-point Likert-type scale anchored at 1 = least important, and 5 = most important. This research used SPSS (Statistical Package for the Social Science) to analyse the collected data. First, Cronbach's alpha was calculated to measure the internal consistency reliability of the scales. Second, factor analysis was used to analyse interrelationship among variables, and extracted the items into a smaller set of interpretable factors. Third, descriptive statistics, including frequency, percentage, mean, and standard deviation, were calculated to summarize the basic features of the sample and the measures.

4. Research results

Among the analysed enterprises in 32% were small enterprises and in 68% were medium enterprises. Regarding the form structure of the analysed enterprises 44% were joint stock company, 53% limited company and 3% were craft. While considering their geography position 55% belongs to Dalmatia, 15% to Coastal Croatia, 3% to Lika and Gorski Kotar, 20% Northern Croatia and 7% Continental Croatia. Besides defining the profile of enterprises, it is necessary to get a picture of the profile of the respondents.

In the sample was 79% male while proportion of women is not at a high level (21%), with ages ranging: between 41 and 50 years (34%), between 51 and 60 years (26%) and between 31 and 40 years (21%). The respondents had different levels of education including university, college, secondary school and other, which accounted for 45, 40, 12 and 3 percent, respectively. Respondents are person familiar with all aspects of the business of small and

[1] www.croatiahotelsguide.com, www.omh.hr (01.03.2016.)

medium hotel enterprises. The workplace of the subjects was determined primarily the size of the hotel enterprise, and respondents were in managers 60%, the owners of the hotel enterprises 13%, sales managers 17%, chairman of the board 3% and directors 7%. Furthermore, their distribution by years of employment is ranging between 0-9 years (14%), between 10-19 years (33%), between 20-29 years (31%) and 30 and more years (22%)

4.1. Factor analysis

This analysis is aimed at grouping many factors that influence the competitiveness of SMHE's into common factors. For this purpose, 21 variables – indicators of competitiveness of SMHE's were selected as input variables for factor analysis. These are:
V1 – communication with the environment, V2 – internal communication, V3 – new challenges, V4 – strategic networking, V5 – networks in clusters with agricultural entities, V6 – networks in clusters with businesses, V7 – adaptability to changes in the touristic behaviour, V8 – business spirit, V9 – ability to predict, V10 – cope to competition, V11 – adaptation to the changing environment, V12 – ability to manage human resources, V13 – maintenance image and corporate social responsibility, V14 – service quality, V15 – market share, V16 – guest satisfaction, V17 – quality business cooperation with suppliers, V18- market potential, V19 – research and development, V20 – monitoring and implementation of new/innovative strategies in competition, V21 – strength of the strategy change competition.

Before performing factor analysis need to evaluate and ensure the validity and reliability of the data. Reliability refers to the consistency degree of measurement results and validity refers to the closeness of the measure value. We measure the reliability of the data using Cronbach coefficient α and validity using KMO and Bartlett's test of Sphericity. We use SPSS software to analyze the data reliability and validity. Results show that α coefficient value is 0.786, which indicates data reliability is good. KMO statistic value is 0.601, indicating factor analysis is relatively suitable. This problem was mainly due to item V1, V17 and V18 so we decided to remove them from the measurement scale. This action raised the scale's Cronbach Alpha to level of 0.861. Significance probability of Bartlett's test of Sphericity is 0.000 < 0.01, rejects the original hypothesis which indicates that the parameters are related, so it is suitable for factor analysis. The results of test are shown in Table 1. Correlation matrix shown that most parameters have relatively strong correlation, so it is necessary to make a factor analysis.

Table 1: *KMO and Bartlett's test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,786
Bartlett's Test of Sphericity	Approx. Chi-Square	591,082
	Df	153
	Sig.	,000

We use a principal component analysis as common factor extraction method. The Kaiser Criterion (Kaiser, 1960) eigenvalues greater than 1, has been used to determine the number of factors. From Table 2, there are five common factors and their cumulative variance proportion is 66,107%. Therefore, we choose five factors that represent the whole amount of information provided by raw data.

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,758	31,987	31,987	5,758	31,987	31,987	3,872	21,512	21,512
2	1,933	10,737	42,724	1,933	10,737	42,724	2,257	12,536	34,049
3	1,601	8,892	51,616	1,601	8,892	51,616	2,079	11,551	45,600
4	1,420	7,889	59,504	1,420	7,889	59,504	1,862	10,347	55,947
5	1,189	6,603	66,107	1,189	6,603	66,107	1,829	10,161	66,107
6	,984	5,468	71,575						
7	,925	5,141	76,716						
8	,843	4,681	81,398						
9	,616	3,424	84,822						
10	,533	2,960	87,782						
11	,435	2,415	90,197						
12	,393	2,183	92,380						
13	,362	2,013	94,393						
14	,282	1,567	95,961						
15	,269	1,497	97,458						
16	,219	1,219	98,676						
17	,157	,871	99,548						
18	,081	,452	100,000						

Extraction Method: Principal Component Analysis.

Figure 1 illustrates the Eigen value in Y-axis and number of factors in X-axis. So it is clear that the Eigen values of the top five factors is greater than 1, the polyline is step, and the line tends to be stable from the five factor. From the fifth factor on, we can see that the line is almost flat, meaning each successive factor is accounting for smaller and smaller amounts of the total variance. Thus, five factors should be selected for visual observation.

***Figure 1:** Scree figure*

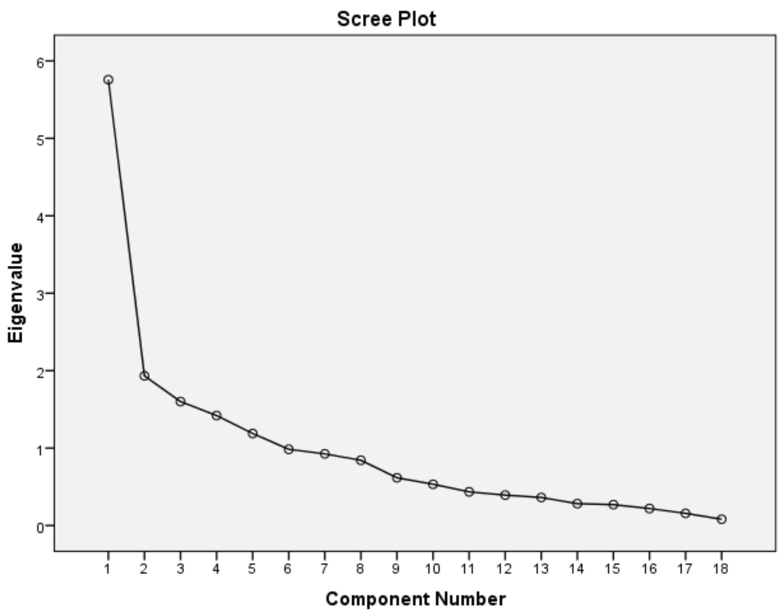

Table 3 represents the communality of 18 parameters separately before and after the common factor is extracted. The initial column values of 18 parameters from principal component analysis shows the Communalities of the original parameters are 1. Extraction column values show the parameter communalities, calculated by five common factors. Here we can observe that the extracted common factors provide a good analysis of the 18 parameters.

Table 3: *Parameters common level*

Communalities

	Initial	Extraction
V2	1,000	,779
V3	1,000	,724
V4	1,000	,715
V5	1,000	,803
V6	1,000	,786
V7	1,000	,639
V8	1,000	,683
V9	1,000	,767
V10	1,000	,696
V11	1,000	,684
V12	1,000	,706
V13	1,000	,802
V14	1,000	,708
V15	1,000	,588
V16	1,000	,744
V19	1,000	,725
V20	1,000	,693
V21	1,000	,720

Extraction Method: Principal Component Analysis.

Since factor loadings are sensitive to sample size, the criteria (Stevens, 1992) are used to determine if the different factor loading are significant. For sample of 100 cases or more, factor loadings of 0,522 or larger can be consider being significant and they are shown in Table 4.

Table 4: *Basic structure of Component matrix*

	Component				
	1	2	3	4	5
VAR02		,526	,569		
VAR03			,661		
VAR04	,716				
VAR05	,759				
VAR06	,773				
VAR07					
VAR08					
VAR09	,649				
VAR10					,549
VAR11	,638				
VAR12		,625			
VAR13		,564			
VAR14					
VAR15	,571				
VAR16					
VAR19	,658				
VAR20	,761				
VAR21	,716				

Basic structure of Component matrix is not easily understandable so we use Rotation Method: Varimax with Kaiser Normalization. Table 5 contains the rotated factor loadings, which represents how the variables are weighted for each factor but also the correlation between factor and the variables.

Table 5: *Factor loading matrix after rotation*

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
VAR02			,790		
VAR03			,827		
VAR04	,812				
VAR05	,765				
VAR06	,774				
VAR07	,509				
VAR08			,504	,556	
VAR09		,590			
VAR10		,786			
VAR11		,529			
VAR12					,815
VAR13					,786
VAR14				,766	
VAR15	,673				
VAR16				,745	
VAR19	,587				
VAR20	,523	,628			
VAR21	,555	,631			

Taking the loading of the factors into consideration, the first factor has a high positive factor loading on variables: V4 – strategic networking, V5 – networks in clusters with agricultural entities, V6 – networks in clusters with businesses, V7 – adaptability to changes in the tourist's behaviour, V15 – market share, V19 – research and development. Therefore, this factor is called "strategic networking".

The second factor has a high positive factor loading on the variables: V9 – ability to predict, V10 – cope to competition, V11 – adaptation to the changing environment, V20 – monitoring and implementation of new/innovative strategies in competition, V21 – strength of the strategy change competition. This factor is labelled "adapt to competitors".

The following indicators have a high loading on Factor 3: V2 – internal communication and V3 – new challenges. This factor is labelled "internal communication".

The fourth key factor is related to: V8 – business spirit, V14 – quality of service, V16 – guest satisfaction, therefore is called "service quality".

The fifth factor is related to V12 – ability to manage human resources and V13 – maintenance image and corporate social responsibility. This factor is labelled as "human resources".

In the Table 6 were show mean and standard deviation the importance of competition factor on the opinions of managers in SMHE's.

Table 6: Mean Rankings of the Importance of Competition Factors

Factor	Mean	Std. Deviation
Communication with environment	4,1875	,73847
Internal communication	4,3333	,58140
New challenges	4,2500	,78274
Strategic networking	3,8194	,90890
Networks in clusters with agricultural entities	3,5139	1,03452
Networks in clusters with businesses	3,5694	,99047
Adaptability to changes in the tourist's behaviour	4,1111	,70322
Business spirit	4,3611	,67773
Ability to predict	4,3194	,74732
Cope to competition	4,2083	,67003
Adaptation to the changing environment	4,0556	,70987
Ability to manage human resources	4,0972	,56068
Maintenance image and corporate social responsibility	4,2639	,55647
Quality of service	4,3889	,57053
Market share	3,7917	,80382
Guest satisfaction	4,4028	,59717
Quality business cooperation with suppliers	4,2083	,71083
Market potential	3,9306	,81061
Research and development	3,7500	,74588
Monitoring and implementation of new/innovative strategies in competition	3,8750	,87109
Strength of the strategy change competition	3,7361	,87199

The factor of guest satisfaction (M = 4.3889) was rated highest, after that is factor of business spirit (M=4,3611). Ability to network in clusters with agricultural entities was rated as the least important (M=3.5139) that show the managers in SMHE's in Croatia are not aware of the facts that global trend of offering local product in SMHE's is one of the major factors of increasing the competitiveness of local farmers and SMHE's. Considering the fact that tourism and agricultural production activities are of a great interest for Croatia, as well as the fact that there is a growing trend in production of domestic food worldwide.

5. Conclusion

The hospitality industry is increasingly confronted with the intensification of competitiveness at a global level, the rapid advance of technology and higher expectations form clients. Competitiveness has become more important than ever, especially at the firm level. Firm level competitiveness is seen as the ability to perform better than competitors in terms of value creation. Identifying key dimensions and attributes of competitiveness is crucial for the survival of SMHE's.

It concluded that there are five basic SMHE's competitiveness factors in the opinion of managers. Understanding the factors of strategic networking, adapt to competitors, internal communication, service quality and human resources is relevant and essential to the design, planning and implementation of policies that support sustainability on a long-term basis for SMHE's.

Guest satisfaction and service quality - in the hotel industry, tourists tend to stay loyal to a SMHE’s when they are satisfied with the quality of the service that has been provided. The researching of the main characteristics of the tourists’ satisfaction is very important to successful management for SMHE’s. There are few reasons and the most important is the fact that the tourists’ satisfaction has the great impact on the hospitality enterprise choice, the consumption of the hotel products and services. It also known that quality and friendly service have more impact on tourists’ perception on their experience than the categories of attributes and their motivation.

Human resource - people represent the central point in all aspects of activity in the hospitality industry, from creation and design to the development and delivery of services. A workforce united toward being better than the competition keeps an enterprise moving forward as a successful business in the tourism market. The hiring process and general operation method of human resources often play a large role in creating team of employees that help the hospitality enterprise stay competitive. Evaluating the practices of the human resource department in a hospitality enterprise helps determine ways to improve or change how competitive the business is in hospitality industry. Human resources are also the most important in the development of competitive advantage. A competitive advantage can be achieved with a qualified labour force in SMHE’s that encourages competition considering market changes, hotel products and service quality. Employees should work together as a team and thus ensure hospitality enterprise’s success and personal well-being.

Strategic SMHE network refers to the group of enterprises that combine efforts to achieve competitive advantages that would be very difficult to achieve individually. The purpose of strategic SMHE networks is to create a forum for direct and joint business activity among membership enterprises as well as indirect services such as lobbying. Strategic SMHE networks enable members to contribute inputs and also benefit outputs from one another. Enterprises in these networks share competence and resources so that each enterprise can reach goals through participation. Therefore, cooperation and relations are fundamental for value creation, i.e. competitiveness.

Internal communication is the first step in a successful competitiveness. It is the first frontier in the battle for the tourists. Internal communication is the key to get all the people together and then inspiring them to deliver the best and to encourage employees to be active. Today’s internal communication is focused on challenging and stimulating employees, managing change and gaining employees engagement and commitment and it required more to develop skills and ability. Understanding people in enterprises and know how to influence them in terms of knowledge, attitudes and behaviours is important for internal communication. For SMHE’s is very important to have very good internal communication. Internal communication can facilitate more active internal networks. Low hierarchy may enhance innovations and creativity that are essential when pursuing better service and therefore competitiveness. The whole participants must share information, cooperate with each other, demonstrate goodwill and trustworthiness. That behaviour improves the final product or service and results with increasing competitiveness.

Due to globalisation, small and medium hospitality enterprises face increasing pressure from competition from across the world. Growing business without understanding the competitors is too risky. **Adapt to competitors** have been defined as ability to build, reconfigure, and integrate external and internal competences and be able to respond to the rapidly changing business environment. Understanding what tourists want and reacting to their needs quicker than competitors can give a crucial advantage in a tough market. To be competitive, it must ensure the focus of business is on tourists. It must also understand the competitors' strengths and weaknesses. They must understand how competitors will react to tourists' needs and changes in the small and medium hospitality industry, so they can stay one-step ahead.

This research can be extended in the future and can serve as a starting point for further examination, which will deal with this issue. At the same time could be more focused on the research of financial data, examined more SMHE's, and compared new results with existing.

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THEORETICAL AND PRACTICAL CONCEPTS OF FINANCIAL EFFICIENCY IN FOOD PROCESSING SECTOR

ABSTRACT

The issue of efficiency of food processing enterprises is ever-present because of the continuous process of improving the quality standards of raw materials, complying with the procedures in food production, introduction of modern production technology and, above all, due to the large number of actors who are competing for customers in the domestic and foreign food market.
In the coming years Polish food processing sector will be facing significant challenges with the inevitable slow and gradual decrease in the cost advantages of raw materials' prices, as well as ready to eat products. Enterprises, as they constitute the majority in manufacturing business, in the long run will need to determine the efficiency, and hence competitiveness of Polish food processing sector.
The aim of the paper is to review the domestic and foreign literature in terms of classification and systematization of the concept, types and methods of measuring the efficiency of food processing entities in Poland. In the theoretical part of the study methods of descriptive, comparative, deductive and synthetic analysis are used. In the practical part of the study appropriately selected types of methods adequate for efficiency measurements are presented. The results of the analyses are based on the results of author's own calculations, as well specific findings from business practice both from inland and abroad.

Key words: *efficiency, effectivity, types of efficiency, food processing, Poland.*

1. Introduction

Food economy is one of the most important sectors of economy in every country because of its significance for production and employment, but above all, in connection with the supply of food to the society. Food economy is a collection of many different economic systems that influence organizational structure, methods of operation and financial performance of the production chain actors. Entities in the food processing sector operate in an environment with high exposure to the risk of business activity (Zielińska-Chmielewska, 2014).

Food processing enterprises strive for continuous and steady supply of raw materials to carry out production which would correspond to the changing needs and preferences of the consumer. The food market is an arena where various operators, which are different in character, intensity, strength and direction of impact, come into play. One of the main obstacles for food processing enterprises is the difficulty of obtaining stable and predictable income which would guarantee the continuation of production and remaining a going concern. What is characteristic and typical for agriculture and agro-food industry, is the fact that prices of raw materials fluctuate all-year round but retail prices of finished products remain relatively rigid. All of the above strongly affect the efficiency of the agribusiness operators in the market. In Polish food processing enterprises occurs concentration and integration between entities in the production chains, which has accelerated after Poland's accession to the European Union. Existing foreign publications in this field based on decades-old experiments confirm the need for conducting multi-step quantitative and qualitative research, in which systematic identification and evaluation of the financial efficiency of food processing enterprises can be made. On the basis of theoretical analysis and empirical results of previous studies, a hypothesis has been formulated. The efficiency of food processing enterprises results from specific characteristics of agricultural, economic, and political breakthroughs, affecting the level of profitability achieved by the examined enterprises.

The paper consists of 5 sections: *Introduction*, which defines the problem, subject matter and puts forward the hypothesis of the research, *Discussion on the classification of efficiency measurement in the economic studies* defines effectivity including modern context with crucial points referring to current knowledge based on the relevant results of recent research, presentation of *Methodology, empirical data and analysis* subjected to re-testing undertaken by the author, containing documentation background, *Results and discussion on the assessment of financial effectivity* focused on explaining its economic significance and insights, and *Conclusions* supplemented by verification of the hypothesis, assessment of research results, attention to problems which occurred and limitations of the research, guidelines for future research and assessment of institutional and systemic implications and solutions for current state of research. In the last section of the article *References* are listed.

Developing research on the effectiveness of food processing enterprises is extremely needed and constitutes a useful tool for policy makers on the food market in terms of obtaining information about the validity of its operations, the need to make the necessary modifications, eliminating the potential risk of operation, and thus minimizing risk of bankruptcy and liquidation.

2. Discussion on the classification of efficiency measurement in the economic studies

The article reviews domestic and foreign literature in order to present and make the necessary comparison of the financial effectivity concept, methods of measuring it, taking into account various advantages and disadvantages of its use. The study applies method of analysis and reasoning, and in particular the methods of descriptive, comparative, deductive and synthetic analysis. The results of the analyses are based on the results of authors own research and studies.

It has to be mentioned that economic effectivity is the primary valuation standard in economics (Wilkin, 1997, p. 25). But it should be distinguished from the English-language word effectiveness, often translated into Polish as *skuteczność*, meaning that a desired effect was eventually achieved, albeit by more or less effective method. Effective operation does not mean that it was at the same time efficient. For the process to be efficient and effective, goals must be properly planned, and the results have higher value than costs.

Table 1: *Comparison of economic processes according to the criterion of efficiency and effectiveness*

The economic process	Efficient	Inefficient
Effective	planned economic objectives of the process are achieved, and the final results are of higher value than expenditures set for the planned economic objectives	Planned economic objectives of the process are achieved, but the final results are of lower value than incurred expenditures
Ineffective	Planned goals of the economic process are achieved, but the value of final results is higher than incurred expenditures	planned economic objectives of the process are not attained, and the value of final results is lower than incurred expenditures

Source: own study based on: Szymańska, 2011, Effectiveness of farms specialized in the production of pork in Poland; Nowosielski, 2008, The efficiency and effectiveness of business processes.

In the systemic approach effectivity is the ability of a company to shape its environment, so that it becomes favorable, and the ability to overcome any obstacles. From this perspective, businesses are open systems that try to optimize the processes of acquisition and use of scarce resources from the environment. In this way, they are able to gain or maintain a competitive position. Therefore, effectivity is the ability to overcome the uncertainty surrounding the company. The essence of effectivity are incurred expenditures, transformation processes and final results. Evaluation of effectiveness involves identifying the ability to obtain resources, and then determining the extent of their use.

3. Methodology, empirical data and analysis

Based on literature, it can be concluded that the concept of the efficiency consists of efficiency and flexibility. Efficiency (also known as economic effectiveness) includes economic, technical and non-economic efficiency. The economic effectiveness can be viewed from two independent perspectives: financial and productivity-related. Non-economic efficiency includes organizational, operational and dynamic efficiency. Economic efficiency is the ratio of the obtained result to inputs. According to the principle of rational economy, it means that certain results should be achieved at the lowest expenditures (costs) possible, or the best possible result should be obtained with a given quantity of inputs (costs). The higher the efficiency is the greater result there is per unit of effort. Efficiency is applied both in assessing the effects which are quantitative nature (as a ratio of the effects to expenditures) and qualitative (as the ability to achieve the desired effect). To evaluate efficiency in terms of finances, one needs to apply profitability indicators, and when it comes to productivity, performance ratios. The financial indicators have been calculated as harmonics averages for each company in each year of analysis because the study has retained the normal distribution.

Table 2: *Presentation of used methods, techniques and research tools*

Research subject	Measure-ment method	Subject, territorial-temporal scope	Method of data acquisition	Tools and research techniques	Current application of methods
evaluation of financial efficiency	quantitative	database includes entities operating in the meat branch in Poland	self-constructed financial database for the purpose of research	indicator analysis methods, positioning methods, dynamic analysis	lack of the analyses in Poland and in the world

Source: own preparation.

It has to be mentioned that the examined large meat processing enterprises[1] in the amount of 150 operate in the production and processing of red meat and white meat (commonly referred as poultry), are not in bankruptcy or liquidation.

3.1. Financial efficiency – concept, the advantages and disadvantages of using financial ratios

Methods commonly used for assessing overall efficiency are based on three approaches: relying on ratio, parameters and non-parameters. Since this article presents analysis and evaluation of overall efficiency (financial) by means of ratios, technical efficiency by means of non-parametric DEA method and organizational efficiency measured by quantitative and qualitative methods, these methods should be explained better.

Literature on the subject describes methods of making, using and interpreting correctly more than 300 financial ratios (Siemińska, 2002). Evaluation of the financial efficiency refers both to partial efficiency, e.g.: current liquidity, and to overall performance, using synthetic ratios[2]. This group of methods for the assessment of efficiency involves establishing the relationship between values using financial ratios (Sierpińska, Niedbała, 2003).

In the last century methods of the ratio analysis were used by the banking sector and other financial institutions. Financial ratios were used to assess the financial situation of borrowers in terms on time debt servicing. Current ratio[3], which was considered to be particularly important, cannot provide a full assessment of the financial stability of a company, its results, or its opportunities and directions for development. Therefore, a wider range of ratios of different groups were gradually introduced. In the narrower sense financial ratios express in a

[1] Large meat processing enterprises were classified according to the volume of processing raw material more than 20 tons/day, see also: Dz. U., 2004, nr 173, poz. 1807.

[2] For example it can be so called Du Pont method.

[3] Current ratio is a ratio of current assets to current liabilities.

single number the result of the comparing two or more measurable economic phenomena[4] (Mielnik, Szambelańczyk, 2006). Based on the analysis of domestic and foreign literature in the field of typology[5] of financial ratios, the authors has divided ratios into five groups: a) liquidity ratios, b) debt ratios (leverage ratios, gearing ratios), c) profitability ratios (efficiency ratios), d) operating ratios, e) market value ratios.

The basis for financial activities of a company is to maximize profit, or increase enterprise value. This assumption has been recorded within Shareholder Value Approach[6]. The most commonly used efficiency measure for business activity are simple, every-day use, ratios. Therefore, to assess long-term operational effectiveness of a company we need to assess the increase of its value based on discounted free cash flow. Hence, the control of economic activity of a company requires the establishment and adoption of appropriate measures for assessing short- and a long-term effectiveness (Skoczylas, 1998). Following this conclusion, the author decided to include additional measures, taking into account cash flow (surplus cash) to evaluate the effectiveness of the activities of meat processing enterprises.

The basic principles of construction of all financial ratios include: desirability, relevance, proportionality and comparability. The first principle means that the ratio is a tool with which one can analyzes the specific area of economic reality. The principle of the adequacy postulates comparing only such values which are logically connected with each other which ensures that their interpretation is reasonable. The third rule is to provide such a method of expressing combined values, which correspond to their actual relationships. The fourth, principle of comparability, requires a guaranteed reference framework through which it is possible to relativize and objectify results obtained in the ratio analysis. The so-called comparative base ratios may be achieved in previous years, as the average for the sector, region or a country. (Becker, 2007).

Having in mind the above principles, the authors decided to conduct research using financial analysis taking into account all the rules of proper construction of ratios. Table 3 shows the advantages and disadvantages of financial measurement method.

[4] In English literature the term of financial ratio is interchangeably used with business ratio or management ratio. Nevertheless, the analyzed term of financial ratio is clear and understandable so the author decided to consider them as synonymous and in the article financial ratio is being used.

[5] In literature there are different typologies of groups of financial ratios. For example, Warren, Reeve, Fess distinguish only two groups: solvency ratios and profitability ratios. On the other hand, Smith and Skousen have identified four groups of financial ratios: liquidity ratios, profitability ratios, activity ratios and capital structure ratios.

[6] Shareholder Value Approach, which was invented by Rappaport, depends on such structuring and running business so that economic profit or the value of the assets of the shareholders are maximized. In Shareholder Value Approach economic value of investment is determined in such a way that the expected future free cash flows were discounted by the capital. Thus, free cash flow is the sum of operating and non-operating cash flows. Operating cash flow is the operating profit after taxation increased by depreciation and provisions for income tax and decreased by investments in fixed assets and net current assets (Rappaport, A., 1995; Skoczylas, W, 1998).

***Table 3**: Comparison of the advantages and disadvantages of financial methods*

Advantages	Disadvantages
The measurement simplicity and universal use in across industries, trades, sectors in the country and the world.	No indication of the causes of adverse events.
Broad comparability of results over time and space.	Stability, meaning that the presented data relate to the actual period, e.g.: end of the reporting year, which makes it difficult to take into account different aspects of the business enterprise.
Versatility of created ratios and ratio groups.	Difficult access to complete, regular time series.
No rules for construction of ratios.	Constructing of ratios is based on two, three, or up to four variables that are the basis for analysis. Therefore, the their power and significance is incomparably large compared to the value of single financial data.
Identification and evaluation of the most important areas of company's activity.	The source of distortion in ratios' comparability and / or limitations thereof are resulting from changes in methodology[7], finances (price)[8], changes in property[9] and organization[10] (Waśniewski, Skoczylas, 2004).
Getting information about the need to introduce changes in the various areas of activity.	The contents of financial statements, profit and loss accounts, as well as cash flow are resulting from accounting policies used by the company. Adequate accuracy and adequacy of data in the reports is not possible due to many circumstances and conditions, the interpretation of which gives the company a chance for favorable interpretation and classification.
Evaluation of the results enables the company to create an early warning system regarding risk of company bankruptcy.	Financial statements are based on historical cost which does not take into account the influence and effects of inflation.
	Net profit expressed in the report is not an absolute value but a relative category, depending on the adopted accounting procedures.
	The reports are a reflection of the accounting system adopted by the company, not necessarily presenting its "real" financial results.
	An integral part of such calculations in accounting are estimated useful life periods, e.g.: depreciation of fixed assets, and the adopted amounts of depreciation rates and provisioning. Estimation of the measurements are subjected to some error risk and marked by subjectivity.

Source: own preparation.

[7] Methodological interferences are resulting from a change of information content of the ratios, indicating that it represents a different scope than in the past phenomena. Methodological difficulties are caused by statutory changes which influence the way in which costs, production, or loss , etc. is registered and accounted for.
[8] Financial interferences are resulting from changes in the prices of finished goods, materials, depreciation rates, wages, interest, taxes, exchange rates, etc.
[9]Changes in property are resulting from changes in the produced products which are a result of the improvement of production process, design, technology, etc.
[10] Organizational interferences are resulting from changes in the operation of the analyzed entities, mergers, acquisitions, bankruptcy or liquidation.

The presented conditions require careful selection and examination of data, performing correct calculations, proper presentation of the results, but above all, the appropriate use of ratios. The comparison of financial ratios were based on several bases of comparison, which were data from previous periods (comparison over time), standard and averaged data called the calibration values (comparison with standard and mean values).

4. Results and discussion

Table 4 presents the relative book values of chosen efficiency ratios in the area of liquidity, debt, profitability, productivity and efficiency of 150 large meat enterprises located and operating in Poland in the years 2010-2015. Raw data for analysis came from Polish Monitors "B", a specialist financial database of EMIS Intelligence, supplemented with financial statements in the form of balance sheets, profit and loss accounts, cash flows of the surveyed entities from the National Court Registers in the years 2010-2015. 81 750 raw data from large meat enterprises were used in the research in order to calculate seventeen indicators.

Table 4: *Chosen efficiency ratios of large meat processing enterprises in Poland in the years 2010-2015*

Years	2010	2011	2012	2013	2014	2015	Branch mean
Liquidity ratios							
Current liquidity (CR)	1,10	1,12	1,17	1,27	1,24	1,14	1,17
Quick liquidity (QR)	0,82	0,85	0,87	0,95	0,91	0,82	0,87
Debt ratios							
Total debt (DM)	0,54	0,55	0,56	0,54	0,53	0,57	0,54
Debt to equity (DER)	1,31	1,32	1,33	1,17	1,11	1,32	1,26
Profitability ratios							
Operating profitability (ROP)	2,24	2,26	2,20	2,68	3,81	3,13	2,72
Return on capital (ROI)	14,06	14,56	14,86	16,36	20,13	17,45	16,23
Profitability on net sales (ROS)	1,54	1,57	1,56	2,15	3,28	2,63	2,12
Return on assets (ROA)	5,56	6,78	7,97	11,22	15,68	11,12	9,72
Return on equity (ROE)	12,10	13,89	14,70	17,35	13,12	10,56	13,62
Operating leverage (DOL)	41,12	42,21	45,43	37,35	26,26	31,98	27,39
Financial leverage (DFL)	|0,14|	|0,15|	|0,16|	|0,14|	|0,20|	|0,29|	|0,18|
Productivity ratios							
Productivity of assets (PA)	5,01	5,04	5,09	5,22	4,78	4,22	4,89
Productivity of fixed assets (PFA)	15,45	16,75	18,40	17,19	15,48	14,77	16,34
Productivity of current assets (PCA)	7,05	7,02	7,04	7,50	6,91	5,91	6,90
Effectivity ratios							
Inventory turnover rate (ITR)	21,01	22,05	23,68	16,22	15,26	7,65	17,64
Receivables collection period (RCP)	18,43	20,04	20,06	39,22	39,06	53,50	31,72
Liability repayment period (LRP)	24,76	26,77	25,91	50,03	80,80	b.d.	41,65

Source: own calculations based on Monitory Polskie „B", financial database of EMIS Intelligence, as well as financial statements in the form of balance sheets, profit and loss accounts and cash flows of large meat processing enterprises in the years 2010-2015.

In Poland, in the years 2010-2015, in the group of all large meat processing enterprises, the present value of the liquidity ratio (CR) was at a positive level of 1.10 (2010) to 1.27 (2013). This meant that the examined companies implemented a moderate strategy (1.17) in terms of

current liabilities settlement, characterized by minor difficulties in maintaining liquidity and timely settlement of liabilities towards counterparties.
In the years 2010-2015 in the group of domestic large meat processing enterprises the values of the quick liquidity ratio (QR) were at a positive level from 0.82 (2010 and 2015) to 0.95 (2013). This means that the examined enterprises implemented an aggressive strategy (0.87), which had a side effect of payment difficulties leading to limitations in obtaining possible loans, while on the other hand, it did not indicate a non-productive accumulation of cash (over-liquidity) or over-crediting customers.

In the years 2010-2015, in the group of domestic large meat processing enterprises, the values of the total debt ratio (DM) were slightly lower (0.54) than the value indicated by the industry average of this ratio (0.57), positive at the level from 0.53 (2014) to 0.57 (2015). This means that in large meat processing enterprises there was a slightly lower than recommended share of debt in the enterprise's activity, which increased the risk of bankruptcy in the situation of the economic downturn. In the analyzed period, large meat processing enterprises implemented an aggressive strategy in this respect.
In the years 2010-2015 in the group of large meat processing enterprises, the values of the debt to equity ratio (DER) were at a positive level of 1.11 (2014) to 1.33 (2012), which shows the degree of commitment to financing the activity of the enterprises in relation to the level of equity commitment. This is related to the possibility of covering the liabilities of these companies by the assets held. Average values of the debt to equity ratio of large meat processing enterprises were at a lower (1.26) than recommended by the branch (1.35), level. During this period the examined companies implemented moderate equity to debt policy.

In the years 2010-2015, the values of the operating profitability ratio (ROP) in the analyzed enterprises ranged from PLN 2.24/100 (2010) to PLN 3.81/100 (2014), which meant that they conducted moderate strategies in terms of value of operating profitability. In addition, they achieved not low, positive, returns on core operations.
In the years 2010-2015 in large meat processing enterprises, the total return on equity (ROI) oscillated at a high, diversified but positive level from 14.06 (2010) to 20.13 (2014). The highest positive returns on equity in the six-year analysis period, was generated in 2014 (20.13%). In the analyzed period, the examined companies conducted an aggressive policy of operations in the area of total return on capital.
In the years 2010-2015 in large meat processing enterprises, the net return on sales (ROI) slightly changed at a positive level from 1.54 (2010) to 3.28 (2014). The highest positive returns on net sales were observed in 2014 at 3.26%. The average annual net return on sales amounted to 3.28% and was lower than the average branch value (3.87%). It meant that the examined enterprises generated small positive returns on sales and implemented a moderate strategy in this respect.
In the years 2010-2015, the values of the return on assets (ROA) in large meat processing enterprises were at a high, positive level of 5.56% (2010) to 15.68% (2014). Moreover, the values of ROA were constantly growing, which indicated the potential for companies' development, as the average value amounted to 9.72% and was higher than the branch value (8.79%). It meant that the examined companies conducted an aggressive strategy in this area of activity.
In the years 2010-2015, the values of return on equity (ROE) were at a high, diversified positive level from 10.56% (2015) to 17.35% (2013). The large meat processing enterprises conducted an aggressive policy on the return on equity, which is characterized by a level of ROE (13.62%) similar to the branch average (14.85%). This meant that the activity of the examined enterprises were profitable and they implemented a moderate strategy in this respect.
Between 2010 and 2015, the operating leverage of large meat processing enterprises ranged from 26.26 (2014) to 45.43 (2012) in a highly diversified, positive level. The highest positive effects

of operating leverage and, at the same time, the highest effects of changes in sales revenues on operating profit of the examined companies were generated in 2012. In the years 2010-2015, the degree of financial leverage in large meat processing enterprises was negative, in absolute terms, from 0.14 in 2010 and 2013 to 0.29 in 2015. The lowest negative effects of financial leverage in this period and at the same time the lowest costs of debt servicing occurred in 2010 and 2013.

In the years 2010-2015 in large meat processing enterprises, the asset productivity ratio (PA) was in the range of 4.22 (2015) to 5.22 (2013), which reflects the possibility of generating a given level of sales revenues from engaging in economic processes a specific value of corporate assets. In the audited period, the values of this indicator was much higher (4.89) than the average level of this indicator in the branch (1.9). It meant small possibilities of generating sales revenues from the assets of the analyzed enterprises.
In large meat processing enterprises, the fixed asset productivity ratio (PFA), which reflects the possibility of generating sales revenues from engaging in business processes a specific value of the company's assets, ranged from 15.45 (2010) to 18.40 (2012). In this period, the average value of this indicator was much higher (16.34) than its average value for the branch (3), which indicated the small possibilities of generating revenues from sales from the assets of the examined enterprises.
In the years 2010-2015, in large meat processing enterprises, the current assets productivity ratio (PCA) ranged from 5.91 (2015) to 7.50 (2013), which meant that current assets may generate revenues from sales. In the case of the examined enterprises, working capital was almost three times higher (6.9) than an average value of this indicator (2.45) in the branch. It meant that the examined companies followed a conservative policy in this respect.

In the period 2010-2015 in large processing enterprises, the inventory turnover rate (ITR) ranged from 7.65 days (2015) to 23.68 days (2012), which means that average stocks were subjected to turnover after a longer period than 17.64 days. This meant the implementation of an aggressive strategy for the liquidation of stocks, as the examined companies liquidated stocks almost twice as fast as the average value (29.45 days) in the branch.
In the years 2010-2015 in large meat processing enterprises, the receivables collection period (RCP) ranged from 18.43 days (2010) to 53.50 days (2015). The receivables collection period was very diverse and long, which meant that the examined companies waited a long time to settle their receivables from their business partners.
In the analyzed period in large meat processing enterprises, the liability repayment period (LRP) ranged from 24.76 days (2010) to 80.80 days (2014). The average repayment period for the examined companies was 41.65 days, and was 12.20 days longer than the branch's average (29.45 days). It meant the implementation of a conservative strategy in this area.

To sum up the analyses of the financial efficiency of the examined companies, it can be concluded that:

- in the area of liquidity, the meat processing enterprises experienced minor difficulties in maintaining liquidity and timely payment of liabilities (CR), and were not exposed to unproductive accumulation of cash or excessive lending to customers, although they were more exposed to payment difficulties making it more difficult for them to obtain possible loans (QR),
- in the debt area, a slightly lower than recommended by the branch average, the share of debt in the operations of establishments, which, in the long run, may have increased the risk of bankruptcy in the economic downturn (DEM), and the ability to use the leverage effect to finance the operations with foreign capital (DER),

- in the area of profitability, it was noted that the large meat processing companies had low, positive returns on core operations (ROI), high positive returns on total capital (ROI), low, positive returns on net sales (ROS), high return on assets (ROA) and high return on equity (ROE), diversified leverage effects (DOL) and diversified financial effects (DFL),
- in the productivity area, there were a few opportunities to generate sales revenues from engaging current assets and fixed assets in their business (PA, PFA, PCA),
- in the area of efficiency, there were a few very rapid liquidation of inventories (ITR), close to the branch average, value of payment of receivables (RCP) and liability repayment period (LRP).

5. Conclusions

The analysis of domestic and foreign literature in the field of measuring the financial efficiency of agro-food processing enterprises lead to the conclusion that the concept of efficiency is diverse and multi-dimensional and can be classified in various ways. The difficulties concerning the efficiency measurements have arisen from the characteristics and properties of the different approaches and methods of its assessment. According to the conducted research, it can be said that the research hypothesis has been positively verified. Additionally, processing enterprises on the agro-food sector create specific forms of cooperation and integration which influence their business results. It has been proven that financial liquidity and profitability are interdependent and affect the financial situation of an enterprise. Therefore, the obtained results will be used in further analyzes of factors affecting the level of profitability using existing and modified methods of the efficiency measurement. An attempt to develop a new concept for measuring and assessing the efficiency of food processing entities may have an influence on actions, entities affected by those actions, and may lead to the redefinition of the state's role in the stabilization of domestic food processing sector.

The results of the article can be considered as a new contribution to the development of science, as it intends to identify, clarify and assess the financial efficiency of chosen group of processing enterprises in agro-food sector. In addition, the results can be helpful in creating a strategy for companies, development institutions and creating economic policy programs in agriculture, helping adjust the activities of related entities in the agro-food market, as well as determine the role of the state in terms of stabilization of the domestic meat market and to gain the significant competitive advantages.

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10 Non-Profit Sector and Economic Development

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COUNTING THE COSTS AND THE BENEFITS OF (NO) SMOKING IN CROATIA

ABSTRACT

Smoking has become one of the major issues of public health in Croatia, so the research goal of this paper is to examine the evidence on the economic costs and benefits of smoking. The prevalence of smoking in Croatia measured by the number of smokers has been declining for the past decades but tobacco products are still consumed by more than a third of the Croatian population. The more restrictive tobacco regulations significantly contributed to these trends, as well as the changes in consumer habits, rise of tobacco prices, and better health education. Tobacco consumption causes large health and non-health related costs to the affected individuals as well as to the society in general. To conduct an analysis, desk research methodology is applied, collecting data from the relevant scientific articles, international health organizations' reports, and government bodies' publications issued from 2000 to nowadays and available on the internet. The evidence-based findings of direct and indirect costs of smoking and the benefits of smoking cessation in Croatia are summarized and discussed. Obtained results indicate the lack of country-specific research on the economic aspects of tobacco use in low- and middle-income countries in general, as well as in Croatia. Based on findings, authors recommend increased tobacco taxation policy instrument which is widely recognized as a very effective tool for positive economic consequences of (no) smoking on both households and government budget.

Key words: *smoking prevalence, costs of smoking, economic benefits of smoking, tobacco taxation, Croatia*

1. Introduction

The prevalence of smoking in Croatia measured by the number of smokers has been declining for the past decades but tobacco products are still consumed by more than a third of the Croatian population. Tobacco consumption causes large health and non-health related costs to the affected individuals as well as to the society in general.

According to widely held belief, smoking cessation cuts expenditures for tobacco products so household disposable income increase. The governmental disposable budget also increases because of the reduction of health care costs related to the treatment of the harmful effects of smoking on human health. Contrary to common belief, some authors state that smoking hardly influences health care costs because the higher medical care costs of smokers during their lifetime are offset by their reduced life expectancy (Leu and Schaub, 1984, 111). Ekpu and Brown support this claim, adding that smoking also yields cost savings in pension payments from the premature death of smokers (Ekpu and Brown, 2015, 1). Finally, the growth of government budget funds will be evident if excises on tobacco products are proved to be an effective instrument for reducing the prevalence of smoking.

This paper reviews the most relevant studies on the economics of tobacco smoking and cessation in Croatia aiming to answer the research question: What are the economic costs and benefits of (no) smoking? Trend analyses of several indicators like smoking prevalence, value sales of tobacco products by categories, tobacco revenues from value-added tax (VAT) and excise duties to the national budget, etc. are done. Also, the economic costs and benefits of smoking are discussed. Based on findings, some recommendations are derived in the concluding part.

2. Regulatory framework of tobacco and related products

In order to understand the context of the issue researched, institutional settings and policy framework for tobacco control are briefly described.

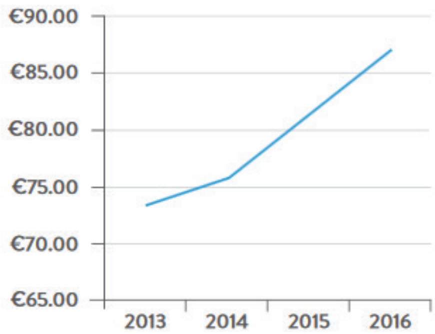
Since joining of Croatia to the EU in 2013, anti-smoking policies have been strengthened in line with EU directives. There are several laws and regulations that have provisions on different aspects of tobacco and related products: Tobacco Act (Official Gazette of the Republic of Croatia, No. 69/1999 and 14/2014), Excise Duty Act (Official Gazette of the Republic of Croatia, No. 22/2013 to 106/2018), Ordinance on Excise Duties (Official Gazette of the Republic of Croatia, No. 1/2017, 14/2017 and 1/2019) and Act on Restrictions on the Use of Tobacco and Related Products (Official Gazette of the Republic of Croatia, No. 45/2017).

Excise duties on tobacco products in Croatia have been in place since 1994 and to nowadays the most frequent changes are related to the rates increase. In explanation, to become a member of the EU Croatia was supposed to meet the Copenhagen criteria and implement EU rules and regulations in all areas, which caused frequent changes to laws and regulations on tobacco and related products in order to harmonize the Croatian regulatory framework with EU rules. This applies in particular to the minimum rates and amounts of excise duty on tobacco and related products. In July 2013, Excise Duty Act (Official Gazette of the Republic of Croatia, No. 22/2013, 32/2013 and 81/2013) defined minimum excise on tobacco products of at least 57 percent of the average weighted retail price of cigarettes released for consumption, or 64 EUR on 1000 cigarettes. From January 1, 2014, the excise tax rate was 77 EUR per 1000 cigarettes - regardless of the average weighted retail prices. The transitional period was allowed until December 31, 2017, after which the excise tax on cigarettes amounted 90 EUR per 1000 pieces or 60 percent of the average weighted retail price (Excise Duty Act, Official Gazette of the Republic of Croatia, No. 100/2015, 120/2015 and 115/2016).

The latest Excise Duty Act (Official Gazette of the Republic of Croatia, No. 106/2018) that came into force on December 3, 2018, and Ordinance on Excise Duties (Official Gazette of the Republic of Croatia, No. 1/2019) valid from January 1, 2019, prescribe minimal excise duty of 100 EUR per 1000 pieces of cigarettes, of which *ad valorem* excise is 34 percent of the average weighted retail price of cigarettes and specific excise is 44 EUR per 1000 cigarettes. However, despite the total tax burden of more than 80 percent, the retail prices of cigarettes in Croatia are still among the lowest in the EU.

The movements of excise duty amount per 1000 cigarettes in 2013 to 2016 period as presented in European Commission's study on the structure and rates of excise duty applied to manufactured tobacco (European Commission, 2017, 118) are shown in Figure 1.

Figure 1: *Excise duty per 1000 cigarettes in Croatia in 2013-2016 period*



Source: European Commission (2017)

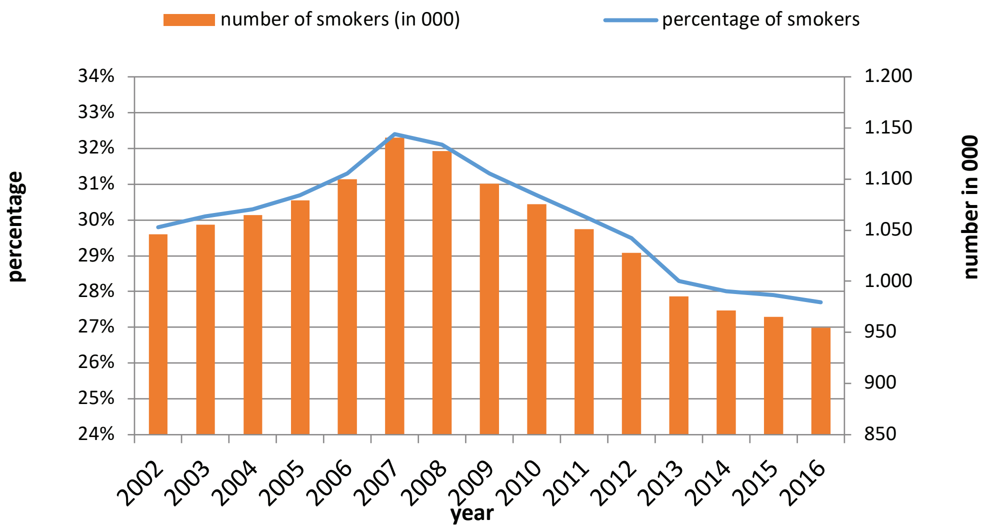
Despite the recommendations of the Council of Europe, Croatia has still not adopted a comprehensive multi-sectoral tobacco control strategy. Croatia is a party to the World Health Organization Framework Convention on Tobacco Control - WHO FCTC (World Health Organization, 2003) and therefore has effective national legislation on tobacco control since the signature of WHO FCTC on June 2, 2004 and its ratification on July 14, 2008. Thus, Croatia should develop and implement programs that integrate the existing high-quality empirical evidence on the effectiveness of various behavioural, pharmacological, and social interventions for smoking prevention and cessation. New anti-smoking legislation has been in effect since May 2017 (Act on Restrictions on the Use of Tobacco and Related Products, Official Gazette of the Republic of Croatia, No. 45/2017), extending smoke-free places and health warnings on cigarette packaging. However, there is scope to step up media campaigns against tobacco use (World Health Organization, 2017a, 144).

3. Smoking prevalence

Smoking still represents a serious public health issue in Croatia among both adults and children, with inadequate progress made over the last few years. According to Special Eurobarometer 458 Report (European Commission, 2017, 4), the survey on attitudes of Europeans towards tobacco and electronic cigarettes showed that more than one third or 35 percent of the adult population in Croatia are smokers. Smoking trends can also be tracked through the absolute number of tobacco smokers, but changes in the number of smokers are not aligned with changes in smokers-to-population ratio because of depopulation in Croatia. However, the number of 1,046 thousand smokers that stands for 29.8 percent of smokers in the adult population in 2002 was higher than 1 million and the percentage was increasing during the years till 2012. The total number of smokers has been reduced by 100,000 in the observed period of fifteen years i.e. from 2002 to 2016, especially since 2013 when the number of smokers is constantly decreasing. Legislation contributed to these trends with policy measures that have been implemented and strengthening of tobacco controls (e.g. tobacco restrictions, smoking ban, etc.), especially after the Croatian access to the EU in 2013. WHO report (World Health Organization, 2017a, 244) also highlights year 2012 as the year of the highest level of achievement in tobacco control measures.

The smoking prevalence trends in the period from 2002 to 2016 in Croatia measured by the absolute number of smokers and prevalence ratio are presented in Figure 2.

Figure 2: *Smoking prevalence in Croatia in 2002-2016 period*



Source: Euromonitor International, 2017

Since smoking prevalence is slowly decreasing, the volume of sales also shows a declining trend (Aljinović Barać et al., 2018, 68). Euromonitor International data (Euromonitor International, 2017) on the value of the retail sale of tobacco products by category in Croatia in 2002-2016 period documents that cigarettes are the main tobacco product used in Croatia, accounting for more than 95 percent of overall tobacco products volume sales in all years. Rising trends in cigarettes value sales with descending trends in volume sales at the same time can be explained with increasing cigarettes prices as a result of high taxation and excise duties rates. In the context of a decline in the number of cigarettes sold, this growth can be assigned to the group of smokers who substituted cigarettes with smoking tobacco as roll-your-own (RYO) due to cost purposes.

The national survey conducted by Croatian Institute of Public Health (V. Dečković-Vukres et al., 2016, 12), has documented that 27.8 percent of all respondents smoke manufactured cigarettes, while RYO cigarettes are smoked by 2.7 percent of all respondents only. Cigars and cigarillos have the smallest but stable value of sales, as they have a different target consumer group and are not popular in Croatian national smoking pattern.

More detailed information on the value of the retail sale of tobacco products by category in Croatia in the 2002-2016 period are presented in Table 1.

Table: *Value of retail sale (000 EUR) of tobacco products by category in Croatia in 2002-2016 period*

YEAR	2002	2003	2004	2005	2006	2007	2008	2009
Cigarettes	555,285.60	551,819.40	606,169.40	648,405.70	733,332.80	796,536.50	798,761.50	833,395.00
Cigars & Cigarillos	6,503.40	7,708.10	7,349.90	8,020.20	8,492.00	8,488.20	8,441.40	8,242.20
Smoking tobacco	11,570.90	11,245.00	11,777.60	10,317.40	11,137.20	11,233.80	10,103.20	10,401.70
YEAR	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
Cigarettes	889,768.40	911,264.70	926,639.30	935,233.30	833,324.30	821,824.90	855,161.10	
Cigars & Cigarillos	7,654.00	8,428.60	9,154.10	10,902.00	11,401.40	11,790.90	12,142.00	
Smoking tobacco	11,162.60	11,561.60	15,593.00	18,348.30	18,838.70	18,195.30	17,611.90	

Source: Euromonitor International (2017) from official statistics, trade associations, trade press, company research, store checks, trade interviews, trade source

Euromonitor International (Euromonitor International, 2017, 12) predicts that until 2021 compound annual growth rate (CAGR) of tobacco products will be 2 percent or a total of 10.2 percent in 2016/21 period. However, these rates significantly differ with regard to a single tobacco product category. The greatest growth (68.9 CAGR and 1,234 percent in total) is forecasted for vapour products, probably because of the group of smokers who will switch from cigarettes to e-cigarettes. Simultaneously, cigarettes and smoking tobacco are expected to have negative growth rates.

4. Economic costs and benefits of smoking and no smoking

To conduct an analysis of the economic cost and benefits of smoking and smoking cessation, desk research methodology is applied. Data from the relevant scientific articles, international health organizations' reports, and government bodies' publications issued from 2000 to nowadays in Croatia and available on the internet are collected and analysed so the evidence-based findings are summarized and discussed in following paragraphs.

4.1. Economic costs

One of the most comprehensive recent desk research on the economic impact of smoking and reducing smoking prevalence has been conducted on 151 cost-effectiveness studies from medical journals, health reports, and white papers published between 1992 and 2014, including eight relevant studies published before 1992. The authors (Ekpu and Brown, 2015,

1) found that most of the papers reviewed reported outcomes on smoking prevalence, as well as the direct and indirect costs of smoking and the costs and benefits of smoking cessation interventions. The same authors (Ekpu and Brown, 2015, 2) classified the costs of smoking into three main groups: direct costs (i.e. health-related costs - including the cost of illness due to smoking on affected patients and the healthcare expenditure involved in the treatment of smoking-related illnesses), indirect costs (i.e. non-health related costs, e.g. costs of second-hand smoking, costs to employers in the form of loss of productivity and absenteeism of smokers due to smoking-related illnesses) and intangible costs (hardly measurable costs like loss of life, and the burden of pain and suffering caused by smoking-induced illness). According to Lightwood et al., direct and indirect costs of smoking represent a significant loss for the whole economy, reaching between 2.1 and 3.4 percent of gross domestic product (GDP) in Australia, 1.3 to 2.2 percent of GDP in Canada, and approximately 1.5 percent of GDP in the United States (Lightwood et al., 2000, 96). Ekpu and Brown also reviewed evidence about economic costs of smoking from other countries around the world, especially from China, as it is the largest producer and consumer of tobacco products, as well as from Australia, Hong Kong, Korea, Thailand, Taiwan, Sweden, France, Belgium, Denmark, India, Turkey, Netherlands, and Canada (Ekpu and Brown, 2015, 4).

Due to differences in healthcare systems and patterns of smoking-related diseases, the economic burden of tobacco use studies must be tailored to country-specific situations. However, World Health Organization (World Health Organization, 2017b, 9) records a lack of country-specific research on the economic costs of tobacco use in low- and middle-income countries and according to our best knowledge, the studies investigating economic consequences of tobacco consumption in Croatia are pretty scarce.

Tadić in his paper notes that the data on health care related costs of smoking and data on the percentage of illness caused by smoking as well as on the costs for treatment of those diseases are not available in Croatia (Tadić, 2000, 117). Lovrinčević et al. analysed only economic revenues in sin industry (including tobacco production) but stated that economic costs are not analysed so they recommend it for future researches (Lovrinčević et al., 2015, 191). The research on attitudes and opinions of adults and high school student about smoking as a social problem in the context of Croatian society found that "smoking is great public-health and social problem in Croatia, taking into account the amount of money that is spent on treatment of illness directly caused by smoking" but did not provide any data on health care costs (Duvnjak and Lenkić, 2018, 236).

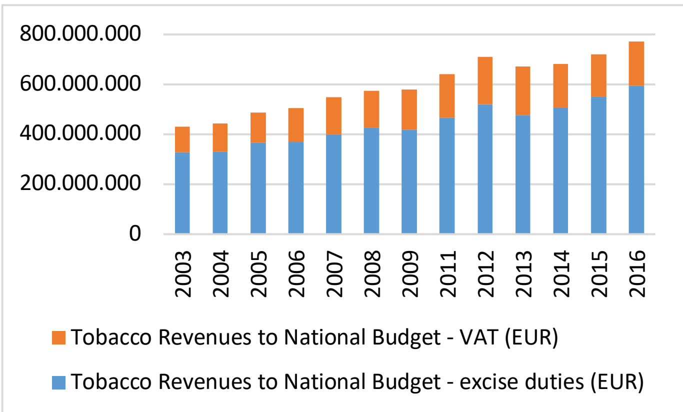
According to the estimation of the Croatian Institute of Public Health, about 14,000 people or every fifth dead person die from diseases caused by smoking each year in Croatia. Furthermore, 95 percent of lung cancer deaths are smokers, although the use of tobacco products is a leading modifiable risk factor for non-communicable diseases (Džono-Boban, 2019). Croatia has a high prevalence of many behavioural risk factors, one of which is tobacco consumption. Based on Global Health Data Exchange estimations, 36 percent of the overall burden of disease in Croatia in 2015, measured in terms of Disability-Adjusted Life Year (DALY), can be attributed to behavioural risk factors, including notably smoking, but also alcohol use, dietary risks and physical inactivity contributing to high body mass index (Institute for Health Metrics and Evaluation, 2016). Comparing the rankings of risk factors that drive the most death and disability combined in years 2007 and 2017, tobacco stays at first place of top ten risks (Institute for Health Metrics and Evaluation, 2019). Preventable mortality is also high, particularly for smoking-related causes of death – for example, lung cancer is the fourth most common cause of death in Croatia, and mortality from smoking-related causes of death was 315 per 100,000 of population in 2014, far exceeding the EU average of 176 (OECD/European Observatory on Health Systems and Policies, 2017, 9). Thus, Croatian Health Insurance Fund estimate annual health care costs of treating the diseases caused by smoking to about 200 million EUR (Croatian Health Insurance Fund, 2016).

4.2. Economic benefits

Notwithstanding the significant measurable and non-measurable costs of smoking, tobacco products consumption produces some potential economic benefits. Although their amount may not be negligible, the revenues of household members employed in tobacco production and tobacco selling industries are not discussed in this paper, as the authors advocate for reducing tobacco consumption and put the focus on the governmental budget revenues. Tobacco taxes, both in the form of excise duties or value added tax are an important source of national budget revenues. Ekpu and Brown noticed that price-based policy measures such as an increase in tobacco taxes are unarguably the most effective means of reducing the consumption of tobacco, because 10 percent of tax-induced cigarette price increase reduces smoking prevalence between 4 percent and 8 percent. Moreover, net public benefits from tobacco tax remain positive when total tax rates are between 42.9 percent and 91.1 percent (Ekpu and Brown, 2015, 1).

Tobacco tax revenues from value added tax (VAT) and excise duties in Croatia from 2003 to 2016 are presented in Figure 3.

Figure 3: *Tobacco tax revenues from VAT and excise duties in Croatia in 2003-2016 period*



Source: Ministry of Finance of Republic of Croatia (2018)

Total tax revenues from tobacco taxation have an increasing trend with a peak in 2012, but the proportion of VAT revenues and excise duties revenues changed over time due to legislative changes. VAT in Croatia was introduced in 1998 and since 2012 the standard VAT rate is 25%. In the period from 1998 to 2009 the standard VAT rate was 22%, and in 2009-2012 period it was 23%. These changes of VAT rate correspond with the growth of VAT tobacco tax revenues which peaks in 2013 (192.8 million EUR). Although VAT tobacco tax revenues decreased after 2013, the total amount of tobacco revenues is increasing because of the new regulation of Excise Duty Act (Official Gazette of the Republic of Croatia, No. 22/2013 to 115/2016). Thus, it can be noticed that excise duty tax on tobacco products became a more efficient fiscal tool in generating governmental revenues than VAT since Croatia joined the EU in 2013. Revenue from excise duty tax on tobacco products was 447.8 million EUR in

2013 while in 2016 Croatian government collected 594.3 million EUR or 32.7% more. However, some collection costs can be expected from the regular administration of the new tax, e.g. the maintenance of the excise system costs, tax-payer services costs, etc. (European Commission, 2017). Budget revenue from import duties on tobacco products are slightly decreasing because of market liberalization, both in the European Union and worldwide.

During the observed period, the share of tobacco tax revenues in national budget varied from the lowest 3.77% in 2008 to 5.29% in 2015. Last recorded percentage in 2016 remains at a similar level of 5.26% (Group of authors, 2018, 59). A 2013 survey of Šimović et al. on 304 expert opinions from academe, the government sector and the private sector about tax policy in Croatia found the high degree of consensus for the most statements in the field of excise taxes. Although they think that Croatia has enough excise duties (93% agree with the claim), most of the respondents (85%) think that excise taxes on tobacco and tobacco products should be increased (Šimović et al., 2014, 428).

5. Concluding remarks

Based on findings previously described, authors may recommend the increase of tobacco taxes in Croatia, which is widely recognized as a very effective tool for positive economic consequences of (no) smoking on both households and government budget. The effects of tobacco taxes increase are two folded: first, tobacco consumption will be reduced and as the consequence, a contribution of tobacco-related costs to the national budget will be dropped. Second, the contribution of tobacco revenues in national budget will be increased at the same time.

The results of the Croatian national research (Group of authors, 2018, 4) point out that demand for tobacco products in Croatia is price-sensitive and 10 percent increase in cigarette price would lead to a 10.7 percent decrease in cigarette consumption. For example, if specific excise increases by 10 percent, this would lead to 0.51 percent decrease in cigarette consumption but total tax revenues would increase by 3.2 percent (total excise revenues growth of 3.50 percent and VAT revenues growth of 2.34 percent). According to the theoretical background discussed above, in such a way direct costs of smoking, especially health-related costs including the cost of illness due to smoking on affected patients and the healthcare expenditure involved in the treatment of smoking-related illnesses will decrease. On the other hand, an increase in budget revenue will bring financial benefits and more important health benefits to households in Croatia.

Article 6 of WHO FCTC (World Health Organization, 2003) and its guidelines for implementation recommend to countries to dedicate tobacco taxation revenues for funding of tobacco control and other health promotion activities. In that context, to boost the benefits and shrink the cost of smoking and smoking cessation in Croatia, authors suggest governmental bodies to make target allocation of collected funds to the healthcare and education systems, primarily for the smoking prevention actions (e.g. mass media anti-smoking campaigns or inclusion of smoking curricula in schools and universities, etc.).

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VOLUNTEERING IN THE DOMAIN OF ONE'S LEISURE TIME

ABSTRACT

Volunteering as an activity enables the development of an individual's competency and is also an area of interest both of society as a whole, as well as the academic community. The goal of this study is to determine the relationship between volunteering and the domain of leisure time within the student population. Undergraduate and graduate students of the University of Zagreb were included in the study, along with the students of integrated undergraduate and graduate studies, aged 20,86±3,81, (N=161). For the purpose of this research, a questionnaire about volunteering was used, along with inquiring about the general sense of happiness and satisfaction with one's own free time. According to the results, a third of the questioned students has had an experience with volunteering. Students put most value in the altruistic motives for volunteering, regardless of their experience in the said field. Students' satisfaction with their leisure time and their sense of happiness, regardless of whether they take part in volunteering activities or not, spans from 60% to 80% which is the scaling maximum, while the students that have volunteered for church/religious organisation in the past 12 months were statistically happier in life and were significantly more satisfied with their free time than the students who took no part in volunteering. The results of this study provide an opportunity for developing more guidelines in promoting volunteering activities within the young population and the society as a whole.

Key words: *volunteering, students, happiness, leisure time, free time*

1. Introduction

Volunteering is usually defined as an activity that is freely pursued, that is free and that is focused towards the welfare of others or towards some specific goal. Such a definition has been especially promoted in 2010 which was declared a year of volunteering work by the United Nations, along with three crucial criteria point for volunteering being highlighted: it is not undertaken for financial gain, it is pursued freely and benefits a third party, as well as the person volunteering themselves (Zrinščak et al, 2012, 27). In 2007, Croatia has passed a Law About Volunteering in accordance with which volunteering is a “voluntary investment of one’s own leisure time, efforts, knowledge and skills with which they perform services or activities for the welfare of others or for general benefit, and are being pursued by people in accordance with this Law, without the existing conditions for financial reimbursement or requiring other material benefits for their volunteering” (Zakon o volonterstvu, 2007, 1). By encouraging students to undertake volunteering activities, not only is one’s own devotion to the community being promoted, but also the civil mission of the University. Students are beginning to take more part in volunteering motivated by the stance that such an experience on their resume will help them with their future education, employment, and that the volunteering itself will enable them in acquiring a wide range of skills. According to the reviewed literature, students volunteer primarily because of altruistic motivations, driven by their personal beliefs, therefore by their positive opinions on volunteering and its values, but also due to the desire to develop their own competency, to widen their social circle and create a cultural capital (Zrinščak et al, 2012, 27, Kotlar et al, 2016, 105, Kotlar, Ćulum, 2014, 30, Pološki Vokić et al, 2013, 225). Authors Ellison and Kerr (2014, 15) conclude that the majority of students decide on volunteering due to the general benefit it may provide for them, not only because of altruism itself or solely to develop one’s own competency. Considering that volunteering is a longstanding prosocial behaviour, it is assumed that the foundation for such an activity must also lie in the structure of personalities. When it comes to comparing personality profiles of volunteers and non-volunteers, studies show that the difference in results are mostly in the areas of comfort and extraversion (Juzbašić, Vukasović Hlupić, 2015, 281). The combination of those two strong personality traits is sometimes referred to as a prosocial personality due to its focus on relationships with other people. The results of a research conducted by authors Juzbašić, Vukasović Hlupić (2015, 279) show that the volunteers in Croatia are mostly people that are pleasant, hard-working, altruistic, reliable and moral, as well as people with a wide area of artistic interests. According to a hierarchy and a regression analysis, it has been concluded that the traits of a five-factor personality model independently explain 17% of variations of sheltering motives, 12% of value motives, 18% of career motives, 10% of understanding motives and 12% of respect motives, while they do not provide a foresight into the social motives.

Leisure time is a significant phenomenon of the modern society, one of the central problems of today and a factor that must have an important role in the further development of modern civilisation and culture. It is an universal occurrence of modern society, its meaningful pursuing is a pedagogical category and a major point in educational work (Previšić, 2000, 410). We interpret leisure time as something that is within every person’s life, it exists every day and in every community, but is vastly different in regards to age, sex, occupation, place of residence, development of the community, level of interest, goals of social order and its opportunities. People can use such a time for relaxation, fun, acquiring new experiences and cultural enrichment. For young people, their free time usually presents a wide range of opportunities for developing and testing their abilities; within that they discover their interests and affiliations, they get to know themselves and others, they freely develop and nurture relationships with other people, themselves, the general society, in a way that they get acquainted with and evolve their needs, the conditions in which they live in, especially in regards to affirming and strengthening the leisure time itself (Valjan Vukić, 2013, 59). The culture of leisure time depends on qualitative values of its contents in itself. The culture determines the level at which groups develop obvious life patterns and give an expressive form to the whole social and material context (Mlinarević, Gajger, 2008, 44). In the context of young people's free time, the amount of challenges and the structure of what their leisure activities include are being especially stressed. Namely, activities that require a certain degree of effort, challenge and concentration are considered optimal in the sense of mastering developing tasks and building personal resources (Brkljačić et al, 2011, 357).

In today's time, young people, especially the student population, are becoming greater consumerists of the capitalist industry's advertising where they are passive participants and often simply observers, as they cease to be the creators of their own free time. The goal of this study is to determine the outspread of volunteering amongst the students who took part in the research in the areas of significant factors (experience, basic forms, motives and benefits of volunteering) and to compare it to the way they spend their leisure time.

2. Design, data and methods

2.1. Sample description

Undergraduate and graduate students from first to fifth year of college of University of Zagreb were included in the study, along with the students of integrated undergraduate and graduate studies, (N=161), aged 20,86±3,81 (Mean=20.857, SD=3.8126). The greatest percentage of the students who took part in the research are majoring in natural sciences (54%), humanities (26.1%), social sciences and economy (15.6%) and technical sciences (4.3%). There are more female representatives (82.6%) compared to the male population (17.4%) in the gross sample of the study participants.

2.2. Measuring instrument

For the purpose of this study, certain points of the Zrinščak and associates questionnaire on volunteering that has been validated in Croatian and whose metric characteristic have been affirmed in previous research, were used (Zrinščak et al, 2012, 32). The questionnaire includes questions about volunteering separated into three domains: volunteering experience (areas and forms, frequency, stimuli for volunteering), motives for volunteering and benefits gained from it. The questionnaire inquired into values and has acquired some basic socio-demographic information (sex, age, income). The sense of happiness and satisfaction with one's own leisure time were tested according to separate points of the Brkljačić and associates questionnaire (Brkljačić et al, 2011, 359). The role of the participants was to grade how generally (un)happy and satisfied they are with their free time on a scale with 10 levels (1-10). The majority had indicated a positive state on the scale (greater happiness, satisfaction or control). The scale of happiness is a version of Fordyce's scale of happiness. The enquired variable of Leisure time estimated how many free hours a week do students have (including the weekends and excluding the time they spend sleeping). The representatives have also stated how much of that time do they spend alone (with no interaction with other people), as well as the place and the sort of activity they undertake and/or they would like to undertake in their free time. Valid metric characteristics are the reason these particular questionnaires were included in this study (Brkljačić et al, 2011, 359).

2.3. Data collection and analysis

The theoretical part as a foundational method was applied by descriptive work, along with reviewing relevant literature and research in the domain of volunteering and free time within the student population. The study took place from August 2018 to January 2019. The data was acquired via the snow ball method, hence the students who agreed to take part in the study were kindly asked to pass on the questionnaire to their university colleagues via an online questionnaire. All the participants were presented with the reasons and procedures of the research. The whole process was anonymous which ensures the secrecy of representatives' identities and every participant had an option to stop taking part in the study at any given moment. The results have been processed using the SPSS 17.0 statistical package. The descriptive statistic of each and every variable has been calculated. The descriptive statistic for every variable is shown in table view. The differences between different groups and differences within one particular group have been analysed via s t-test.

3. Results

According to the provided results, the majority of students have no experience in volunteering. The majority of the students who took part in the study have volunteered in religious organisations and have in an informal and personal way brought benefit to their community. Even though only one third of the students included in this research has had any volunteering experience, a greater percentage (46.6%) states that they had never volunteered what so ever, according to the results shown in **Table 1**.

Table 1: *Participation of students in the volunteering domain*

How often do you volunteer?			
	Frequency	**Percent**	**Cumulative Percent**
weekly	15	9.3	100.0
monthly	8	5.0	5.0
occasionally	63	39.1	90.7
never	75	46.6	51.6
Total	161	100.0	

The distribution of particular responses to questions about motives and stances towards volunteering across the gross sample has shown that students put most value in the altruistic motives for volunteering regardless of whether they had had any volunteering experience themselves, the results of which are shown in **Table 2**.

Table 2a: *Motives and opinions towards volunteering across the gross sample (frequency, percent)*

Volunteering helps me feel better.			
	Frequency	**Percent**	**Cumulative %**
1 – I disagree completely	5	3.1	3.1
2 – I partially agree	1	.6	3.7
3 – I don't agree or disagree	14	8.7	12.4
4 – I partially agree	29	18.0	30.4
5 – I completely agree	112	69.6	100.0
Volunteering is a good way to escape one's own problems.			
	Frequency	**Percent**	**Cumulative %**
1 – I disagree completely	23	14.3	14.3
2 – I partially agree	13	8.1	22.4
3 – I don't agree or disagree	36	22.4	44.7
4 – I partially agree	34	21.1	65.8
5 – I completely agree	55	34.2	100.0
It is important to me to help others in need.			
	Frequency	**Percent**	**Cumulative %**
1 – I disagree completely	3	1.9	1.9
2 – I partially agree	1	.6	2.5
3 – I don't agree or disagree	21	13.0	15.5
4 – I partially agree	62	38.5	54.0
5 – I completely agree	74	46.0	100.0
Total	161	100.0	100.0

Table 2b: *Motives and opinions towards volunteering across the gross sample (mean , mode)*

	MEAN ± SD	MODE
Volunteering helps me feel better.	4.50 ± 0.92	5
Volunteering is a good way to escape one's own problems.	3.52 ± 1.40	5
It is important to me to help others in need.	4.67 ± 0.67	5

If the whole sample is being viewed regardless of their volunteering activity, the satisfaction of students with their leisure time and sense of happiness spans from 60% to 80% which is the scale maximum (**Table 3 and 4**).

Table 3: *Self-assessment of happiness of the gross sample*

MEAN ± SD				
		happiness 1 (0-10)	**happiness 2 (0-10)**	**happiness 3 (0-10)**
N	Valid	161	161	161
	Missing	0	0	0
Mean		7.342	5.969	6.783
Std. Error of Mean		.1611	.1851	.1895

(**0**–extremely unhappy, **10**–extremely happy)

Table 4: Satisfaction of students with their leisure time

	Frequency	Percent	Cumulative %
.0	1	.6	.6
1.0	4	2.5	3.1
2.0	7	4.3	7.5
3.0	18	11.2	18.6
4.0	16	9.9	28.6
5.0	21	13.0	41.6
6.0	17	10.6	52.2
7.0	27	16.8	68.9
8.0	29	18.0	87.0
9.0	13	8.1	95.0
10.0	8	5.0	100.0
Total	161	100.0	
	(**0**–extremely unhappy, **10**–extremely happy)		

Table 5: The relationship between volunteering and self-assessment of happiness

In the past 12 months you have volunteered for:		**Generally speaking, how happy are you in your life?**			
		N	**Mean**	**SD**	**p**
Profitable/business originations	**No**	151	7,28	2,07	0,171
	Yes	10	8,20	1,32	
Church/religious organizations	**No**	124	7,05	2,05	**0,001***
	Yes	37	8,32	1,72	
Non-profitable organisations	**No**	114	7,30	2,03	0,676
	Yes	47	7,45	2,09	
Goverment organisation/public establishments	**No**	150	7,32	2,07	0,622
	Yes	11	7,64	1,63	
International organisations	**No**	153	7,32	2,08	0,564
	Yes	8	7,75	1,16	
Informally, in a personal way	**No**	108	7,27	2,06	0,519
	Yes	53	7,49	2.03	
Other	**No**	127	7,34	2,07	0,971
	Yes	34	7,35	1,98	

According to the results provided with this research, students that have volunteered in the past 12 months for church/religious organisations were statistically much happier in life in regards to those who took no part in volunteering **(Table 5).**

***Table 6:** The relationship between volunteering and the satisfaction with one's own leisure time*

In the past 12 months you have volunteered for:		How happy are you with your free time? N	Mean	SD	p
Profitable/business originations	No	151	5,90	2,38	0,152
	Yes	10	7,00	1,41	
Church/religious organizations	No	124	5,68	2,39	**0,005***
	Yes	37	6,92	1,95	
Non-profitable organisations	No	114	5,92	2,38	0,688
	Yes	47	6,08	2,29	
Goverment organisation/public establishments	No	150	5,89	2,35	0,101
	Yes	11	7,09	2,16	
International organisations	No	153	5,95	2,37	0,730
	Yes	8	6,25	2,05	
Informally, in a personal way	No	108	5,91	2,34	0,637
	Yes	53	6,09	2,37	
Other	No	127	5,95	2,32	0,866
	Yes	34	6,03	2,49	

Students that have in the past 12 months volunteered for church/religious organisations were statistically much more satisfied with their free time in regards to those who took no part in volunteering **(Table 6).**

4. Discussion

Volunteering or voluntary, free work, stems from people's to be together, to associate with or help each other, with its greatest uprising being during the second half of the 19th century. The foundation of volunteering is an idea about voluntariness and the freedom of choice, and within itself it has the potential to build solidarity, to give people an opportunity to help others, but also to highlight the problems and needs that surround us (Skočić Mihić et al, 2011, 580). The volunteering of students is not only in the interest of society but also in the interest of academic establishments because by including students in volunteering work, it strengthens the social and cultural life on campus, as well as bettering the university's reputation within the community (Skočić Mihić et al, 2011, 581). In the universities that aim to develop a stronger integration (and institutionalisation) based on college activities in the community within which it is active, in the last 30 years a model of learning that encourages academic service learning by being active in the society has been constantly nurtured and promoted. Haski-Leventhal and associates (2008, 4) state that the same model presents a combination of academic learning and volunteering and is present in 23 countries across the world (Skočić Mihić et al, 2011, 581). In this study, we can find the information that only a third of students who took part in the research volunteer and that volunteering is generally not promoted within the educational system. The results of this study confirm other surveys that have shown how volunteering among the young population in Croatia has never fully grown and that voluntarism needs to be further developed both in local communities and through integration within the educational curriculum. According to the results of the study, students who have in the past 12 months undertaken volunteering in church/religious organisations are statistically much happier in regards to those who took no part in volunteering and more satisfied with their leisure time. Religiousness includes a combination of cognitive and conative aspects of personality that have a major reflection on psychic processes (thinking, emotions or feelings, motivation), opinions and behaviour. During the psychosocial development and growth of an individual, their religiousness is also being developed, so by studying young people's religiousness it is possible to reach significant data about their general development and upbringing. A healthy and intrinsic religiousness contributes to preserving mental health and in itself has a great importance in (protecting) development and upbringing of an individual (Brlas, 2014, 23). In the results of his research, author Brlas has shown a positive effect of religiousness on adopting and sustaining prosocial behaviour as volunteering for example. According to the results of author Brlas (2014, 24), the religious experiences of young people have positive consequences on their psychological functioning and even in its own way therapeutically affects them, so these results can serve as a possible answer to the results provided in this study.

5. Conclusions

This works has aimed to highlight the specificity that must be taken into account in articulating students' leisure time and their involvement in volunteering activities. Free time is an important domain in young people's personality development and it is through volunteering work that they get help in acquiring their creativity skills. According to the provided results in this study, the majority of students have no experience in volunteering although regardless of their volunteering activity, the satisfaction of students with their leisure time and sense of happiness spans from 60% to 80% which is the scale maximum. The results from this study support the fact that the religious experiences of young people have positive consequences on their functioning and their leisure time. Students are a mirror that reflects all relevant institutions that take part in forming their identity, and the biggest responsibility lays on the academic community itself that must strive towards developing new activities within the educational curriculum that will enable involving oneself in volunteering activities as well as grading and valuing them in the ECTS system, educational outcomes and work load of college curriculums.

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POLITICAL ACCOUNTABILITY AND "VOTING-WITH-THE-FEET": EASTERN CROATIA VS. REMAINING CROATIAN REGIONS[1]

ABSTRACT

Emigration has established itself as one of the most discussed topics in economic and political discourse in Croatia in the last couple of years. Nevertheless, there is still no full account of the reasons behind emigration or of the underlying reasons for the regional differences in the trends and origins of emigration. The general aim of this paper is to fill the gap in the literature by investigating one of the numerous reasons for emigration – the link between Tiebout's economic model of local government (voting-with-the-feet) and local government political accountability proxied by online local budget transparency index (OLBT). The paper first divides all Croatian local government units (cities and municipalities) into six regions, finding that Eastern Croatia exhibits the highest emigration trends and among the lowest political accountability of all the regions. Based on that, cluster analysis is carried out on all 127 Eastern Croatian cities and municipalities over the 2014-2017 period to deepen the understanding of such a trend. The main results suggest that local population will more likely engage in emigration if their local government unit has lower political accountability, higher unemployment rate, lower resident income and lower fiscal capacity.

Key words: *political accountability, emigration, Eastern Croatia, cluster analysis*

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1. Introduction

Emigration – leaving one's place of residence or country to live elsewhere – is currently one of the most important topics in Croatia, since it leads to numerous mostly negative social and economic consequences (Čipin et al., 2014; Jurić, 2017).

Mostly due to inaccurate migration statistics, no proper estimate of the magnitude and nature of emigration in Croatia has been made (Draženović, Kunovac & Pripužić, 2018). Recently, relatively rarely, research papers have pointed to different motivations for emigration from Croatia. Božić and Burić (2005) argue that the potential Croatian emigrant is more often young and educated, coming from regions with greater economic problems and with a higher unemployment rate in search of better wages, working conditions or employment. In contrast, Jurić (2017) argues that it is not unemployment that is the most important factor of emigration from Croatia, rather the incapable politicians and expensive and poorly organized state (legal insecurity, institutional malfunction, corruption, nepotism, crime, etc.). His research indicates that Croatian society is morally crashed and that there is a clear link between poor political ethics, weak institutions and emigration. Draženović et al. (2018) show that emigration flows are much stronger in Croatian economically less developed regions and that both economic (measured by the difference in GDP pc and employment rate) and non-economic factors (capturing the benefit of EU accession, the level of corruption, population age and tertiary education) are relevant for emigration decisions.

This paper adds to the previous research by exploring another possible reason for emigration – the political accountability of Croatian local government units. The goal is to answer the question of whether Croatian citizens respond to the lesser political accountability of their local government unit by emigrating (voting-with-their-feet). In that sense, we are able to take advantage of the Tiebout's model and test it in a natural experiment. After 2013 (Croatia's EU accession), consumer-voters are (fully) mobile across the EU and we test whether the level of local government's political accountability contributes to these movements. In other words, we test whether the assumption of rational voters holds even under asymmetric budget information. Political accountability is proxied by the level of online local budget transparency (OLBT), measured annually by the number of key local budget documents (executive budget proposal, citizens' guide, enacted budget, mid-year and end-year reports) published in a timely way on local government websites (Ott, Bronić, Petrušić & Stanić, 2018). The idea of the paper is firstly to identify which Croatian region is most affected by emigration. After that, a cluster analysis is carried out on that region, using the average values for the period 2014-2017, to deepen the link between emigration, political accountability and several socio-economic and political factors believed to be important for emigration.

The rest of the paper is organized as follows: the next section gives a short literature review and sets the hypothesis, the third section explains the data and methodology, the fourth section gives results of the cluster analysis, while the fifth brings conclusions, limitations and suggestions for further research.

2. Literature review

There are numerous theories of migration (for an excellent overview see Wickramasinghe & Wimalaratana (2016)). Neoclassical economic theory argues that differentials in wages among regions, or countries cause people to move from low-wage, high-unemployment regions to high-wage, low-unemployment regions (Todaro, 1980). Although there is no theory covering all aspects of migration (Wickramasinghe & Wimalaratana, 2016), some other theories, such as push and pull factor theory, build on neoclassical theory arguing that since the decision to migrate for better jobs is related to the search for a higher-quality life, wage and unemployment differentials alone will not explain much about emigration. In fact, motivation for emigration is a combination of numerous social, economic, ethnic and politically related push and pull factors (Mansoor & Quillin, 2006). According to Lee (1966) migrations are complex phenomena and could be analysed in the context of push and pull factors. Push factors (in the area of origin) are: 1) changes in natural environment (e.g. natural disasters), 2) economic factors (e.g. weak opportunities for employment, low income, poor working and living conditions), 3) political factors (e.g. disagreement with the political system, lack of basic civil liberties), and 4) social factors, such as alienation from the community (inability to belong to and identify with the community) and the feeling of helplessness in the realization of social or personal goals. The most important pull factors (in the area of destination) are: 1) better economic opportunities (higher living standards, better earnings and employment opportunities), 2) the ability to acquire the desired education, specialization, etc., 3) relatives, neighbours or friends already living there and 4) better living conditions (climate, housing, schools, public services, etc., but also the political system of a country).

As mentioned above and according to public finance theory, one of the possible reasons for emigration is differences in the provision of local public goods and services. Namely, the market cannot force individuals to publicly declare their own wishes concerning the amount and price of public goods they are willing to pay for. Thus, the free-rider problem might occur with a less than optimal level of local public goods being provided (Rosen, 2004). However, Tiebout (1956) argued that the possibility of the individual to migrate from one local government unit to another enables the solution to the provision of the local public goods that is almost similar to the “optimal” market solution. According to his hypothesis, migration occurs in response to spatial differences of public goods. That is, local government units differ in the quality of public goods and services such as police and fire protection, education, hospitals, courts, beaches, parks, roads, or parking facilities which they offer at different prices (tax rates). In that situation, individuals (consumer-voters) can “vote with their feet” and migrate to the local government units that provide the level of local public goods and the level of taxes they prefer.

Obviously, analysis of the determinants of migration requires the use of indicators that accurately describe the attractiveness and deficiencies of some countries from the perspective of migrants within a particular economic, demographic, social and political context (Ravlik, 2014). In recent years, more and more studies have been involved in finding the different factors that could explain migrations. While some are mostly focused on international migration (e.g. de Haas, 2011; Ravlik, 2014; Sprenger, 2013), there are also within-country analyses, focusing on the determinants of local migration (Bover & Arellano, 1999; DaVanzo, 1978; Day, 1992). One of the most frequently used variables is the unemployment rate (Bover & Arellano, 2002; DaVanzo, 1978) which is usually found to be, in line with neoclassical theory, positively related to emigration. On the other hand, Antolin & Bover (1997) found that some unemployed individuals do not respond by migrating, due to their particular family situations (for example being married to a working partner).

Some studies, in line with push and pull factor theory, showed that people emigrate from regions with high housing prices to places with more affordable prices (Antolin & Bover, 1997; Bover & Arellano, 2002); or that the lower the residents' income, the higher the probability of moving to more distant local governments (Widerstedt, 1998).
Other studies, in line with public finance theory, found that people move to local government areas that invest more in health and education (Day, 1992). Westerlund & Wyzan (1995) point that determinants of migration differ for short-distance and long-distance emigration, as well as for metropolitan and non-metropolitan areas. For non-metropolitan areas they demonstrated a negative relationship between the local per capita (pc) tax base and the probability of short-distance migration. They argue that the local pc tax base may be a significant determinant of migration from sparsely populated (non-metropolitan) areas, where it is difficult to free-ride on services provided by other localities. They found the tax rate to be a significant determinant of short-distance migratory behaviour only in metropolitan areas, arguing that the tax rate should matter in densely populated areas where such free-riding is possible. For long-distance migration, fiscal variables were not significant.

Adserà et al. (2016) find that political instability triggers emigration. Likewise, Lam (2002) shows that the lack of political confidence significantly increases emigration, while lack of economic confidence increases emigration by a lesser degree. Mansoor & Quillin (2006) argue that the results of simulations and the history of migration in Southern Europe and Ireland provide support for the proposition that the quality of life in migration-sending countries matters as a determinant of emigration. In their research, quality of life takes into account a variety of a country's attributes (including macroeconomic and financial sector policy, trade, social equity, business investment environment, environmental policy, and political accountability).

This paper aims to explore another possible reason for emigration – local government political accountability – hypothesizing that lower political accountability of local government unit encourages residents to greater emigration.

3. Data and Methodology

The first step in the analysis is to ascertain whether there are differences among Croatian regions in terms of emigration and political accountability. This will serve as a stepping point for selecting a region to be clustered. For distinguishing Croatian regions, this paper uses the territorial organization of the Tax Administration office (Tax Administration, 2019), which classifies Croatian counties into the following regions:

1. City of Zagreb;
2. Central Croatia (Zagreb, Krapina-Zagorje, Sisak-Moslavina and Karlovac county);
3. Northern Croatia (Varaždin, Koprivnica-Križevci, Bjelovar-Bilogora, and Međimurje county);
4. Eastern Croatia (Virovitica-Podravina, Požega-Slavonia, Brod-Posavina, Osijek-Baranja and Vukovar-Srijem county);
5. North-Adriatic Croatia (Primorje-Gorski Kotar, Lika-Senj and Istria county); and
6. Dalmatia (Zadar, Šibenik-Knin, Split-Dalmatia and Dubrovnik-Neretva county).

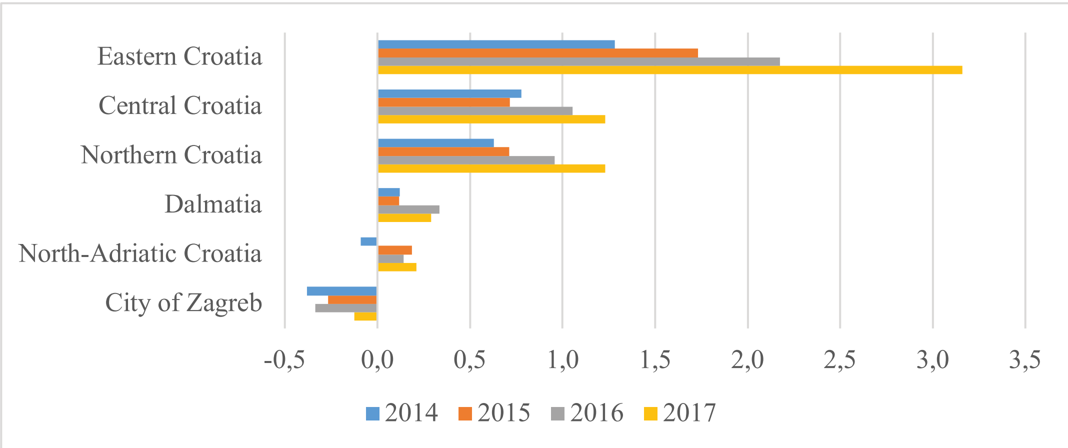
Accordingly, the first aim is to establish annual values of emigration and political accountability for each city/municipality in these six regions. The emigration is represented by the following equation:

$$er_{it} = \frac{em_{it} - im_{it}}{p_{it}} \; x \; 100, i = 1, \; \dots N; \; t = 1, \; \dots T \qquad (1)$$

where *er* represents emigration rate; *em* is the total number of emigrants; *im* is the total number of immigrants; *p* is the population estimate; *i* represents city/municipality (556 in total), and *t* is the year of observation for the 2014-2017 period (more information on data in the next section). Then, for each of the six regions, average values of emigration for the four-year period were calculated.

Graph 1 shows that in most regions in Croatia the emigration rate is increasing, only Zagreb having more immigrants than emigrants. Both Dalmatia and North-Adriatic Croatia have relatively low emigration rates. On the other hand, Eastern Croatia has the highest and most rapidly increasing emigration rate. In 2017 on average it amounted to more than 3% (graph 1).

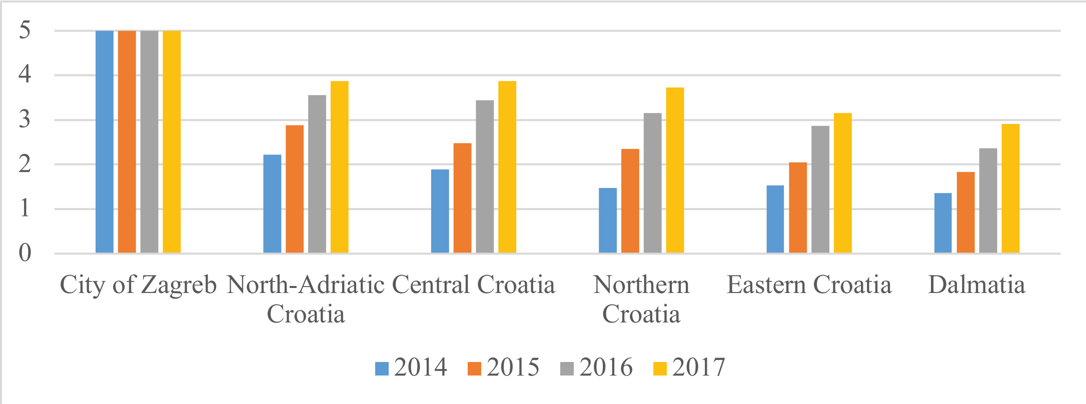
Graph 1: *Emigration rate for six Croatian regions (in %, average values)*



Source: Authors' calculations based on Croatian Bureau of Statistics (2019)

The political accountability of each city/municipality is proxied by the Open Local Budget Index (OLBI) calculated by Ott et al. (2018). This represents the city/municipality's ability and willingness to produce and publish annually on their respective official websites five key budget documents (budget proposal, enacted budget, citizens budget, mid-year report, and year-end report). Accordingly, the OLBI score for each local government unit can annually range from 0-5, depending on the number of published budget documents.

Graph 2: *OLBI score for six Croatian regions (average values)*



Source: Authors' calculations based on Ott et al. (2018)

Except for the maximum transparency levels of the City of Zagreb, the remaining regions also show improvements in budget transparency over the years (graph 2). North-Adriatic Croatia and Central Croatia have the greatest achievements in OLBI scores (reaching a score of 3.88 in 2017). On the other hand, the smallest OLBI scores, or political accountability, are in Dalmatia and Eastern Croatia.

Graphs 1 and 2 indicate that Eastern Croatia has the convincingly highest emigration rate and very low political accountability. This is why the rest of the paper performs a cluster analysis, focusing explicitly on cities and municipalities of Eastern Croatia. Should there be a pattern to be discovered, this region could offer the most insights and observations.

4. Cluster analysis

Cluster analysis was carried out on all 127 local government units (22 cities and 105 municipalities) of Eastern Croatia. In addition to the emigration rate and political accountability, three more variables – unemployment rate, fiscal capacity of the municipality/city pc, and residents' income pc – have been added that could contribute to clustering, or in determining appropriate patterns associated with emigration (Table 1).

Table 1: *Definition of variables*

Variable	Description	Source
OLBI	Budget transparency measure as a proxy for local political accountability; count data index ranging from 0 to 5, measured annually as the online availability of five key local budget documents (budget proposal, enacted budget, year-end report, mid-year report and citizens' guide).	Ott et al. (2018)
income_pc	Average annual resident income pc.	Obtained on request from the Ministry of Regional Development and EU Funds. Pc values are based on population estimates from Croatian Bureau of Statistics (2019).
fiscal_cap_pc	Fiscal capacity pc, i.e. city's/municipality's own revenues pc, calculated as operating revenues minus all grants.	Ministry of Finance (2019). Pc values are based on population estimates from Croatian Bureau of Statistics (2019).
unempl_rate	Unemployment rate – Croatian Employment Service data on registered unemployed persons by municipality /city	Obtained on request from the Ministry of Regional Development and EU Funds
emigr_rate	Emigration rate, calculated for each city/municipality as total number of emigrated minus total number of immigrated divided by population estimate for a given year.	Croatian Bureau of Statistics (2019).

Note: All variables refer to average values for the 2014-2017 period.

Table 2, showing descriptive statistics, deserves a few comments. Namely, there are municipalities that did not publish any of the required budget documents in the period 2014-2017 (Gorjani, Podravska Moslavina and Punitovci, all from Osijek-Baranja County). On the other hand, two cities – Slavonski Brod and Osijek –published all five budget documents for the entire observed period. While the average value of pc resident income is over 20,000 HRK, in the municipalities of Čađavica and Čačinci (both in Virovitica-Podravina County) it is less than 10,000 HRK. Osijek has the highest average annual resident income pc – almost 34,000 HRK.

Table 2: *Summary statistics (average values 2014-2017)*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	emigr_rate
Min	0.00	6,901	503	14.66	-0.66
Median	2.50	20,018	1,230	24.24	1.96
Mean	2.40	20,132	1,358	25.20	2.09
Max	5.00	33,923	3,347	46.10	5.67

When it comes to fiscal capacity pc, there are no significant deviations. However, the municipality of Negoslavci has very low average fiscal capacity pc (HRK 503), while, on the other hand, the municipality of Magadenovac has more than 3,000 HRK of own revenues (fiscal capacity) pc. Even the lowest average unemployment rate in this region is high (14.7% in the City of Požega). Seven municipalities have an average unemployment rate of over 40% (Jagodnjak, Gunja, Okučani, Gornji Bogićevci, Podgorač, Voćin and Levanjska Varoš). As shown in Graph 1, municipalities and cities in Eastern Croatia have higher average emigration rates than all other regions. Only the municipality of Čaglin has population growth, while two municipalities – Tovarnik and Stara Gradiška – have a four-year average emigration rate of more than 5%.

Prior to clustering, it is necessary first to obtain standardized values of the variables included. This is done using the z-score standardization of the variable value that applies the following calculation:

$$z = \frac{x-\mu}{\sigma} \tag{2}$$

where z is the standardized value, x the original value of the variable, μ the mean value, and σ the standard deviation.

This paper uses a hierarchical clustering method that groups observation units based on hierarchical connectivity. A Ward hierarchical method with a Euclidean distance between the variables is used. The end result – represented by a dendrogram – points to a cut-off point at which four clusters are separated. However, it should be noted that variables included in the analysis show different contributions to the clustering. The largest contribution (interval) has resident income pc, ranging from -0.94 (cluster 1) to 1.97 (cluster 4). On the other hand, the clusterization is least affected by the emigration rate variable, which has the smallest interval (-0.52 in cluster 4 to 0.36 in cluster 1) (Table 3).

***Table 3**: Cluster means (original values)*

	OLBI	income_pc	fiscal_cap_pc	unempl_rate	emigr_rate
1	2.04 (-0.33)	16,113 (-0.94)	1,052 (-0.59)	31.87 (0.93)	2.44 (0.36)
2	2.38 (-0.02)	20,218 (0.02)	1,111 (-0.47)	20.94 (-0.59)	1.69 (-0.40)
3	2.52 (0.11)	22,977 (0.67)	1,968 (1.16)	25.71 (0.07)	2.43 (0.35)
4	3.88 (1.33)	28,521 (1.97)	2,108 (1.43)	17.39 (-1.09)	1.57 (-0.52)

Note: standardized values in parentheses

Table 3 points to two basic clusters that show certain patterns in the movements of the analysed variables:

- Cluster 1 includes local government units of Eastern Croatia most usually associated with the lowest political accountability, the lowest resident income pc, the lowest fiscal capacity pc, the highest unemployment rate and the highest rate of emigration;
- Cluster 4 includes local government units of Eastern Croatia most usually associated with the highest political accountability, the highest resident income pc, the highest fiscal capacity pc, the lowest unemployment rate and the lowest rate of emigration.

In line with neoclassical economic, push and pull factor and public finance theories these results indicate the following. It is more likely that the local population in Eastern Croatia will emigrate if their local government units show low political accountability and low fiscal capacity i.e. tax base, as argued by Mansoor & Quillin (2006) or Westerlund & Wyzan (1995). In addition, lower resident income and higher unemployment in local government unit – as argued by Bover & Arellano (2002), Božić & Burić (2005), Draženović et al. (2018), and Widerstedt (1998) – will also impose more pressure on the residents to search for solutions by way of emigration.

Municipalities and cities belonging to the above-mentioned four clusters are presented in Table A and Graph A in the Appendix. Table A shows that cluster 1 comprises only municipalities, and cluster 4 only cities. It also presents municipalities and cities that, according to the variables included in the analysis, have poorer results (lowest performers – cluster 1) and those with better results (highest performers – cluster 4). Cities generally show better performance in the analysed variables. This is particularly emphasized in the relationship between political accountability and emigration rate. While municipalities do not show the correlation between these two variables, in the case of cities lower political accountability is associated with a higher emigration rate (results of correlations separately performed for municipalities and cities are available upon request).

5. Conclusion

This paper addresses the relationship between political accountability and emigration rate on the level of local government units in Eastern Croatia. Firstly, all Croatian local government units are divided into six regions – City of Zagreb, Central Croatia, Northern Croatia, Eastern Croatia, North-Adriatic Croatia, and Dalmatia – showing that the average emigration rate in Eastern Croatia in the period 2014-2017 is by far the greatest than in all other Croatian regions. At the same time, municipalities/cities of Eastern Croatia show rather low political accountability, as proxied by local budget transparency, i.e. the open local budget index (OLBI). Therefore, this paper focuses on Eastern Croatia, examining in more depth the possible reasons for emigration from its local government units. The analysis, along with political accountability variable, also includes the additional variables that might affect emigration – unemployment rate, resident income and fiscal capacity of the municipality/city. The hierarchical cluster analysis points to two key clusters, which depict movements of variables. The first includes local government units that show better results (highest performers) with lower emigration rates, higher political accountability, higher resident income, higher fiscal capacity, and lower unemployment rates. On the other hand, the second cluster presents local government units that are lagging behind (lowest performers). Accordingly, the local population of Eastern Croatia is more likely to emigrate from local government unit which has lower political accountability, lower resident income, lower fiscal capacity, and higher unemployment rates. Cities generally perform better in terms of all the analysed variables, showing also a better correlation between lower political accountability and higher emigration flows.

The policy implications of this study relate to recommendations to central and local governments to improve local budget transparency and to enable citizens to participate in local budgetary processes. This could lead to a more responsible local budgeting (positively improving institutions and local political ethics), a greater trust of citizens in local authorities, and lesser motivation for emigration.
The limitations of this analysis can be addressed in future research. Therefore, further studies could conduct a cluster analysis for other Croatian regions. An interesting research avenue could be to investigate the correlation between real estate/property values and the level of OLBI since this might act as an even better confirmation of the Tiebout's model (local governments are not perfect competitors and they face a downward sloping demand for residency). Also, in order to better understand the impact of political accountability, as well as other variables that could explain the emigration, future research could perform regression analysis, thus making use of the available panel dataset.

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Appendix

Table A: *Results of the cluster analysis, average 2014-17*

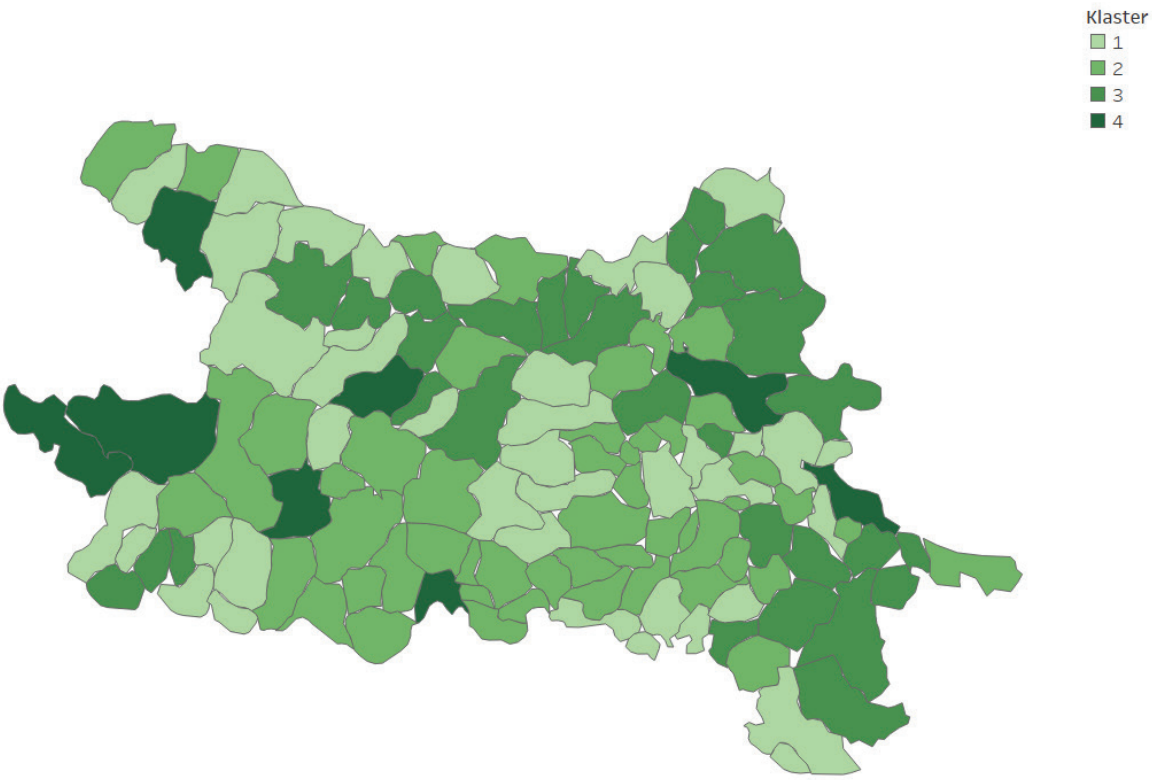
local_unit	county	OLBI	income_pc	fiscal_cap_pc	unempl_rate	emigr_rate
Cluster 1 - lowest performers						
Davor	Brod-P.	0.8	16,418	776	26.9	1.3
Gornji Bogićevci	Brod-P.	1.8	14,300	955	42.0	3.7
Okučani	Brod-P.	1.3	15,537	814	42.3	4.5
Rešetari	Brod-P.	1.8	19,322	855	28.5	1.6
Sikirevci	Brod-P.	2.0	16,204	751	18.0	2.8
Slavonski Šamac	Brod-P.	2.5	14,134	757	20.4	2.8
Staro Petrovo Selo	Brod-P.	3.0	18,870	1,071	30.6	2.2
Vrbje	Brod-P.	1.0	15,131	767	38.7	2.6
Donja Motičina	Osijek-B.	2.0	20,082	1,087	32.2	1.7
Draž	Osijek-B.	1.8	20,366	1,428	35.0	3.6
Drenje	Osijek-B.	0.8	15,317	675	30.8	2.1
Jagodnjak	Osijek-B.	2.0	14,814	1,324	46.1	2.0
Koška	Osijek-B.	3.0	20,834	1,285	30.9	1.6
Levanjska Varoš	Osijek-B.	1.0	12,043	869	40.5	1.1
Petlovac	Osijek-B.	3.0	21,091	1,464	32.6	2.3
Podgorač	Osijek-B.	3.0	15,792	1,403	41.2	1.8
Satnica Đakovačka	Osijek-B.	2.5	17,429	1,092	26.6	1.4
Semeljci	Osijek-B.	2.5	19,363	1,298	27.4	1.7
Šodolovci	Osijek-B.	3.0	17,456	1,100	36.0	2.2
Trnava	Osijek-B.	0.3	16,105	898	29.7	1.9
Viljevo	Osijek-B.	2.5	16,238	1,230	31.7	1.5
Kaptol	Požega-S.	2.5	17,554	895	18.9	3.9
Čačinci	Virovitica-P.	2.5	9,556	1,243	23.9	2.4
Čađavica	Virovitica-P.	2.0	6,901	1,629	32.5	1.2
Gradina	Virovitica-P.	2.3	15,335	1,148	34.0	2.1
Mikleuš	Virovitica-P.	2.3	16,451	821	32.0	3.8
Sopje	Virovitica-P.	0.8	16,298	1,363	34.4	1.2
Suhopolje	Virovitica-P.	2.8	17,744	1,163	30.7	1.5
Špišić Bukovica	Virovitica-P.	1.5	15,981	1,127	27.1	1.9
Voćin	Virovitica-P.	1.8	12,879	1,496	41.1	3.2
Babina Greda	Vukovar-S.	3.0	13,563	796	30.3	3.4
Bogdanovci	Vukovar-S.	2.3	20,455	1,027	28.3	3.1
Borovo	Vukovar-S.	2.5	16,791	615	28.1	2.9
Drenovci	Vukovar-S.	3.3	16,074	1,600	34.8	2.9
Gradište	Vukovar-S.	1.0	18,313	862	26.9	3.1
Gunja	Vukovar-S.	1.3	13,152	832	44.3	3.6
Markušica	Vukovar-S.	2.3	13,548	714	32.4	2.0
Štitar	Vukovar-S.	2.8	15,043	644	28.3	4.5
Trpinja	Vukovar-S.	1.8	15,914	1,136	26.9	2.2
Cluster 2						
Bebrina	Brod-P.	3.3	17,576	768	19.5	1.3
Brodski Stupnik	Brod-P.	3.5	22,206	969	15.2	2.1
Bukovlje	Brod-P.	3.0	19,784	970	15.8	1.3
Cernik	Brod-P.	4.0	21,366	1,043	28.8	2.2
Donji Andrijevci	Brod-P.	2.5	20,167	1,013	17.5	1.8
Garčin	Brod-P.	2.5	20,322	1,086	18.6	1.7
Gornja Vrba	Brod-P.	3.0	18,475	1,261	16.9	1.6
Gundinci	Brod-P.	3.0	15,666	800	18.6	1.9
Klakar	Brod-P.	3.3	22,319	1,063	14.8	1.2
Nova Kapela	Brod-P.	1.5	21,663	1,150	24.3	1.6
Oprisavci	Brod-P.	2.8	21,327	1,031	15.5	1.1
Oriovac	Brod-P.	1.8	21,508	1,109	15.6	1.6

local_unit	county	OLBI	income_pc	fiscal_cap_pc	unempl_rate	emigr_rate
Podcrkavlje	Brod-P.	2.0	18,789	960	19.6	1.4
Sibinj	Brod-P.	2.5	21,384	961	15.6	1.4
Velika Kopanica	Brod-P.	1.3	17,404	1,089	16.5	2.6
Vrpolje	Brod-P.	3.0	17,970	1,007	16.8	2.0
Antunovac	Osijek-B.	3.8	26,463	1,480	18.3	0.6
Bizovac	Osijek-B.	4.0	23,079	1,441	24.2	1.0
Darda	Osijek-B.	1.3	20,990	1,339	31.6	2.3
Donji Miholjac (c)	Osijek-B.	2.8	24,673	1,462	19.6	1.3
Đakovo (c)	Osijek-B.	2.5	22,981	1,398	20.2	1.3
Đurđenovac	Osijek-B.	0.8	20,332	1,002	32.4	1.7
Gorjani	Osijek-B.	0.0	18,682	1,433	25.3	1.2
Petrijevci	Osijek-B.	3.3	23,325	1,554	20.0	1.0
Podravska Moslavina	Osijek-B.	0.0	17,338	1,130	26.7	2.2
Punitovci	Osijek-B.	0.0	19,049	1,378	24.9	1.2
Strizivojna	Osijek-B.	1.0	17,791	656	19.2	1.8
Viškovci	Osijek-B.	1.0	19,691	985	25.7	1.8
Vladislavci	Osijek-B.	3.8	19,951	1,385	24.2	2.2
Vuka	Osijek-B.	4.3	24,014	1,347	20.2	2.4
Brestovac	Požega-S.	2.8	19,771	1,011	19.2	2.5
Čaglin	Požega-S.	2.3	14,246	939	20.1	-0.7
Jakšić	Požega-S.	2.5	20,492	938	15.8	2.0
Kutjevo (c)	Požega-S.	0.8	20,598	1,025	16.7	2.8
Pleternica (c)	Požega-S.	1.5	19,332	862	18.8	2.1
Velika	Požega-S.	4.0	19,226	1,193	17.7	1.4
Lukač	Virovitica-P.	4.0	18,143	1,372	28.1	2.2
Pitomača	Virovitica-P.	4.0	18,040	1,363	22.0	0.7
Andrijaševci	Vukovar-S.	3.8	20,891	1,177	20.3	0.9
Bošnjaci	Vukovar-S.	1.0	17,870	1,099	31.0	2.5
Cerna	Vukovar-S.	2.8	20,198	1,175	23.3	2.5
Ilok (c)	Vukovar-S.	2.3	22,472	1,054	20.0	2.7
Ivankovo	Vukovar-S.	2.3	20,332	966	20.6	2.1
Jarmina	Vukovar-S.	4.0	22,696	1,021	18.7	1.1
Negoslavci	Vukovar-S.	1.3	17,328	503	24.3	2.3
Nuštar	Vukovar-S.	2.3	22,372	954	21.0	0.7
Privlaka	Vukovar-S.	0.8	19,384	1,382	23.3	2.2
Stari Mikanovci	Vukovar-S.	2.5	20,018	1,060	21.9	1.5
Tordinci	Vukovar-S.	0.5	21,832	1,230	20.5	2.1
Vođinci	Vukovar-S.	2.8	19,362	972	21.9	1.8
Cluster 3						
Dragalić	Brod-P.	2.8	19,577	1,478	31.0	3.0
Nova Gradiška (c)	Brod-P.	2.5	25,741	1,956	24.1	1.7
Stara Gradiška	Brod-P.	3.5	21,006	1,326	30.4	5.1
Beli Manastir (c)	Osijek-B.	0.8	26,410	1,945	29.6	2.4
Belišće (c)	Osijek-B.	1.8	24,546	2,292	27.5	1.3
Bilje	Osijek-B.	2.0	26,442	1,758	20.0	2.0
Čeminac	Osijek-B.	0.3	24,228	2,477	23.8	1.8
Čepin	Osijek-B.	0.8	25,717	1,464	17.7	1.6
Erdut	Osijek-B.	2.8	21,311	1,525	27.0	2.1
Ernestinovo	Osijek-B.	3.0	26,159	1,599	20.2	1.7
Feričanci	Osijek-B.	2.5	22,854	1,429	28.6	1.1
Kneževi Vinogradi	Osijek-B.	3.3	21,879	1,851	32.4	2.9
Magadenovac	Osijek-B.	2.3	19,279	3,347	27.8	1.2
Marijanci	Osijek-B.	1.8	19,770	1,468	23.8	1.4
Našice (c)	Osijek-B.	3.0	26,659	2,165	25.5	0.9
Popovac	Osijek-B.	3.0	20,973	2,162	38.9	4.2
Valpovo (c)	Osijek-B.	1.3	26,155	1,514	23.2	1.1
Crnac	Virovitica-P.	3.8	19,470	2,362	29.5	2.5

local_unit	county	OLBI	income_pc	fiscal_cap_pc	unempl_rate	emigr_rate
Nova Bukovica	Virovitica-P.	2.0	20,700	2,352	32.2	2.2
Slatina (c)	Virovitica-P.	3.3	23,157	1,609	24.8	1.6
Zdenci	Virovitica-P.	1.5	20,808	1,844	26.8	1.5
Lovas	Vukovar-S.	3.8	25,385	2,402	20.7	3.2
Nijemci	Vukovar-S.	3.8	20,970	2,335	24.1	2.9
Otok (c)	Vukovar-S.	1.0	19,916	2,020	25.5	2.9
Stari Jankovci	Vukovar-S.	3.5	20,251	1,671	23.9	2.6
Tompojevci	Vukovar-S.	3.8	23,231	1,640	25.4	4.5
Tovarnik	Vukovar-S.	3.5	24,995	2,344	18.2	5.7
Vinkovci (c)	Vukovar-S.	1.5	27,426	2,033	16.9	0.7
Vrbanja	Vukovar-S.	3.0	19,027	2,542	28.5	3.2
Županja (c)	Vukovar-S.	4.3	25,256	2,133	23.1	3.7
Cluster 4 - highest performers						
Slavonski Brod (c)	Brod-P.	5.0	27,061	1,942	15.1	1.5
Osijek (c)	Osijek-B.	5.0	33,923	2,935	16.3	0.5
Lipik (c)	Požega-S.	3.8	25,116	1,971	17.8	1.7
Pakrac (c)	Požega-S.	3.0	28,036	1,870	17.8	2.4
Požega (c)	Požega-S.	2.8	28,133	1,954	14.7	1.4
Orahovica (c)	Virovitica-P.	3.8	27,561	2,181	18.4	1.6
Virovitica (c)	Virovitica-P.	3.8	28,583	2,250	18.3	1.0
Vukovar (c)	Vukovar-S.	4.0	29,756	1,762	20.7	2.6

Note: c denotes city

Graph A: *Map of Eastern Croatia, results of the cluster analysis (cities and municipalities), where cluster 1 are lowest performers, cluster 4 are highest performers.*



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DETERMINANTS OF DONATIONS AMOUNT IN NON-PROFIT ORGANIZATIONS IN CROATIA

ABSTRACT

The purpose of this study is to identify accounting measures and data from financial statements which have an impact on the amount of revenues from donation. Empirical evidence will be provided on a sample of non-profit organizations in Croatia that apply double-entry bookkeeping system. Necessary data for empirical research is collected from Register of non-profit organization in Croatia. The study investigates the association between amount of revenues from donations and accounting measures. Logistic regression is used to provide the results. Results of the study indicate that volunteers, debt ratio, taxable activity, adequacy of equity and operating margin have statistically significant influence on the amount of revenues from donation. This study contributes to further understanding of financial reporting in non-profit sector and accounting information which are determinants of donations gathering process.

Key words: *Accounting, Non-profit organizations, Revenue from donations, Accounting measures*

1. Introduction

Organizations that belong to a non-profit sector are defined as organizations that are formal (institutionalized to some extent), private (institutionally separate from government), non-profit distributing (not returning profits generated to their owners or directors), self-governing (equipped to control their own activities) and voluntary (involving some meaningful degree of voluntary participation) (Salamon and Anheier, 1992, 135). Non-profit organizations work in one of the two following situations: where for-profit organizations fail to provide products and services, and where they provide insufficient quantity or quality product and services, and government provision fails to compensate for this market failure (Abzug and Webb, 1999, 421). The specific nature of non-profit organizations causes significantly different financial reporting and accounting measures from the profit organizations.

Apart from the difference in the purpose of existence, large differences between non-profit and profit organizations are also the source of different operational transactions, different sources of financing, tax and legal treatment and different revenue structure. Non-profits organizations have various types of revenues: revenues from sale of goods and services, revenues from membership, revenues under special regulations, property revenues, revenues from related non-profit organizations, revenues from donations and other revenues. Some of these revenues are also reported in profit organizations, but what are rarely appearing in profit organizations are revenues from donations. Revenues from donations are an important financing source for non-profit organizations, especially in today competitive environment when non-profit organizations depend on donations. Therefore, it is important in non-profit accounting to understand how the financial statements and accounting measures of non-profit organization play a role in process of gathering donations and through which positions in financial statement eventually may influence on donations amount. Although relatively scarce information is available to donors about the quality of the nonprofit organization they donate to (Harris and Neely, 2016, 989), donors still require certain accounting information (Rogošić and Svirčić, 2015, 12).

The purpose of this study is to identify accounting measures and data from financial statements which have an impact on the amount of revenues from donation. The study investigates the association between amount of revenues from donations and accounting measures and data from the financial statements on a sample of 2,376 non-profit organizations in Croatia that apply double-entry bookkeeping system. In order to analyse which data from financial statements have an impact on the amount of revenues from donation, nonprofit organizations from the sample was grouped into two categories: those that had a satisfactory level of the amount of revenues from donation and those that do not have a satisfactory level of the amount of revenues from donation. The study included several variables based on data from the financial statements: volunteers, taxable activity, adequacy of equity, operating margin and debt ratio to analyze the impact on the amount of revenue from donations. Some prior studies examine the relationship between data from financial statements and the amount of revenues from donation, but there is no consensus as to what variables affect the amount of revenue from donations. This paper helps to align previous findings to identify data from financial statements related to the amount of revenues from donation.

The remainder of the paper is organized as follows. In Section 2 theoretical background and literature review is summarized. In section 3 research design and research methodology are explained. Empirical results of the research are presented in Section 4 and the last section outlines the conclusions.

2. Theoretical background and literature review

A large number of existing studies in the literature have examined value information from financial statements in donations process in non-profit organizations. For example, Okten and Weisbrod (2000) use the panel data set of IRS form-990 returns for the period 1982–1994 to estimate the responsiveness of donations to the availability of revenue from such other sources as government grants and program service sales, and find evidence that revenue from either government grants or from the organization’s own program sales activity generally does not crowd-out private donations. They find that non-profit organization with revenue from other sources as government grants and program service sales may provide favourable information to potential donors about the trustworthiness of a non-profit organization. Krishnan, Yetman and Yetman (2006) in their research point to the importance of information in publicly available financial statements and emphasize that expense misreporting in non-profit organizations could possibly lead to incorrect donations allocations. Trussel and Parsons (2007) use factor analysis to develop a framework to identify factors in non-profit financial statements that can impact donations. They examine 12 independent variables and find there are four factors that affect donations: efficiency, stability, reputation, and the amount of available information. Tinkelman and Mankaney (2007) provide evidence that the size of the organization measured as the log of total assets and the total revenue positively associated with the donations, while the negative link was found between administrative ratios and donations. Jacobs and Marudas (2009) examine the effects that non-profit organizational factors have on donations and find that the administrative inefficiency ratio has a significant negative effect on donations in the full sample of non-profit organizations and one industry sample, philanthropy, but is not significant in the other four industry samples arts, education, health and human services. Donation price (total expenses divided by program expenses has a significantly negative effect on donations in the full sample and the education, health and human services samples, but is not significant in the samples arts and philanthropy. They also find that a very mixed and small impact on donations has government support and revenue from program services, organizational age has a significant negative effect on donations in the full sample and the education and philanthropy samples, but no significant effect on donations in samples arts, health and human services. Wealth (years of available assets) has a significantly negative effect on donations in the arts and philanthropy samples, but no significant effect in the full sample and the samples education and health. Calabrese (2011) also examines variable wealth and finds that for an average non-profit organization, reasonable accumulated wealth (less than two years) generally has a positive effect on donations, because it signals financial health while surplus wealth (more than five years) results in decreased donations. Yetman and Yetman (2013) provide evidence that fundraising expenses (proxy for fundraising efforts) have a positive effect on donations for non-profit organizations that report positive amounts for fundraising instead of inappropriately report zero fundraising. Kim and Van Ryzin (2014) conduct an online survey and find that non-profit organizations with government funding compared to an organization without government funding received 25% less in average donations. Harris and Neely (2016) demonstrate that non-profit organizations rated by at least one rating agency receive more donations than non-profits that are unrated. They also find that good and poor ratings are positively related to donations, although the relationship between poor ratings and donations is not as strong and they document that charities that receive consistently good ratings are associated with a higher level of donations. Waniak-Michalak and Zarzycka (2015) examine how the financial data of public benefit organizations affects donations received by them and if the donors use financial and non-financial information. They find that Polish donors make very limited use of financial statements in the donation process and that non-financial information plays greater role for donors. Yan and Sloan (2016) find that two financial performance indicators, equity ratio and operating reserve have not statistically significant effect on donations when considered in isolation, but they find a negative and statistically significant relationship with revenue concentration ratio. They also find that a financial performance indicators, growing operating margin and higher revenue concentration ratio have strong negative impact on donations while increased fundraising expense has positive impact on donations. Further, they demonstrate that total assets contribute to donations, while a higher fixed asset ratio decreases donations. The numbers of volunteers and long-term debt have no observable influence on non-profit donations.

In summary, previous studies examine whether financial information have an impact on donations in non-profit organizations such as: revenue diversity, total assets, total revenue, administrative ratios, donation price, wealth, fundraising expenses, equity ratio, operating reserve, operating margin, revenue concentration ratio, long-term debt and numbers of volunteers. Number of these variables will be included in this study, but some of them will be adjusted also according to the specificity financial statements for non-profit organizations in Croatia.

Most of the previous studies have been conducted in the developed countries. There is a need to understand accounting measures and data from financial statements which have an impact on the amount of revenues from donation in other organisational contexts and thus contribute to the growing body of non-profit accounting literature which is also the contribution of this study.

3. Research methodology and sample

Empirical evidence of this research is provided on a sample of non-profit organizations in Croatia that apply double-entry bookkeeping system. Necessary data for empirical research is collected from Register of non-profit organization in Croatia. The sample consists of total 2.376 non-profit organizations. The sample included all non-profit organizations in Croatia whose total revenues exceed HRK 500,000.00. Data set necessary for the research is extracted from annual financial statements for 2017 year. In order to analyse which data from financial statements have an impact on the amount of revenues from donation, non-profit organizations from the sample was grouped into two categories: those that had a satisfactory level of the amount of revenues from donation and those that do not have a satisfactory level of the amount of revenues from donation. A satisfactory level of revenue from donations covered all those organizations whose share of revenue from donations in total revenues was greater than 10%. All non-profit organizations with a share of revenue from donations in total revenues less than 10% fall into the category of those who do not have a satisfactory level of donations. The limit of 10% is taken according to the previous studies (Tinkelman and Mankaney, 2007; Trussel and Parsons, 2007; Yetman and Yetman, 2013; Quosigk and Forgione, 2018). The aim of this study is to examine the association between amount of revenues from donations and accounting measures. Logistic regression is used to provide the results.

In line with previous studies and with respect to specificities financial statements for non-profit organizations in Croatia several variables that could influence on the amount of revenues from donation will be investigated: volunteers, debt ratio, taxable activity, adequacy of equity and operating margin.

3.1. Volunteers

A significant amount of the value generated by non-profits comes from volunteer contributions, which, are not reflected in conventional accounting statements (Mook, et al, 2005, 402). In financial statements for non-profit organizations in Croatia number of volunteers and volunteer hours are reported. Callen (1994) uses volunteer hours to examine the relationship between money donations and volunteering and find that the volunteer labour variable positive signifying that money donations and volunteering are complementary at the organization. Yan and Sloan (2016) use number of volunteers and find that the numbers of volunteers have no observable influence on non-profit donations. In this study, it is taken into consideration whether a non-profit organization has volunteers or not and it is assumed that a non-profit organization with volunteers has higher revenue from donations compared to a non-profit organization without volunteers, which can be presented in following hypothesis:

H1: Non-profit organizations with volunteers receive more donations than non-profit organizations without volunteers.

3.2. Indebtedness

Debt ratio is used as a measure of indebtedness and it is calculated as total debts divided by total assets. Ashley and Faulk (2010) found statistically significant evidence that the debt ratio is negatively related to grant amounts. This implies that donors punish those organizations that are financial unstable. Calabrese and Grizzle (2012) also examine the association between non-profit leverage and donations and find a more complicated relationship. They find that secured debt (debt that generally is backed by as asset) has little or no effect, while unsecured debt (debt that generally is not backed by an asset) a positive effect on donations. Yan and Sloan (2016) in their study find that long term debt has no observable influence on non-profit donations. Charles (2018) examines the question of whether the use of debt by non-profit arts organizations influences future charitable donations from individuals and finds that a non-profit's debt ratio does not have a statistically significant impact on future donations. These studies show that impact of debt ratio on donations is ambiguous, so in this study is assumed that non-profit organizations with higher debt ratios receive more donations, because the use of debt may allow for expansion, there by donors might increasing contribution as programs and output expand (Calabrese and Grizzle, 2012) or donors might view the organization as having a temporary liquidity problem and will increase donations to help alleviate the short-term problem Charles (2018, 662). Hypothesis for this assumption is:

H2: Higher debt ratios of non-profit organizations have positive impact on donations.

3.3. Taxable activity

Yetman and Yetman (2003) examine the relationship between donations and the taxable activities of non-profit organizations find that donations to arts, culture, humanities non-profit organizations, human services and public benefit organizations fall by approximately $0.55 for each additional dollar of taxable revenues earned. They do not find that donations to educational or medical non-profits are sensitive to the level of taxable activities. In this study, it is assumed that a non-profit organizations with taxable activity is able to generate commercial revenue. Donors believe that non-profits with alternative revenues do not need additional donations, or donors are averse to non-profit's sales activities (Yetman and Yetman, 2003, 244), so in this study hypothesis for this variable is:

H3: Taxable activities in non-profit organizations have negative impact on donations.

3.4. Adequacy of equity

Adequacy of equity is used as a measure of the number of periods of revenue a non-profit currently has on hand (Trussel and Parsons, 2007, 269). It is calculated as net assets divided by total revenue. Trussel and Parsons (2007) found that adequacy of equity is negatively related to donations, implying that donors punish organizations that do not spend donations on programs. Parsons and Trussel (2008) also provide evidence that donors do not prefer to contribute to charities with large levels of adequacy of equity. In accordance with prior study this study is assumed that adequacy of equity has a negative effect on donations, which can be presented in following hypothesis:

H4: Higher ratio adequacies of equity of non-profit organizations have negative impact on donations.

3.5. Operating margin

Operating margin is calculated as total revenues less total expenditures divided by total revenues. Yan and Sloan (2016) found that operating margin have a negative impact on donations and this finding they explained by the potential substitutive effect between net earnings and donations because operating margin indicates the profitability of an organization. Higher level of operating margin may result in the loss of donors, because donors may perceive that a profitable organization is not maximizing spending on its charitable purpose (Trussel, 2008, 619).
In accordance with their study this study is assumed that operating margin has a negative effect on donations, which can be presented in following hypothesis:

H5: Higher operating margin of non-profit organizations have negative impact on donations.

4. Empirical results

All variables of research are first analysed by univariate statistic, and final conclusions are made based on binomial (binary) logistic regression.

4.1. Descriptive statistics

Descriptive statistics are used to describe the sample and the measures in the study sample.

The variables in the analysis are coded / calculated as follows:
- ✓ donations (0 - non-profit organization does not have a satisfactory level of donations and 1 - non-profit organization has a satisfactory level of donations)
- ✓ volunteers (0 - non-profit organization has no volunteers and 1 - non-profit organization has volunteers)
- ✓ taxable activity (0 - non-profit organization has no taxable activity and 1 - non-profit organization has taxable activity)
- ✓ adequacy of equity (net assets / total revenue)
- ✓ operating margin (revenues less expenditures / total revenue)
- ✓ debt ratio (total debts / total assets):
  1 - Non-profit organization is not indebted (ratio value <0.5)
  2 - Non-profit organization is indebted (ratio value 0.5-0.7)
  3 - Non-profit organization is overindebted (ratio value >1)

Table 1 provides descriptive statistics for variables donations, volunteers, debt ratio, taxable activity, adequacy of equity and operating margin.

Table 1: *Descriptive statistics*

		donations	volunteers	taxable activity	adequacy of equity	operating margin	debt ratio
N	Valid	2376,000	2376,000	2376,000	2376,000	2376,000	2376,000
	Missing	,000	,000	,000	,000	,000	,000
Mean		,665	,152	,143	,466	,035	1,401
Median		1,000	,000	,000	,164	,019	1,000
Std. Deviation		,472	,359	,350	1,925	,214	,759
Variance		,223	,129	,122	3,705	,046	,575
Percentiles	25	,000	,000	,000	,006	-,017	1,000
	50	1,000	,000	,000	,164	,019	1,000
	75	1,000	,000	,000	,486	,092	1,000

Source: author's calculations

As can be seen in Table 1, 66.5% of non-profit organizations have share of revenue from donations in total revenues > 10%. Descriptive analysis shows that 15.2% of the observed non-profit organizations have volunteers. In the sample, 14.3% of non-profit organizations have taxable activity. The arithmetic mean of the adequacy of equity is 0.466, while half of the non-profit organizations in sample this ratio have less than 0.0164, and half of them have equal to or higher than 0.0164.

The operating margin ratio has an arithmetic mean of 0.035, while half of the non-profit organizations have this ratio less than 0.019 and half have equal to or higher than 0.019. Descriptive analysis also shows that half of non-profit organizations are not indebted, i.e. half of non-profit organizations have a debt ratio < 0.5.

4.2. Univariate analysis

After descriptive statistics, univariate analysis is conducted:

- t-test – to test the significance of mean difference between numeric variables
- Chi-square test - to test difference between nominal variables
- Mann Whitney test - to test difference between ordinal variables.

T-test was used to test the significance of mean difference between non-profit organizations that have a satisfactory level of donations and those who do not have a satisfactory level of donations.

In this study there are 797 non-profit organization with unsatisfactory level of donation and 1579 non-profit organizations with satisfactory level of donations. The mean value for ratio of adequacy of equity for non-profit organization with unsatisfactory level of donation is 0,632 and the mean value for ratio of adequacy of equity for non-profit organization with satisfactory level of donations is 0,382. The mean value for ratio operating margin for non-profit organization with unsatisfactory level of donation is 0,050 and the mean value for ratio operating margin for non-profit organization with satisfactory level of donation is 0,028. Table 2 provides the T-test results.

Table 2: *T-test results*

	t	df	Sig.(2-tailed)	Mean Difference	Std.Error Difference
adequacy of equity	3,000	2374	,003	,250	,083
operating margin	2,359	2374	,018	,022	,009

Source: author's calculations

As can be seen in Table 2, t-test values are statistically significant for both variables: for the adequacy of equity (0.003 < 0.05) and for the operating margin (0.018 < 0.05) and it can be concluded that there is a statistically significant difference in mean values between the adequacy of equity and the operating margin among non-profit organizations that have a satisfactory level of donations and those who do not have a satisfactory level of donations. The average ratio of the adequacy of equity is for 0.250 lower in those non-profit organizations that have a satisfactory level of donations. The average operating margin ratio is 0.022 lower for non-profit organizations that have a satisfactory level of donation.

Because variables of volunteers and taxable activity are nominal variables, Pearson chi-square test is calculated to test the difference between volunteer variables and taxable activity between non-profit organizations that have a satisfactory level of donations and those who do not have a satisfactory level of donations.

Variable volunteers include two groups (0-non-profit organizations that do not have volunteers and 1-non-profit organizations with volunteers). Variable taxable activity also includes two groups (0-a non-profit organizations that do not have taxable activity and 1-non-profit organizations that have taxable activity).

Table 3 and table 4 provide the Pearson chi-square results.

Table 3: *Pearson chi-square test results for variable volunteers*

		volunteers		Total
		organizations haven't volunteers	organizations have volunteers	
donations	unsatisfactory level of donation	742	55	797
	satisfactory level of donations	1273	306	1579
Total		2015	361	2376
Pearson Chi-Square				64,007
Sig.				,000*

Source: author's calculations

Notes: Pearson Chi-Square statistically significant at 0.01 level

As can be seen in Table 3, the value of Pearson's Chi-Square is 64,007 and the data satisfy the assumption of all expected frequencies > 5. Since the p value is less than 0,05 it can be concluded that there is a statistically significant difference between non-profit organizations with a satisfactory level of donations and non-profit organizations that do not have satisfactory level of donations and whether a non-profit organizations have volunteers or not.

Thus, there is a statistically significant difference between volunteers and levels of donations in non-profit organizations $\chi 2$ (1) = 64,007, p = 0,000.

Table 4: *Pearson chi-square test results for variable taxable activity*

		taxable activity		Total
		organizations haven't taxable activity	organizations have taxable activity	
donations	unsatisfactory level of donation	642	155	797
	satisfactory level of donations	1395	184	1579
Total		2037	339	2376
Pearson Chi-Square			26,310	
Sig.			,000*	

Source: author's calculations

Notes: Pearson Chi-Square statistically significant at 0.01 level

As can be seen in Table 4, the value of Pearson's Chi-Square is 26,310 and the data satisfy the assumption of all expected frequencies > 5. Since the p value is less than 0.05 it can be concluded there is a statistically significant difference between volunteers and the level of donations in non-profit organizations $\chi2$ (1) = 26,310, p = 0,000.

Because variable debt ratio is ordinal variable Mann Whitney test is calculated to test the differences in indebtedness between non-profit organizations that have a satisfactory level of donations and those that do not have a satisfactory level of donations.

The variable debt ratio (DR) includes the values 1, 2 and 3.
The non-profit organization with DR 1 is ranked as an organization that is not indebted (ratio value < 0.5), the non-profit organization with DR 2 is ranked as a non-profit organization is indebted (ratio value 0.5-0.7) and the DR 3 is ranked as a non-profit organization that is overindebted (ratio value > 1).

Table 5: *Mann Whitney test results*

			N	Mean Rank	Sum of Ranks
DR	donations	unsatisfactory level of donation	797	1160,06	924565,50
		satisfactory level of donations	1579	1202,86	1899310,50
	Total		2376		
Mann-Whitney U					606562,500
Wilcoxon W					924565,500
Z					-1,945
Asymp. Sig. (2-tailed)					,052

Source: author's calculations

As can be seen in Table 5, based on the Mann Whitney test, it can be concluded that there are 797 observations with non-profit organizations that do not have a satisfactory level of donations, the total sum of ranking difference is 924565.50, which results in a mean rank of 1160.06. In the category of non-profit organizations that have a satisfactory level of donations, there are 1579 observations whose sum of ranking difference is 1899310.50, which results in a mean rank of 1202.86. Thus, the category of non-profit organizations with a satisfactory level of donations has a higher mean rank than the category of non-profit organizations that do not have a satisfactory level of donations and therefore tends to take higher values.

Thus, it can be concluded that those non-profit organizations have a satisfactory level of donated donations. The Mann Whitney test shows that the difference in mean rank is statistically significant (U = 606562,500, p = 0.052 <0.10).

4.3. Multivariate analysis

Binary (binomial) logistic regression is used to test the correlation between certain indicators from the financial statements of non-profit organizations and donations that non-profit organizations receive.

The aim of the research is not to make a predictive model, but to test the hypothesis, i.e. to examine whether the indicators such as volunteers, taxable activity, debt ratio, adequacy of equity and operating margin have impact on donations.

The dependent variable of research has two possible outcomes (the non-profit organization has a satisfactory level of donations and the non-profit organization does not have a satisfactory level of donations). The dependent variable is encoded in such a way that 0 represents non-profit organizations that do not have a satisfactory level of donations, and 1 represents non-profit organizations that have a satisfactory level of donations.

Variables that are supposed to have an impact on the level of donations are nominal variables volunteers and taxable activity, ordinal variable debt ratio and numerical variables adequacy of equity and operating margin.

Considering that the dependent variable is measured on a dichotomous scale and independent variables are nominal, ordinal and numerical, as the most appropriate analysis for the results, binomial (binary) logistic regression is used with the following form of empirical model:

$$DON_i = ß_0 + ß_1VOL_i + ß_2TA_i + ß_3AE_i + ß_4OM_i + ß_5DR_i + e_i \quad (1)$$

where is:

Table 6: *Description of variables*

variable	**index**	**description / measures**
donation	DON	0 - non-profit organization does not have a satisfactory level of donations 1 - non-profit organization has a satisfactory level of donations
volunteers	VOL	0 – non-profit organization has no volunteers 1 – non-profit organization has volunteers
taxable activity	TA	0 – non-profit organization has no taxable activity 1 – non-profit organization has taxable activity
adequacy of equity	AE	net assets / total revenue
operating margin	OM	(revenues – expenditures) / total revenue
debt ratio	DR	(total debts / total assets): 1 - Non-profit organization is not indebted (ratio value <0.5) 2 - Non-profit organization is indebted (ratio value 0.5-0.7) 3 - Non-profit organization is overindebted (ratio value >1)

The DR has a reference category (the organization is not indebted), which means that the results of the DR 1 (the organization is indebted) and the DR 2 (the organization is overindebted) are observed in relation to the DR (the organization is not indebted). The variable taxable activity has two codes: the organization has no taxable activity and the organization has taxable activity. The reference category is an organization that has no taxable

activity. The volunteer's variable has two codes: the organization has no volunteers and the organization has volunteers. The reference category is an organization that has no volunteers. The data are analyzed for the year 2017. Below are the results for binomial logistic regression. The first three tables of analysis show cases involved and excluded from the analysis, encoding the dependent variables, and coding the categorical variables.
The analysis involved 2,376 non-profit organizations and all involved in the analysis.

Table 7: *Binomial logistic regression analysis results*

variable	B	S.E.	Wald	Sig.	Exp(B)
volunteers	1,180	,155	57,837	,000	3,255
DR			5,902	,052	
DR(1)	-,045	,178	,064	,800	,956
DR(2)	,300	,127	5,552	,018	1,350
taxable activity	-,560	,122	21,058	,000	,571
adequacy of equity	-,056	,025	4,993	,025	,946
operating margin	-,492	,232	4,496	,034	,612
Constant	,626	,061	104,762	,000	1,870
Sample size	2.376				
% correctly classified	68,1				
Hosmer and Lemeshow Test	Chi-square= 12,827, p= ,118				
Roc Curve	,617				

Source: author's calculations

The probability of achieving the correct classification of the dependent variables with respect to the model is 66.5%. The model correctly classifies 68.1% of cases compared to 66.5% in the null model. Classification is false positive 90% and false negative 2.5%. The area below the ROC curve is 61.7%, which is considered sufficient classification. Calculated multicollinearity tests indicate that multicollinearity is not a problem. Hosmer - Lemeshow test shows how good a data model is adjusted. The model is well adjusted with p = 0.118 (> 0.05). Wald's test is used to determine statistical significance for each of the independent variables in the context of other independent variables, i.e. keeping other independent variable variables constant.
From these results it can be concluded that the variables (volunteers, taxable activity, adequacy of equity and operating margin) meet the requirement < 0.05 and the DR indicator has a value of p = 0.052.

$$DONi = 0,626 + 1,180\ VOLi - 0,560\ TAi - 0,056\ AEi - 0,492OMi - 0,045\ DR(1)i + 0,300\ DR(2)i + ei \quad (2)$$

The results of the analysis show that non-profit organizations with volunteers have 3,255 times more likely to have donations than non-profit organizations without volunteers. Non-profit organizations with a debt ratio over 0.7 have 1,350 times more likely to have donations than those non-profit organizations with debt ratio of less than 0.5. Non-profit organizations that do not have taxable activities have 1.75 times (1 / 0.571) more likely to make donations than those non-profit organizations that have a taxable activity. Non-profit organizations that reduce the adequacy of equity by 1 unit will increase the likelihood for 1,057 times (1 / 0,946) to realize greater donations compared to non-profit organizations with greater adequacy of equity. Non-profit organizations that reduce the operating margin by 1 unit will increase the probability of 1,634 times (1 / 0,612) that they will receive larger donations compared to non-profit organizations with a larger operating margin.

The results are generally consistent with prior studies and with assumed hypotheses. The positive effects on the donations have variables volunteers and debt ratio. Negative effects on the donations have variables taxable activity, adequacy of equity and operating margin as it is expected. Namely, non-profit organizations which are without volunteers, not indebted, able to generate commercial revenues which are taxable activity and have high level of adequacy of equity and operating margin receive less donations. Non-profit organizations with volunteers receive higher donations because donors may perceive that the organization with volunteers can provide better service and able to succeed in its mission. Non-profit organizations with debt ratio over 0.7 receive higher donation because the use of debt may allow for expansion, thereby donors may increase contribution as programs and output expand (Calabrese and Grizzle, 2012) or donors may view the organization as having a temporary liquidity problem and increase donations to help alleviate the short-term problem Charles (2018, 662). Non-profit organizations without taxable activity receive higher donations because donors believe that non-profits with alternative revenues do not need additional donations, or donors are averse to non-profit's sales activities (Yetman and Yetman, 2003, 244). Non-profit organizations that reduce the adequacy of equity receives higher donations because donators may view that high ratio of adequacy of equity means that organization do not spend donations on programs, so they can as punishment reduce their contributions (Trussel and Parsons, 2007). Non-profit organizations that reduce the operating margin receive higher donations because donors may perceive that a profitable organization is not maximizing spending on its charitable purpose (Trussel, 2008, 619).

This study has limitation. It examines the non-profit organizations in Croatia and specificity financial statements for non-profit organizations in Croatia, and therefore results obtained in this study should not be generalized across all non-profit organisations outside Croatia.

5. Conclusion

This study examines the association between accounting measures and data from financial statements and the amount of revenues from donation. Study is based on assumption that a different data from financial statements have a different influence on the amount of revenues from donation. The results have found significant relationship between volunteers, debt ratio, taxable activity, adequacy of equity, operating margin and amount of revenues from donation. Namely, non-profit organization with volunteers, with debt radio over 0,7, without taxable activities, with lower ratio of adequacy of equity and lower ratio of operating margin receive larger donations. By identifying accounting measures and information from financial statements which have an impact on the amount of revenues from donation this study contribute to the growing body of non-profit accounting literature and can provide guidance for future research that examines usefulness of non-profit accounting and information from financial statements for non-profit organizations.

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INFLUENCE OF BRANDING OF CLINICAL TRIALS IN HEALTH SECTOR ON DECISION TO PARTICIPATE IN CLINICAL TRIALS AND THEIR RECOGNITION IN CROATIAN MARKET

ABSTRACT

Each year, the pharmaceutical industry develops and introduces new medications and medical products which must go through complex clinical procedures. These procedures have been intensified due to the rapid development of new technologies, while the availability and effectiveness of new medications and medical products is the result of complex, long-term and expensive research which enables successful development of medications from the development stage to registration and market placement.
Most clinical research conducted in Croatia is a part of multinational clinical research, meaning other countries are involved as well. This fact puts in focus the question of the importance of clinical trials branding and the development of internationally recognized brands, because clinical testing must prove that the discovered formula is more effective in treating certain diseases and better than the therapies available on the market.
The Croatian public is not sufficiently informed about the importance and manner of conducting clinical trials, which results in distrust and prejudices towards the trials, with low public awareness of their significance for the development of medicine and progress mankind.
In view of the importance of conducting clinical trials, in this paper we have researched brand elements that influence public awareness of the future and present subjects in clinical trials, which are crucial for the branding of this service, successful communication of the brand to consumers, that is, users, and creating an advantage in the competition on both the local and global market. Using a paper-based questionnaire we investigated brand elements related to clinical trials in a group of patients at the Unit of Clinical Pharmacology of the University Hospital Centre Zagreb, as well as in a group of healthy individuals, using the same questionnaire publicly available in electronic format.

Key words: *clinical trials, clinical study, brand, market, clinical trial branding*

1. Introduction

Branding is a process that defines what a product is and what differentiates it from other products, what its benefits are and what the product means to the final consumer. A brand is nowadays a significant marketing tool that creates value for consumers. Added value is the ability to create a competitive advantage and enables the growth and development of a company and its products and services as well as the company's connection with its customers. Brand elements are of key importance for clinical trials branding and brand integration into the medical, economic and social spheres. In this paper, brand elements are considered from different dimensions to create the preconditions for segmentation, selection of the target market, the positioning of these services and selection of the right marketing mix.

2. Building and managing brands in clinical trials

According to London, Kimmelman and Carlisle (2012) from the Nuremberg Code onward, the core mission of human subject's research ethics has been to protect study participants from infringements motivated by a zeal for medical progress. This is illustrated by postmarketing (phase IV) research. As a corrective, research ethics should focus on safeguarding the integrity of research as a critical component of an evidence-driven, health information economy. Phase IV studies investigate drugs, devices, or biologics that have already received regulatory licensure. Generally, they are funded by drug companies and provide a means of testing findings from fastidiously designed trials in less stylized settings. They also provide greater statistical power for safety assessment.

The risks of participation in a clinical trial include the ineffectiveness of the side effects of the drug being investigated and the risks associated with the procedures provided in the test. Before taking part in the clinical trial participants are informed about all known risks. Prior to the approval of the examination, the competent authorities assess the justification and acceptability of the risk to the respondents. Clinical trials in the Republic of Croatia are approved by the Ministry of Health and with the prior mandatory positive opinion of the Central Ethics Committee. The Central Ethics Committee is an independent body of health workers and other members of the non-medical profession (representatives of patients, lawyers, theologians) whose responsibility is to ensure the protection of subjects involved in clinical trial by assessing the acceptability of the clinical examination plan, informed consent procedure, examiners and institutions procedures in clinical trials. The basic objective of an ethical approach in evaluating clinical trials is to protect the rights, safety and well-being of subjects involved in clinical trials (Vitezić, 2009).

The basis for building and managing brands in clinical trials is good knowledge of participants and potential participants in these trials as well as their wishes and needs. This is the way to build a long lasting and strong relationship between the researcher and other participants in the clinical trials and create a strong brand, which is the highest value for the researcher, and it is expressed as inexhaustible assets. According to Kotler, Keller, and Martinović (2014, 241), one of the most valuable inexhaustible assets of the company is its brands while the task of the marketing is to manage their value appropriately. Building a strong brand is both art and science. It requires careful planning, profound long-term commitment and creatively designed and implemented marketing. A strong brand requires intense loyalty of customers and it present a base for an excellent product or service.

Due to the specificity of clinical trials, the role and importance of the brand for the researches are in its contribution to the recognition and confidence, as participants will entrust their health to the researcher if they feel connected to the researchers due to the recognizability of the brand. The recognizable brand distinguishes the researches from their competition, which is very important because clinical trials are now being conducted in many countries and have become, given their financial background, an essential part of the global economy. The recognizable brand and trust of participants are a generator of public recommendations, because people like to talk about the brands they trust. A recognized brand means that participants know what to expect each time they engage in a clinical trial conducted by a recognized researcher. Brand in this case represents the researcher and his promise to participants. The value of the brand increases and creates the loyalty of the participants by providing quality. Weisman (2011) underlines that the role of the brand in clinical trials is particularly important when recruiting participants because the specificity of clinical trials is in the fact that there is no product or promises and the time for getting to know the public and participants is short compared to the time companies have for their tangible products or services.

Clinical trials are links between new drugs and medical products and representation of their usefulness and harms. It is important to build a brand of clinical trials because of the trends of globalization and rapid technological development that have built these trials as a global product available to everyone and based on voluntary participation with adequate financial compensation. In clinical trials, special attention should be given to the trust and emotional connection between the public and the brand since the pharmaceutical industry legally protected almost everything related to the research of new drugs. Goodson (2012) underlines that brands are psychology and science brought together as a promise mark as opposed to a trademark. Brands convey a uniform quality, credibility, and experience. Brands are valuable. According to this, creating a new brand in the field of clinical trials is a challenge that requires a carefully developed strategy.

Kotler, Keller and Martinović (2014, 243) underline that creating a brand is the enrichment of products and services. Creating a brand also means creating differences. Creating a brand creates a mental structure that helps the customer to organize their knowledge of products and services in a way that makes it easier to make decisions. In the same time, the company gains value during the process. Participants in clinical trials will give their attention and loyalty to the brand with which they gain the emotional, experientially and economic value they receive in return. Researchers should pay special attention to it while branding their products or services.

The brand is a guarantee for the customers, but also the assumption of a company's success on the market and a certain level of defense against competitors. It is possible to copy some physical product features and even some service features, but the brand is not legally allowed to copy because the company owns it. Nevertheless, more importantly, it is difficult to copy an active relationship between client and brand because it is built over time, it is special and not plentiful - it consists of a whole set of activities. Due to significant investment in brand management, efforts should be made to study the return on investment in the brand and the impact of various activities on brand value. Even though brands have some limited tangible features of their identity, they are, above all, an inexhaustible good that can refer to the very essence of products and / or services (but also companies), to attract and retain customers and ultimately to generate greater revenue than the company would earn by selling unmarked products. Having a brand can over time, create significant value and market advantage (Vranešević, 2007, 153)

According to Wreden (2010, 175-176) creating a brand ensures efficiency and accountability in the process of building and maintaining relations with customers. Profitable branding requires two types of systems. The first is strategic and it provides panoramic insights into the procedures and goals. Common strategic goals include results lists, which again imply a system of interrelated goals, activities and measurements and a business management strategy that seeks to mitigate measurement defects and eliminate variability. The other type is tactical. Tactical systems vary from managing accounts to territorial management that allow managers to effectively perform "stopping and capturing" activities involving data creation that has been used to gain customers and increase their profitability. The same source underline that the interaction with the customer must be based on significance and timelines. An offer, information, and communication do not have to be based on what a company is trying to sell but on what the customer wants to buy.

The brand identity in clinical trials is the result of communication with the target market but also with doctors and other medical and non-medical stuff that make up clinical trials because the brand identity stems from the mission and vision of the company. In order to create a brand identity, it is important to respect all its values made by doctors and other staff who participate in the clinical trial.

Vranešević (2007, 43) underlines that the brand name can be viewed as the central brand element - the one that can be pronounced, for example Coca Cola, BMW, Vegeta, Cedevita; while the mark is represented by a picture, representation, logo that can be recognized and distinguished from others, but it is not necessary or cannot be pronounced. The brand name should have features aimed to achieve goals set before the brand. When choosing a brand name various tests are used as methods to achieve the best result. The most commonly used are: 1. association tests, 2. learning tests, 3. memory tests and 4. preference tests. It is also important to check if the name is already in use and is protected. (Levačić, 2012, 36).

When choosing the right brand name in the field of clinical trials it is important to know the process of conducting clinical trials, specific characteristics of clinical trials, the public opinion, and the participants. It is also important to know the position of a researcher that who creates the brand in relation to the competitors. That is why market research is important when creating a brand name.

The brand logo is used to get a distinct and precise definition of what brand represents, which product or service it represents, what is its intention and how to use it (Levačić, 2012, 36). Brand logos along with other brand elements affect the perception of the brand because like other elements they create associations. Due to their visibility and applicability, logos are an appropriate way of identifying products, and since they are nonverbal, they may create similar associations in different cultures (Vranešević, 2007, 51).

A slogan of the brand is, just as the brand mark, one of the determinants of the brand's identity. Along with the visual identity presented through the brand logo, a slogan is the element that makes the brand recognizable. The same as with the brand mark, it is important for a slogan to be simple, memorable and comprehensive. If the slogan message is not clear, the public will not think about it and will forget it. The easy-to-understand slogan is the key to recruiting the patients in clinical trials and raising public awareness of their importance. The best way to create a slogan that the public can easily remember is through words that are in rhyme or directly aimed at product or service by sound. In clinical trials, slogan should be created in a way that in a very short time makes public interested in clinical trials and encourages people to learn more and participate in these trials.

Color is an important part of the brand and it is possible to bind it to all visual elements - starting with the printing the name or brand mark, packaging to the color of the product (Vranešević, 2007, 55). In creating a visual identity of a brand, especially brand's mark it should be considered that colors have an impact on the public so it is important to know how colors affect people and what colors are more appropriate to use when creating a particular brand. In general, there are certain colors and combinations of colors that for most people have the same meaning and effect. When choosing the color of a brand, cultural differences that reflect different preferences to color should also be considered.

Bright and accentuated colors usually attract attention while muted tones give a more sophisticated picture but also their ability to be noticeable is greater. Selection of colors for the brand's mark should strengthen and improve the brand design but at the same time, it should not determine it. Quality branding of clinical trials service is one of the basic conditions to recognize them and create value added. Branding of today's global service is important for increasing competitiveness, achieving profitability and securing the base of current and future participants and other interested parties in clinical trials, or creating a value added.

Brand management is important to gain brand success on the market. A strong brand recognized by users is one of the core elements of the company's market value. The brand should be a statement of culture and values that the company weaves and should be involved in its vision and mission. A brand is a fundamental determinant of the company's strategy. However, it is not a magic wand to solve all problems and it is not a guarantee of the company's unmatched success. There is a great risk that superficial branding will overcome some of the basic processes in strategic marketing management, which is, above all, a clear segmentation of the market and guidance to the precisely selected consumer segments. In most cases, the intention of the company should not be to use the brand to turn to the entire market, and this is often unnecessary because seldom will the entire population of the market be interested in the same brand (Vranešević, 2007, 65).

In its essence, brand strategy is mainly based on two parameters - differentiation and value added. Differentiation implies efforts to distinguish the product from others while the value added suggests that the branded product has a higher value for clients than the product to which the mark is not assigned. The value of a brand is in what the brand is and how it is perceived by the public, especially by its customers, but also in the way how the brand changes, upgrades and adapts to the needs, desires, and expectations of those who gave it a trust. The relationship between the brand and its customers is a continuous process that needs to be maintained and upgraded by following changes in the market. Listening to needs, wishes and expectations as well as market changes and technology development are important elements in building and differentiating the brand and it is, therefore, a basic component of a long-term business strategy that the company is presented by on the market.

3. Research methodology

3.1. Objectives and methods of research

The main purpose of this study was to examine the attitudes of respondents on brand elements that could be decisive in creating and managing the brand of clinical trials. Therefore, the following research objectives were needed to identify: 1) brand name, 2) brand logo, 3) brand colors, 4) brand slogan. The gathering of the data in the empirical part of the research was conducted by the survey designed by the authors. Between February and March 2016 two hundred respondents were accrued in this survey. The processing of collected data was done by descriptive statistics, one-way analysis of variance (ANOVA), multiple analysis of variance (MANOVA), F-tests and post hoc test of multiple comparisons.

3.2. Data collection and analysis

Multiple-choice questionnaire with five possible answers to each question, ranging from strongly disagree to strongly agree on a Likert scale, was designed to explore four areas important while branding products or services: brand name, brand logo, brand slogan and brand colors. The questionnaire also included demographic characteristic questions on gender, age, education level, and settlement size. After being publicly available and filled, its comprehensiveness was checked and validated.

The questionnaire was drawn up in the light of previous research into the emotional attachment between a participant and a brand (according to Thomson, MacInns and Park, 2015, 77-78, it is an emotion-laden target-specific bond between a consumer and a brand), brand attachment (according to Park, MacInnis, Preiester, et. al. 2010, 2, is the strength of the bond connecting the brand with the self), customer attachment style (according to Mendle, Bolton and Bitner, 2013 it is a customer's working model of relating with a specific firm), attachment-aversion (according to Park, Eisingerich and Park, 2013, it is a unifying conceptual model of brand relationships that identifies determinace of their valence and salience) and self-brand connection (according to Escalas, 2004, it is a degree to which consumers have incorporated the brand into their self-concepts) as well as taking into account medical diagnoses of needle phobia (according Hamilton, 1995, persons with needle phobia typically avoid medical care, this condition is a significant impediment in the health care system), pharmacophobia defined as a fear of taking medicine (Sibitz, Katschinig, Goessler et.al, 2005), nosocomephobia defined as a fear of hospitals (Olesen, 2015) and psychology of colors in marketing (Singh and Srivastava, 2011).

IBM SPSS Statistics for Windows, version 20.0 was used for the statistical analysis. Summary statistics with means were used to describe the respondent's answers. Variance analysis (ANOVA) and multivariate analysis of variance (MANOVA) were used to additionally analyze four groups of questions in this research. All tests were two-sided and p values less than 0.05 were considered statistically significant. Significant F-tests and post hoc test of multiple comparisons have been obtained as an additional assessment of the differences among means to provide specific information regarding means that were significantly different from each other. According to Halmi (2003, 122) since it was used MANOVA, the F-test was replaced by Wilk's Lambda test. Wilk's Lambda is used to test which variable contributes to statistical significance in a discriminant function. If the value p is less than 0.05, we can conclude that the corresponding function explains the members of the group well. Opposite to F values in linear regression, when Wilk's Lambda's value is small, the function is significant. Small test values mean statistical significance. When $p > 0.05$ in these post-tests, it was surmised that there were no significant differences between observed variables, so they were considered of the same importance.

3.3. Results and discussion

Baseline demographics

Two hundred questionnaires were collected (50% paper-based and 50% electronic). Sixty-four respondents (32%) were 20-34 years old, sixty-eight respondents (34%) were 35-49 years old and sixty-eight respondents (34%) were 50-64 years old. According to the data of Population Census in the Republic of Croatia in 2011, the surveyed respondents were matched by age and gender. Analysis of variance (ANOVA) of gender as a demographic indicator in this study showed no significant statistical difference between female and male respondents ($p = 0.111$) as well between different age groups of respondents or different attitudes on clinical trials related to settlements size of respondent's residence ($p = 0.004$). Post hoc test of multiple comparisons showed a significant statistical difference among respondents with a higher education degree in comparison to those with a lower educational level ($p = 0.044$).

Brand name

Mean and multivariate analysis of variance (MANOVA) were used to indicate the most important factors influencing branding of clinical trials. Factors with highest means values were considered most important to respondents in their decision on clinical trial brand name: I remember the name of clinical trials researcher for its brand logo (3.98), I remember the name of clinical trials researcher for its pronounced name (3.85), see table 1.

Table 1: *Brand name – description statistics*

	Mean	Standard deviation	N
1. I remember the name of clinical trials researcher for its pronounced name.	3.8550	1.07225	200
2. I remember the name of clinical trials researcher for its brand.	3.9800	1.04646	200
3. I connect the name of clinical trials researcher with feelings of satisfaction and fulfilment.	3.0900	1.18275	200
4. I remember the name of clinical trials researcher for the events in which he is presented.	2.5700	1.18834	200
5. I connect the name of clinical trials researcher with sincerity which is crucial for my decision to participate in clinical trials.	3.2850	1.11805	200
6. I connect the name of clinical trials researcher with expertise which is crucial for my decision to participate in clinical trials.	3.4850	1.07497	200

Source: Authors

Multivariate analysis of variance ($p = 0.000$) including pairwise comparisons post hoc test ($p> 0.05$) demonstrated no significant difference between these two variables so they appear equally important in respondents' attitudes toward the name of the brand in clinical trials.
According to this, results of table 2 indicate that there is no statistically difference between three observed variables.

Table 2: *Brand name – Wilk's Lambda test*

	Value	F	Hypothesis df	Error df	Sig.
Wilks' Lambda	.416	54.691	5.000	195.000	.000

Source: authors

Results of table 3 indicate that three observed variables appear equally important when choosing the name of the brand in clinical trials.

Table 3: *Brand name - post hoc test of multiple comparisons.*

(I) Brand name	(J) Brand name	Difference between means (I-J)	Std. error	Sig.
1	2	-.125	.064	.771
	3	.765*	.080	.000
	4	1.285*	.099	.000
	5	.570*	.081	.000
	6	.370*	.080	.000
2	1	.125	.064	.771
	3	.890*	.074	.000
	4	1.410*	.096	.000
	5	.695*	.085	.000
	6	.495*	.081	.000

Source: authors

Brand logo

The same as with brand name, factors with the highest means values were considered most important to respondents in their decision on clinical trial brand logo: the feeling of trust and confidence for me is caused by symbol H (hospital) (3.47), the feeling of trust and confidence for me is caused by the symbol of a stethoscope (2.72), the feeling of trust and confidence for me is caused by the symbol of a doctor's handbag (2.64), see table 4.

Table 4: *Brand logo – descriptive statistics*

	Mean	Standard deviation	N
1. The feeling of trust and confidence for me is caused by the symbol of a syringe.	1.6750	.85029	200
2. The feeling of trust and confidence for me is caused by the symbol of a capsule.	2.5150	1.19032	200
3. The feeling of trust and confidence for me is caused by the symbol of a stethoscope.	2.7200	1.16550	200
4. The feeling of trust and confidence for me is caused by the symbol of a test tube.	2.6000	1.19041	200
5. The feeling of trust and confidence for me is caused by symbol H (hospital).	3.4700	1.25978	200
6. The feeling of trust and confidence for me is caused by the symbol of a doctor's handbag.	2.6450	1.17297	200

Source: authors

Multivariate analysis of variance (p=0,000) including pairwise comparisons post hoc test (p > 0.05) demonstrated no significant difference between these three variables, thus they appear equally important in respondents' decision about the brand logo in clinical trials. Wilks's Lambda test value results in table 5 indicate that there is no statistically difference between three observed variables.

Table 5: *Brand logo – Wilk's Lamda test*

	Value	F	Hypotesis df	Error df	Sig.
Wilks' Lambda	.376	64.757	5.000	195.000	.000

Source: authors

Results shown in table 6 indicate that three observed variables appear equally important when choosing the logo of the brand in clinical trials.

Table 6: *Brand logo - post hoc test of multiple comparisons.*

(I) Brand logo	(J) Brand logo	Difference between means (I-J)	Std. error	Sig.
3	1	1.045*	.087	.000
	2	.205*	.066	.034
	4	.120	.072	1.000
	5	-.750*	.083	.000
	6	.075	.068	1.000
5	1	1.795*	.101	.000
	2	.955*	.086	.000
	3	.750*	.083	.000
	4	.870*	.085	.000
	6	.825*	.076	.000
6	1	.970*	.090	.000
	2	.130	.077	1.000
	3	-.075	.068	1.000
	4	.045	.078	1.000
	5	-.825*	.076	.000

Source: authors

Brand colors

Data analysis demonstrated that the most important factors in brand colors of clinical trials are: Feelings of warmth, calmness, confidence and trust for me are caused by the green color (4.09), Feelings of warmth, calmness, confidence and trust for me are caused by the blue color (3.73), Feelings of warmth, calmness, confidence and trust for me are caused by the white color (3.54), see table 7.

Table 7: *Brand colors – descriptive statistics*

Descriptive statistics			
	Mean	Standard deviation	N
1. Feelings of warmth, calmness, confidence and trust for me are caused by the red color	2.7050	1.26728	200
2. Feelings of warmth, calmness, confidence and trust for me are caused by the blue color	3.7300	1.09228	200
3. Feelings of warmth, calmness, confidence and trust for me are caused by the yellow color	2.7150	1.22936	200
4. Feelings of warmth, calmness, confidence and trust for me are caused by the green color	4.0950	.99039	200
5. Feelings of warmth, calmness, confidence and trust for me are caused by the white color	3.5400	1.30265	200
6. Feelings of warmth, calmness, confidence and trust for me are caused by the black color	1.7900	1.03502	200

Source: authors

Multivariate analysis of variance (p=0,000) including pairwise comparisons post hoc test (p > 0.05) demonstrated no significant difference between these three variables, thus they appear equally important in respondents' decision about the brand colors in clinical trials. According to this, Wilks's Lambda test value results in table 8 indicate that there is no statistically difference between observed variables.

Table 8: *Brand colors – Wilk's Lambda test*

	Value	F	Hypotesis df	Error df	Sig.
Wilks' Lambda	.292	94.706	5.000	195.000	.000

Source: authors

Results of table 9 indicate that three observed variables appear equally important when choosing the logo of the brand in clinical trials.

Table 9: *Brand colors - post hoc test of multiple comparisons*

(I) Brand color	(J) Brand color	Difference between means (I-J)	Std. error	Sig.
2	1	1.025*	.094	.000
	3	1.015*	.105	.000
	4	-.365*	.083	.000
	5	.190	.102	.963
	6	1.940*	.106	.000
4	1	1.390*	.099	.000
	2	.365*	.083	.000
	3	1.380*	.101	.000
	5	.555*	.096	.000
	6	2.305*	.114	.000
5	1	.835*	.116	.000
	2	-.190	.102	.963
	3	.825*	.121	.000
	4	-.555*	.096	.000
	6	1.750*	.113	.000

Source: authors

Brand slogan

Mean and multivariate analysis of variance (MANOVA) demonstrated the most important factors influencing brand slogan in clinical trials. Factors with the highest means were considered most important to respondents in their decision to participate in clinical trials: The feeling of safety and confidence I connect with the word life in the slogan (3.50), The feeling of safety and confidence I connect with the word family in the slogan (3.48), The feeling of safety and confidence I connect with the word health in the slogan (3.46), see table 10.

Table 10: *Brand slogan – descriptive statistics*

	Mean	Std. Devijacija	N
1. The feeling of safety and confidence I connect with the word health in the slogan	3.4600	.96074	200
2. The feeling of safety and confidence I connect with the word family in the slogan	3.4800	1.01229	200
3. The feeling of safety and confidence I connect with the word life in the slogan	3.5000	.96157	200
4. I connect the brand slogan with sincerity which is crucial for my decision to participate in clinical trials.	2.8900	.90109	200
5. I connect the brand slogan with safety which is crucial for my decision to participate in clinical trials.	2.9450	.90336	200
6. I remember the brand name by its pronounced slogan.	2.8250	1.02940	200
Independent variable: brand slogan			

Source: authors

Multivariate analysis of variance (p=0.000) including pairwise comparisons post hoc test (p > 0.05) demonstrated no significant difference between these three variables, thus they appear equally important in respondents' decision about the brand slogan in clinical trials.
Results of table 11 indicate that there is no statistically difference between three observed variables.

***Table 11:** Brand slogan – Wilk's Lambda test*

	Value	F	Hypotesis df	Error df	Sig.
Wilks' Lambda	.659	20.188	5.000	195.000	.000

Source: authors

Results of table 12 indicate that three observed variables appear equally important when choosing the logo of the brand in clinical trials.

***Table 12:** Brand slogan - post hoc test of multiple comparisons*

(I) slogan	(J) slogan	Difference between means (I-J)	Std. error	Sig.
1	2	-.020	.063	1.000
	3	-.040	.050	1.000
	4	.570*	.076	.000
	5	.515*	.077	.000
	6	.635*	.090	.000
2	1	.020	.063	1.000
	3	-.020	.053	1.000
	4	.590*	.070	.000
	5	.535*	.074	.000
	6	.655*	.085	.000
3	1	.040	.050	1.000
	2	.020	.053	1.000
	4	.610*	.073	.000
	5	.555*	.075	.000
	6	.675*	.090	.000

Source: authors

4. Conclusion

Branding is the culmination of the marketing process. All elements of a marketing mix are surmised during the branding process. A brand is created to ensure differentiation on market compared to other products or services, or to create value added for the customer. Brand management requires the adoption of strategic brand decisions that are consistent with the strategic aspects of the market to ensure the most optimal use of the brand. It can be concluded that it is important to carry out the analysis of the relationship that determines the brand according to the aspects of the market or to the end customers in order to create a differentiated brand position.

People participate in clinical trials for different reasons. Ethics of clinical trials is focused on safeguarding and the integrity of participants and their families and it is as essential part of the work of all competent bodies as well as subjects that conduct clinical trials in all their aspects, including branding that is a step when testing a drug or medical device have already received regulatory licensure. Recognizing the omnipresence of respecting strict ethical standards in clinical trials process, ethical aspects analysis even though it represents important and interesting topic, is not the subject of this research and it is the recommendation for future studies.

Elements of the brand that should be considered when branding the clinical trials, according to the results of this research, should be memorable, especially the name and logo, because most respondents remember the brand precisely by its memorable name and logo. When choosing a brand name while branding clinical trials, according to research findings, the first choice should be the H (hospitals) sign, then the sign of the stethoscope and the sign of the doctor's handbag, as they cast the highest trust on participants in this research. Colors that, according to the results of the research, need to be used when branding clinical trials are green, then blue and white, while slogans should use words life, then family and health.

According to the results of this research, branding is an important aspect in the field of medicine dealing with clinical trials of drugs and other medical products and thus positively influences the performance of the subjects that conduct these trials. Branding of this service has a positive impact on financial, business and organizational performance as the goal of every business, including subjects conducting clinical trials, is to create maximum value for consumers and the company by using optimized marketing mix instruments. In the field of clinical trials, the brand should be built on safety, confidence, understanding and satisfaction of participants' needs.

By integrating different structural elements of branding, this research is a significant contribution being the first research on clinical trial branding in the Republic of Croatia, underlying the specifics of Croatian social, economic and cultural environment, previous research was carried out in other countries and was adapted to the particularities and the conditions for conducting clinical trials in those countries. Therefore, the results of this research represent the original analytical basis for evaluating elements that influence public awareness of the brand of clinical trials conducted by a specific subject. These results are showing a positive influence of clinical trial branding can be a guide to subjects conducting the trials on the Croatian market and can improve the existing level of business performance and ensure long-term competitive position not only on the domestic but also on the global market, because clinical trials are a global service today.

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NON-PROFIT ORGANIZATIONS AND THEIR POSSIBILITIES OF MEASURING EFFICIENCY

ABSTRACT

In particular, the non-profit organization focuses on fulfilling the mission. Profit generated cannot be distributed among owners, administrators, or founders, but must always be re-used to develop the organization and be used for activities specified in the organisation's mission. In addition, these types of organizations cover areas where governmental or private institutions do not want or cannot deal with. Therefore, the status of non-profit organizations is specific and their work valuable. Non-profit organizations that exist today are very different from those of the post-revolution period. We see how organizations change and mature. This is due to the increasing level of education and entitlements to people working in these organizations. In this paper, we defined the nature of non-profit organizations, the conditions of their creation, their importance for society, the legislative framework of their functioning as well as the financing conditions in Slovak Republic as a particular aim. The research is focused on possibilities within measuring efficiency of selected organizations and to determine efficiency was used data envelopment analysis (DEA). DEA method is one of the most important approaches of economic management. It allows to evaluate the effectiveness of individual producers within a given group. Compared to statistical and other methods, the DEA method is a relatively new nonparametric method, which is one of the possible approaches to assessing the efficiency, performance or productivity of homogeneous production units. The CCR and BCC models have been elucidated in the analysis that reveal possible causes of inefficiency. The study deals with the evaluation of the effectiveness of Slovak non-profit organizations and within the research paper, the aim is to explore the different measurement possibilities. Based on the results of the analyses, output can serve as a basis for improving efficiency in the strategies that organizations have established.

Key words: *Non-Profit Organizations, Efficiency, Data Envelopment Analysis, Program Efficiency*

1. Introduction

Nonprofit organizations demonstrate the ability to deliver services of general interest effectively, and therefore the requirement to act as commercial service providers and service providers demands complex performance measurement (Sebo, Vacekova, 2011). The paper builds on the partial results of primary research aimed at testing the performance of non-profit organizations providing services of general interest in Slovakia. The efficiency or inefficiency of using funds in the non-profit sector is an important issue through the countries, and one of the usual goals is to support the increase of effectiveness. One of the scientific methods used to quantify effectiveness is the Data Envelopment Analysis (DEA) method published in 1987 by Charnes, Cooper and Rhodes. The result of measuring efficiency is not even the fact that we can divide the set of production units into efficient and inefficient, but for a group of inefficient departments, we decide what kind of improvements are necessary to perform in order to ensure them effective. This method allows us to determine efficiency for different time periods but cannot quantify the change in efficiency between these periods (Kostempska, 2017).

Efficiency assessment tools used are not quantitative economic analysis methods, including data envelopment analysis, but various ratios based on standard company reports. The disadvantage of these tools compared to data envelopment analysis is the fact that they include only two or few factors that affect the overall efficiency of the unit (Koppel, Kolencik, 2018). It is clear, therefore, that efficiency, productivity and performance are concepts that typically depend on a whole range of characteristics. These characteristics are very diverse and can be given in different measurement units. Aggregating such data is very difficult if it is possible at all, even if the characteristics are in the same unitary expression (Jakovljevic, 2016).

The third sector is currently perceived as an integral part of human society. It includes clubs, communities, foundations and funds, with volunteers, enthusiasts and professional teams of experts. In the framework of non-profit organizations, the dimension of volunteering is a key and indispensable part of the functioning of these organizations (Kliestik, 2018).

While in the past they were perceived secondary, the present lifted the place and importance of non-profit organizations to a much higher level. The centre of the economy in the past has been to large companies that bring state profits, and non-profit organizations have been just some sort of complementary extraction within the state. Twenty years ago, it turned out that some issues, especially social and health issues, are not able to solve the state without the help of non-profit organizations (Coupet, 2018).

Efficiency assessment, whether it is a private sector or not, is very demanding. It is therefore possible to use a variety of tools to facilitate evaluation. In our case, we have decided to use DEA analysis to follow other authors. Similar issues are addressed, for example, by ***Sebo and Vacekova*** (2011), whose aim is to identify the performance dynamics of Slovak non-profit organizations providing services of general interest, and to objectively assess whether these organizations are capable of increasing value over time. The paper presents the partial results of research among organizations providing services of general interest and points out how to increase their performance and achieve "value for money" over time. Another author is ***Nunamaker*** (1985), who explored the potential effects of expanding a set of variables and data changes on the effectiveness of non-profit organizations generated by the Envelopment Analysis (DEA) model. ***Pina and Torres*** (1992) decided to evaluate the usefulness of the

DEA model as a management tool for application to measuring the effectiveness of health centres and chose the DEA model because it does not need previous specifications. Article of ***Vakkuri*** (2003) examines non-profit organizations in terms of management. The aim is to study the applicability of efficiency information in NPOs management. To this end, important conceptual and methodological aspects are addressed. Subsequently, the efficiency measurement technique (DEA) is analysed and its main characteristics are critically examined. Several other authors address the issue of non-profit organizations and their effectiveness through DEA analysis for example, ***Callen and Falk*** (1993); ***Chen*** (2010); ***Golden*** et al. (2012).

The analysed literature has significantly determined the direction in the analysis of efficiency in our work. Efficiency can be evaluated in several ways, but the DEA model analysis is a relatively new but complex method. In analysing previous studies, we were able to better estimate the choice of input and output facts, we confirmed the process of processing the analysis and significantly helped to interpret the results.

2. Methodology

DEA analysis is a method based on the use of linear programming, which was ***originally developed to measure the effectiveness of non-profit organizations*** such as schools, hospitals, state and public administration. Later, its use has been extended to various businesses, services, the banking sector as well as to measure the performance of national economies. The chosen method is a new up-to-date and can evaluate efficiently on the basis of inputs and outputs. At the same time, it is not necessary to verify complex hypotheses and assumptions. It is important to keep the sample homogeneous.
DEA analysis uses different methods of efficiency evaluation. The most basic model is the CCR model, which is based on constant range returns, then the BCC model is based on variable range returns. Furthermore, the new model is the SBM model, which is a combination of the previous two and allows to determine super efficiency.
DEA models are since for a given problem there is a so-called set of permissible options consisting of all possible (admissible) combinations of inputs and outputs (Li et al., 2017). It is determined by the effective threshold. Production units whose input/output combinations lie at the effective boundary are efficient units, since it is not expected that a unit that achieves the same outputs with lower inputs or higher outputs with lower inputs could exist (Jablonsky, Dlouhy, 2004).
DEA compares the units to the best units. This is a method of estimating a production function based on linear programming theory (Brozova, et al., 2003).
Because the units consume a set of inputs to produce outputs, the relative efficiency rate is given by: efficiency = weighted sum of outputs/weighted sum of inputs.

The main purpose of the DEA method is to compare the productivity of enterprises, organizational units, which are called the DMU (Decision Making Units). Each DMU uses several inputs for its activity and some outputs result (Staessens et al., 2018). Inputs are quantities that are consumed in a given activity and outputs are the resultant products. In general, we prefer smaller input values and larger output values (Özbek, 2015).

In real situations, it is often necessary to consider multiple inputs and outputs and the question arises as to how to measure efficiency in such a case (Tretyak, 2018). The solution is to put the weighted sum of outputs behind the outputs and the weighted sum of inputs behind the inputs. From the standpoint of calculation, it would be simplest to fix fixed weights for inputs and outputs, however, which may be unfair to some DMUs, since each of them may prefer other inputs and outputs. Now there is a question of how to choose scales for each input and output (Miragaia, 2016).

The ***CCR model*** is historically the first DEA model that was designed by Charnes, Cooper and Rhodes in 1978. CCR model can be derived from simple adjustments from a conceptual model.

The ***BCC model*** is similar to the previous model. It is also derived from the role of mathematical programming as a CCR model. It was published by Banker, Charnes and Cooper in 1984. In the CCR model, we assumed that each input unit yielded the same amount of output, i.e. constant yields on the scale. The BCC model assumes variable yields from a range. With variable yields, we distinguish three areas:

1. area of growing yields;
2. area of declining yields;
3. constant yield range.

3. Research

Within the analytical part, we examined non-profit organizations in Slovakia. Six major non-profit organizations involved in the treatment and care of sick and dying children participated in the efficiency analysis. The reason for choosing non-profit organizations is that it is in this sphere that efficiency assessment is largely neglected. At the same time, it can serve to compare the results of the study with those of the private sector. We worked closely with NGOs to provide us with internal information, and we would maintain the anonymity of these businesses. It was based on data from the financial statements and annual report data from 2018. Data was analysed using DEA analysis to determine the effectiveness of selected non-profit organizations. Within the DEA analysis, there are several models that can assess the effectiveness of inputs and outputs. In the analysis, we set as inputs wage costs and subsidies and donations that are important inputs. As outputs, we decided to choose the number of successful projects and the amount of spending that was provided to meet the social objectives. The results are available in Table 1.

Table 1. *Efficiency of selected non-profit enterprises*

No.	CCR			BCC		SBM			
	Input	Ouput	Super	Input	Output	CRS	C-Super	VRS	V-Super
DMU1	0,6679	1,4971	0,6679 (5/6)	1	1	0,3583	0,3583 (5/6)	1	3,7644 (2/6)
DMU2	1	1	3,2766 (1/6)	1	1	1	4,0705 (1/6)	1	4,1014 (1/6)
DMU3	0,7994	1,2509	0,7994 (4/6)	1	1	0,0375	0,0375 (6/6)	1	1 (4/6)
DMU4	1	1	1,3888 (2/6)	1	1	1	1 (3/6)	1	1 (5/6)
DMU5	1	1	1,2445 (3/6)	1	1	1	1,1148 (2/6)	1	1,2901 (3/6)
DMU6	0,3922	2,5499	0,3922 (6/6)	0,3925	1,0627	0,3719	0,3719 (4/6)	0,3855	0,3855 (6/6)

Source: Own processing

The advantage of CCR, BCC and SBM models is that the efficiency values are from the interval <0 ; 1>. The value of efficiency in the additive model ranges between -∞ and 0. These

values point to the suitability of scaling the optimal value of the function to achieve an effect from the <0 ; 1> interval, and thus compare the efficiency with the remaining models. We may have noticed that if the CCR is effective, BCC is effective too, but it does not apply contrary. Also, if SBM organizational units are effective, CCR is efficient and CCR pseudo-effective are SBM ineffective.
On the basis of the analysis results, we concluded that the most efficient unit is DMU2, which is based primarily on the CCR, BCC and SBM.
As we could see in the table 1, according to CCR model DEA analysis there are many effective DMUs, for example DMU2, DMU4 and DMU5. The others productive units do not utilize whole potential. DMU1 reached almost 67% from whole effectiveness and it means that other effective units could be more effective with the same inputs. This rule is applicable for DMU3 and DMU6. The table shows ranking from the most effective unit to less effective units.
Each non-profit organization and its inputs and outputs were analysed by three efficiency assessment models. Based on the CCR model of the DMU2, DMU4 and DMU5 production units can be considered as effective, thus using their inputs effectively to produce outputs. Other units are inefficient. The DMU3 must reduce its input levels by 20% at unchanged outputs to be effective. Other effective units can produce an output that is 1.2 times higher with the same inputs of DMU3.
At the same time, it is possible to compare the efficiency of effective units by using super efficiency. For example, DMU2 can reduce its output 3.28 times and still remain effective. Super efficiency puts production units in a more efficient way. The BCC model rated the production unit differently than in the case of CCR, using a super efficiency. for effectively almost all production units as a CCR model. The combined model has determined all production units up to one unit efficiently. The order is again different from previous models.

DEA analysis limits within the sample under study

- The non-profit input file is not complete, there are other organizations dealing with similar issues, study should be more developed and extended.
- Missing comparable quality indicators.
- DEA models – each is different and there is no clear procedure, which one should be utilized for particular study.
- Absence of information on so-called. project mix, that is, information on the structure of projects, their importance and relevance, thus ensuring complete homogeneity and comparability.

4. Conclusion

The aim of the research paper was to clarify the Data Envelopment Analysis (DEA) method, to point out the possible modifications of the basic DEA models for solving problems with unwanted outputs and the application of DEA models to real data of the largest Slovak non-profit organizations.
The DEA analysis models are still being developed and several conditions and assumptions under which the model is to be used. In addition, inputs and outputs are made up primarily of qualitative data and therefore it is necessary to develop an appropriate methodology to measure these data. At the same time, the reporting value would increase if the file was extended to other non-profit organizations.

The DEA method offers opportunities to evaluate the effectiveness of organizational units within a given group. In the beginning, we explained the basic idea of DEA models and at the same time the possibilities of utilization. The subject of research was six large and significant non-profit organizations in Slovakia. Based on the available information as the financial statements and the published annual reports, we have obtained the necessary information to process the inputs and outputs needed for the DEA analysis. With the DEA analysis, we determined which units could get better their efficiency according to utilized the available DEA analysis models CCR, BCC and SBM.

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11 Branding, Social Entrepreneurship and Social Responsibility

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PERSONNEL MARKETING AS A SOCIAL BOTTOM LINE OF CORPORETE SOCIAL RESPONSEBILITY FROM THE PERSPECTIVE OF THE SUPPORT TOOL FOR BUILDING BRAND VALUE

ABSTRACT

The issue of corporate social responsibility is becoming an increasingly important element of strategic business management under the conditions of today's globalized market. The potential benefits that an enterprise can gain through this tool include strengthening the brand position, building customer loyalty, brand preference in the target markets, enhancing the company's image, and enhancing employee satisfaction and motivation. This paper focuses only on personnel marketing, which is an integral part of the social bottom line of corporate social responsibility. Personnel marketing emerged as a reflection on the negative situation in the labour market, which was the lack of selected labour force segments. It also generates positive business awareness. The aim of this paper is to determine the extent to which internal personnel marketing activities impact on building brand value. Through the survey, it was found the overall satisfaction of the employees of the surveyed company and the effectiveness of internal personnel marketing. To obtain this information, it was chosen the method of questioning. The obtained data was statistically tested to determine the dependence of internal personnel marketing tools on building brand value. This was achieved through the application of the test of independence and subsequent correspondence analysis. The analysis of the research results confirmed that there are some internal personnel marking tools with the higher effect on building brand value.

Key words: *Personnel marketing, Corporate social responsibility, Brand value*

1. Introduction

Corporate Social Responsibility (CSR) brings a new perspective on the social role of a business, recognizing the link between profitability, ethical and environmental standards of business. The position of companies in society is subject to constant change (Kliestikova et al., 2018). People nowadays no longer perceive companies only as producers of products and service providers aiming at maximizing profit (Moravcikova and Krizanova, 2017). They assume that they will meet the requirements of other areas, such as the environment or support and develop the social activities (Nadanyiova and Kramarova, 2013). To be long-term and sustainable, the company must meet the expectations of its surroundings (Formanková et al., 2017). The CSR definitions refer to the three areas in which responsible entrepreneurship is specifically expressed. Responsible entrepreneurship requires a shift from a 'profit only' perspective to a perspective that allows the business to see a broader system of social and environmental relations. The company is not working in isolation, but it is a direct part of the outside world. According to this view, the company works with regard to the so-called triple bottom line. It focuses not only on economic growth but also on the environmental and social consequences of its activities (Nadanyiova et al., 2015).

This paper deals only with personnel marketing, which is an integral part of the social bottom line of corporate social responsibility. This paper focuses on possibility of creating the internal personnel marketing strategy program from the perspective of building brand value within the surveyed company based on the results of the research. The aim of the research was to verify if there is the statistically significant relationship between individual personnel marketing tool and the level of employer brand value. It was achieved through the application of Kendall's correlation coefficient and subsequent correspondence analysis. The analysis of the research results confirmed that the company should focus on a certain extrinsic and intrinsic motivation tools to enhance employer brand value.

2. Literature review

Personnel marketing is a modern scientific discipline that builds on the knowledge management system, personnel management and marketing. Personnel marketing is currently developing dynamically. Personnel marketing was created as a reflection of the organization's needs to present the job as efficiently as possible. This means getting a good job seeker at the lowest cost of presentation on the labour market and the overall implementation of the selection process (Szarková, 2013, Siekelova, 2015, Salaga, et al., 2015). The authors define personnel marketing differently, but it can be said that the goal of personnel marketing remains the same for all authors: to recruit and retain qualified employees. In our opinion, personnel marketing can be defined as a new approach by which an enterprise can effectively acquire and retain high-quality employees and ensure consistency between the requirements of potential or current employees and the requirements of the enterprise. In our opinion, the key role of personnel marketing is to raise a positive awareness of the business as an attractive employer, which will ensure a competitive advantage for the enterprise and affect the potential qualified bidder to decide for that employer. Based on the definition of personnel marketing and on a basis of its narrower and broader understanding it follows that personnel marketing can be divided into internal and external personnel marketing.

Internal personnel marketing is focused on the inside of the enterprise, that is, the company's current employees. It is cheaper for a company to keep its current employees than to get new ones (Majercak et al., 2014). The disadvantage of acquiring new employees is not only the costs associated with recruiting, selecting and adapting employees. A major threat is the possibility of damaging the company's name on the labour market due to high staff turnover. Internal personnel marketing seeks to build the attractiveness of a business as an employer of current employees. Its aim is to stabilize current employees, identify them with the business and gain their loyalty. On the contrary, external personnel marketing is focused on the external labour market. Through it, the company in the external labour market is trying to build a good position in order to make it easier to acquire the necessary new employees. The aim of external personnel marketing is to contact and recruit new qualified employees (Nachtmannová, et.al., 2007).

Koubek (2000) states that there is also an interactive level of personnel marketing, which means influencing and intersecting internal and external marketing. Exactly differentiating between external and internal marketing is not very suitable in practical application. The need to recruit new employees arises from the company's development and employee turnover. Internal personnel marketing, which seeks to meet the needs of employees, then creates a positive image on the external labour market, as information on employee satisfaction will be extended to this market without external personnel marketing activities (Stefko et al., 2015). Personnel marketing, which is focused only externally, has little significance for the company in the long term unless it is supported by the internal personnel marketing. If new employees are not satisfied with the employer, they leave the company sooner or later and there is a new need to recruit in the company. For this reason, this paper dealt with the analysis of internal marketing in the selected company.

The ability to recruit and retain key employees is one of the key factors in the success of any business (Kral et al., 2018). Building a employer brand is a strategic means to maintain and gain talented individual (Smolová and Urbancová, 2014). It is well known that high staff turnover and internal conflicts can adversely affect business productivity and revenue or profit. This can be avoided by setting up the brand-building activities of the employer from the perspective of both current and future employees. According to Swystun (2007), it is first necessary to define the concept of a brand, consisting of both tangible and intangible elements that are incorporated into the brand name, which, when properly organized, creates values and the ability to influence existing and future employees. Edwards (2010) points out that employer branding is an area where marketing principles need to be applied in human resource management activities. It compares an employer brand that affects existing and future employees with a product brand that addresses how to present a product to a customer and points out that the same procedures and tools can be used as in marketing.

Employer branding is a tool by which an organization defines, differentiates, and promotes signals sent by organizations to current and potential future employees. Employer branding is a marketing technique that builds brand, image, and goodwill of organization in in the field of personnel work (Kovacova et al., 2018; Kramarova and Svabova, 2016, Krizanova et al., 2013). It is projected into individual personnel marketing tools. Armstrong and Taylor (2015) characterize the employer brand as a unique set of characters and features (often indescribable) that make the organization unique and promise unique work experience. An important part of the employer branding is also the issue of employee engagement, satisfaction and motivation. Organizational commitment reflects a psychological bond that an individual identifies with an organization. It is the extent, to which an individual identifies and is involved with his or her organization and/or is willing to leave it (Amangala and Wali, 2013). Motivation has different resources that are divided into internal (motives) and external (incentives) (Drugău-Constantin, 2018, Nadanyiova, 2017). Work motivation explains the motivation of individuals to work. In connection with the distinction between internal and external motivation, the concepts of intrinsic and extrinsic motivation are used in relation to work motivation (Kmecova, 2018). Extrinsic motivation is driven by motives not directly related to the job itself. Extrinsic motivation occurs when an enterprise provides workers the work resources and encourages them to achieve goals in the work effort. Intrinsic motivation is guided by motives based directly on the human and his relationship to work. It is a motivation for an individual to work just because of the positive pleasures, which the work itself brings him (Horvátová et al., 2016). An extrinsically motivated person carries out actions in other to gain material or social benefits. Examples of intrinsic factors include interesting work, recognition, growth and achievement (Amangala and Wali, 2013).

3. Methodology

The aim of this paper is to determine the extent to which internal personnel marketing activities impact on building brand value. In other words, do certain internal personnel marketing tool have greater impact on the value of employer brand?

Based on the research problem identified in the first phase of the research, a method of selecting a suitable sample, sample size, appropriate methods and survey tools was then established. The choice of the target group of respondents is an important step for successful marketing research. It is necessary to decide who will be the ultimate target entity. The employees of the analysed enterprise were defined as the final respondents, i.e. the stratified available sample selection. The enterprise for which this analysis was conducted provides services in software and hardware engineering. This company has 310 employees. The size of the research sample was determined on the basis of a formula:

$$n=(t\alpha^2 \times p(1-p))/d^2$$

where n is the minimum number of respondents, $t\alpha$ is the critical value of the normal distribution, p is the likely sample proportion, expressed as a decimal, and d is the confidence interval, expressed as a decimal (Moravčíková et al., 2017). The confidence level was set at 95%. The critical value of the normal distribution at confidence level $\alpha = 0.05$ was 1.96. This is based on the fact, that 95% of the area of the normal distribution is within 1.96 standard deviations of the mean. For those cases where the likely sample proportion was not known, p was set at 50%. The confidence interval was set at 5%. Because the basic population is already known, the calculated sample is adjusting according to the following formula:

$$n1=n/(1+(n-1)/population)$$

So the needed sample size is 187 customers of the monitored business.

For the purposes of this research, the method of collecting data through a questionnaire was chosen. Based on the research problem, it was necessary to determine the level of employer brand. The data was obtain by posing the following question: Are you proud of the brand of the company you work in? The impact of the internal personnel marketing tools of the company were subsequently investigated. The data was obtained by posing the following questions: Are you adequately paid for your work? Are you satisfied with the employee benefits? Is your work meaningful and interesting? Do you feel recognized for your work? Do you have the possibility of career growth and development? You perceive yourself as a successful individual for the work done? Is it likely that you will be looking for another job outside our company in the near future? It should be noted that the questions were developed on the basis of the defined extrinsic, intrinsic factors of motivation and organizational commitment (Material benefits, Social benefits, Interesting work, Recognition, Growth, Achievement and Willingness to leave). Respondents were asked to choose from the following options: strongly agree (SA); agree (A); neither disagree nor agree (NDNA); disagree (D); strongly disagree (SD).

The existence of a relationship between the level of employer brand and internal personnel marketing tool was examined by statistical testing. The goal of most statistical tests is to evaluate the relationship between variables. The null hypothesis expresses the independence of those variables. However, in the majority of cases it should be prove the validity of the alternative hypothesis, which expresses the actual relationship between the variables. The validity of the alternative hypothesis is proven indirectly by showing that the null hypothesis is incorrect and the alternative (the only remaining one) is correct. The null and alternative hypotheses must be mutually exclusive. The level of significance (α) is the probability of the first type error, which occurs when the null hypothesis is rejected even though it actually holds true, that is, it leads to the conclusion that there is or there is not a relationship between the variables. The significance level is traditionally set at between 1% and 10%. For this research, the significance level was set at 0.05, which corresponds to a confidence interval of 95%. The test statistic is calculated from the sample set. It has an appropriate probability distribution based on the validity of the null hypothesis (Agarwal et al., 2018; Valaskova et al., 2018). To calculate the test statistics and probability, it was chosen Kendall's correlation coefficient, which is intended to measure the dependence between two order variables. If one variable takes a different number of unique values than the other (the pivot table $m \times n$), tau-c, also called Stuart's tau-c or Kendall-Stuart's tau-c, is preferred. The p-value is the probability that the test statistic, assuming the veracity of the null hypothesis, achieves a value that is at least equal to the value calculated from the sample set. The p-value is the probability that the relationship found in the sample is only a consequence of chance. The p-value is the lowest value of the significance level that leads to the rejection of the null hypothesis. The smaller the p-value is, the more likely the null hypothesis is not true and should be rejected. If the p-value is so low that the statement is valid (the null hypothesis is rejected) at the significance level of 0.01 as well, it can be assumed that there is a statistically significant relationship between the observed variables (Rimarčík, 2007). To calculate the test statistic for the hypothesis, IBM SPSS Statistics software was used.

Based on the existence of dependence between variables it makes sense to examine the internal structure of the contingency table. Therefore, it was subsequently used a correspondence analysis that can understand as the analogue of main components method a factor analysis for qualitative characters in the contingency tables. Correspondence analysis is a multivariate graphical technique designed to explore relationships among categorical variables. When the study variables of interest are categorical, correspondence analysis is an appropriate technique to explore the relationships amongst variable response categories and can play a complementary role in analysing data (Sourial et al., 2010). This method therefore lends itself well to marketing surveys that explore customer preferences and attitudes, and which seek to assess brand attractiveness (Kráľ et al, 2009). Examining the internal structure of the variables only makes sense if there is a dependency between the observed characters (factors). The use of correspondence analysis have to therefore be preceded by the testing of hypotheses on the independence of the observed characters (Kráľ et al, 2009). The essence of the correspondence analysis is the transformation of the points of the multidimensional space, which represent the examined categories, into a space of lower dimension, most often in the plane (2 dimensions). This transformation is unambiguous and allows us to focus on revealing a certain type of relationship between categories (variables). Interpretation of the correspondence map obtained in this way is relatively simple. If the points are closer to each other, so the categories are more similar, they correspond more to each other.

4. Results

To answer the research relational question, the hypotheses expressing the existence of a statistical dependence between the individual personnel marketing tool and the level of employer brand value were identified (Table 1).

Table 1: *Hypotheses*

Variables		Hypothesis
Extrinsic motivation	Material benefits	Between the material benefits and the level of the employer brand value there is no statistically significant dependence.
	Social benefits	Between the social benefits and the level of the employer brand value there is no statistically significant dependence
Intrinsic motivation	Interesting work	Between the interesting work and the level of the employer brand value there is no statistically significant dependence
	Recognition	Between the recognition and the level of the employer brand value there is no statistically significant dependence
	Growth	Between the growth and the level of the employer brand value there is no statistically significant dependence
	Achievement	Between the achievement and the level of the employer brand value there is no statistically significant dependence
Organizational commitment	Willingness to leave	Between the willingness to leave and the level of the employer brand value there is no statistically significant dependence

The calculated test statistics of the first hypothesis are presented in Table 2.

Table 2: *Test statistics of the first hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	-,083	,069	-1,193	,233
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was confirmed, so there is no statistical dependence bet between the material benefits and the level of the employer brand value there is no statistically significant dependence. Since there is no relationship between the investigated variables, it makes no sense to track interconnection through the correspondent analysis.

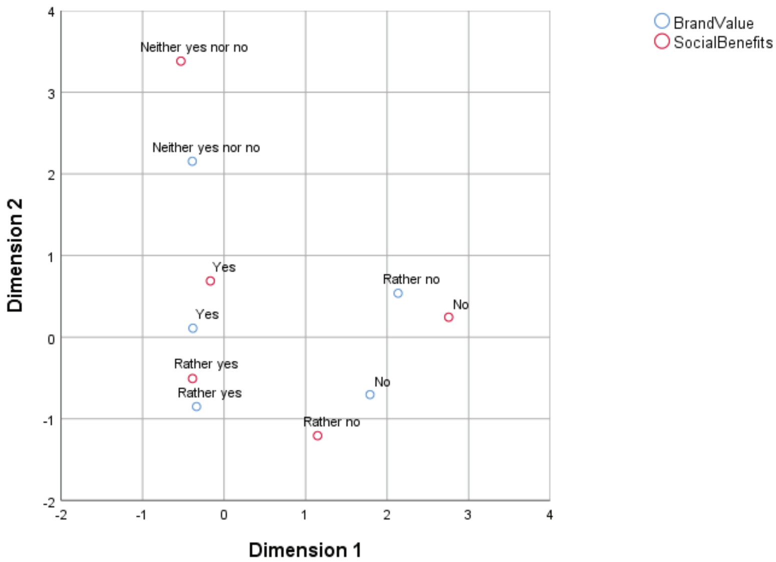
The calculated test statistics of the second hypothesis are presented in Table 3.

Table 3: *Test statistics of the second hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,376	,076	4,795	,000
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was rejected and the alternative hypothesis confirmed, i.e. there is a statistically significant relationship between the variables examined (level of the employer brand value and social benefits). The intensity of the dependence of the variables according to Kendall's tau-b (0.376) indicates a moderate dependency. Based on the existence of dependence between the variables, it made sense to examine the internal structure of the contingency table by conducting a correspondence analysis. The data were processed using IBM SPSS Statistics software, the results of which are presented in Figure 1.

Figure 1: *Correspondence map – employer brand value/social benefits*



Interpretation of the correspondence map in Figure 1 is based on the formation of three homogeneous groups, which correspond more to each other. The first cluster consists of employees, who strongly agree or agree with the statement that they are satisfied with the social benefits and at the same time they are proud or rather proud of the brand of the company. The second group consists of employees who expressed a neutral attitude to both questions (Are you proud of the brand of the company you work in? Are you satisfied with the employee benefits?). And the last one of clusters is made up of employees who do not consider social benefits sufficient and also exhibit a low level of pride in the company brand. That is, the more satisfied the employee with the social benefits is, the more he / she shows the higher pride on the employer brand.

The calculated test statistics of the third hypothesis are presented in Table 4.

Table 4: *Test statistics of the third hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,134	,068	1,942	,052
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was confirmed, so there is no statistical dependence bet between the interesting work and the level of the employer brand value there is no statistically significant dependence. Since there is no relationship between the investigated variables, it makes no sense to track interconnection through the correspondent analysis.

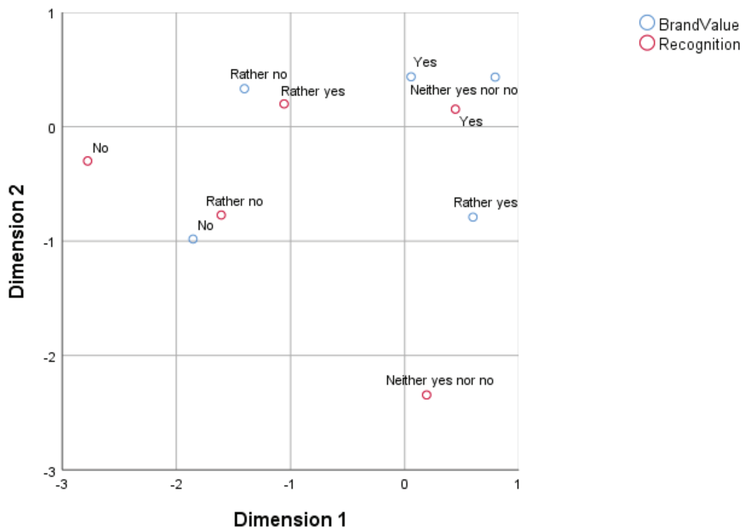
The calculated test statistics of the fourth hypothesis are presented in Table 5.

Table 5: *Test statistics of the fourth hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,149	,065	2,251	,024
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was rejected and the alternative hypothesis confirmed, i.e. there is a statistically significant relationship between the variables examined (level of the employer brand value and recognition). The intensity of the dependence of the variables according to Kendall's tau-b (0.149) indicates a low dependency. Based on the existence of dependence between the variables, it made sense to examine the internal structure of the contingency table by conducting a correspondence analysis. The data were processed using IBM SPSS Statistics software, the results of which are presented in Figure 2.

Figure 2: Correspondence map – employer brand value/recognition



Interpretation of the correspondence map in Figure 2 is based on the formation of homogeneous groups, which correspond more to each other. The boundaries of individual clusters are not as clear as in the previous figure. But it can be clearly stated, that employees who feel recognized for their work, they also exhibit a positive or neutral pose to pride in the company brand. On the other hand, employees who do not feel recognized for their work, they exhibit a negative pose to pride in the company brand.

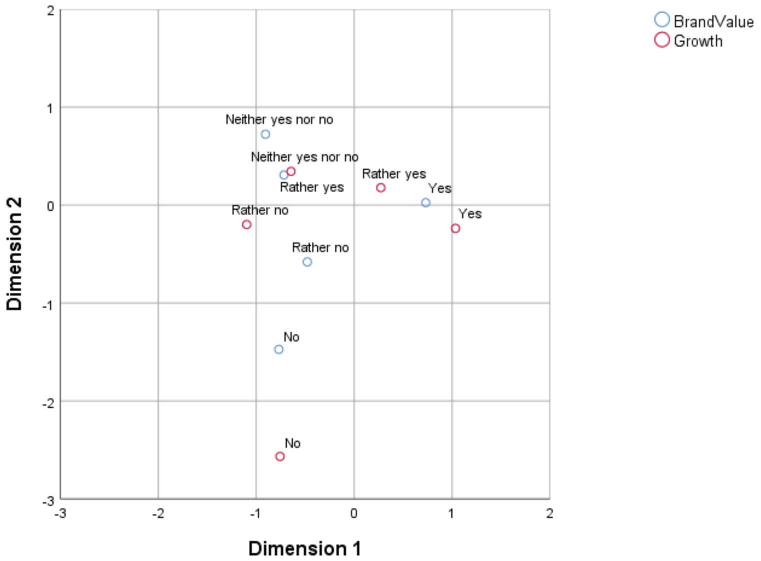
The calculated test statistics of the fifth hypothesis are presented in Table 6.

***Table 6:** Test statistics of the fifth hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,390	,056	6,937	,000
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was rejected and the alternative hypothesis confirmed, i.e. there is a statistically significant relationship between the variables examined (level of the employer brand value and growth). The intensity of the dependence of the variables according to Kendall's tau-b (0.390) indicates a moderate dependency. Based on the existence of dependence between the variables, it made sense to examine the internal structure of the contingency table by conducting a correspondence analysis. The data were processed using IBM SPSS Statistics software, the results of which are presented in Figure 3.

Figure 3: Correspondence map – employer brand value/growth



Interpretation of the correspondence map in Figure 3 is based on the formation of homogeneous groups, which correspond more to each other. Only two clusters are clearly visible. The first one is formed of employees, who do not feel the possibility of career growth and development and they also exhibit a negative pose to pride in the company brand. The second one is formed of group of remaining employees. But within this cluster it is obvious, that employees with greater feeling of the possibility of career growth and development have more positive pose to pride in the company brand.

The calculated test statistics of the sixth hypothesis are presented in Table 7.

***Table 7:** Test statistics of the sixth hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	,082	,061	1,358	,175
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was confirmed, so there is no statistical dependence bet between the achievement and the level of the employer brand value there is no statistically significant dependence. Since there is no relationship between the investigated variables, it makes no sense to track interconnection through the correspondent analysis.

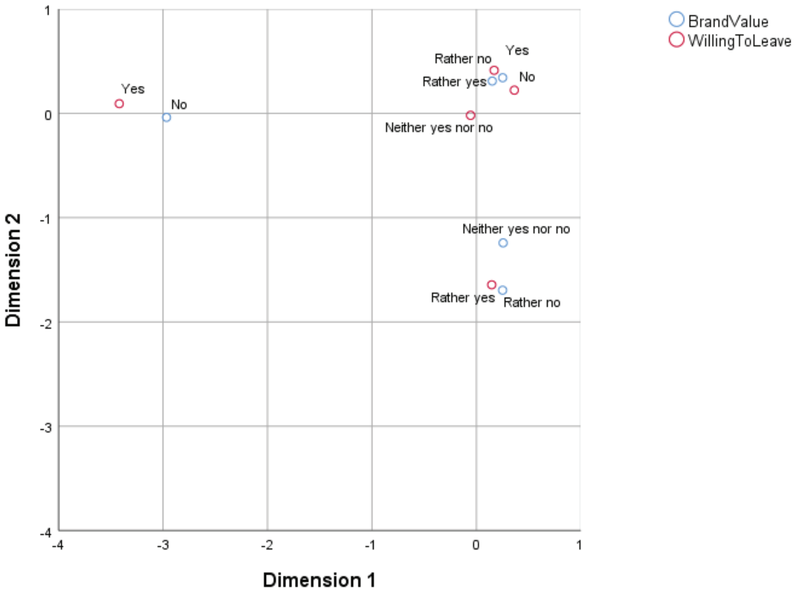
The calculated test statistics of the seventh hypothesis are presented in Table 8.

Table 8: *Test statistics of the seventh hypothesis*

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	-,358	,067	-5,246	,000
N of Valid Cases		172			

Based on the comparison of the significance level with the p-value (Approximate Significance), the null hypothesis was rejected and the alternative hypothesis confirmed, i.e. there is a statistically significant relationship between the variables examined (level of the employer brand value and willingness to leave). The intensity of the dependence of the variables according to Kendall's tau-b (-0.358) indicates a moderate dependency. Based on the existence of dependence between the variables, it made sense to examine the internal structure of the contingency table by conducting a correspondence analysis. The data were processed using IBM SPSS Statistics software, the results of which are presented in Figure 4.

Figure 4: *Correspondence map – employer brand value/willingness to leave*



Interpretation of the correspondence map in Figure 4 is based on the formation of three homogeneous groups, which correspond more to each other. In the first cluster, there are so employees who will leave the company with high probability and at the same time who have clearly negative pose of pride in the company brand. The second group is formed of employees who will rather leave the company and at the same time who have negative or neutral pose of pride in the company brand. And the last cluster consists of employees who will stay in the company and at the same time they have positive and completely positive pose of pride in the company brand.

As part of extrinsic motivation, it was examined the variables of material and social benefits. Based on the analysis, it can be state that social benefits clearly affect the level of employer brand. The p-value for the tested hypotheses was low that the null hypotheses were rejected at the level of 0.01 as well. The following correspondence analysis revealed that the employees with a higher degree of satisfaction with social benefits show a better employer brand loyalty. Within the framework of intrinsic motivation, the interesting work, recognition, growth and achievement variables were examined. The absence of a relationship was confirmed at the achievement and interesting work variables. But at the interesting work the p-value was at level 0.052. That is, if the level of significance is reduced, there is also statistical dependence between this and employer brand variables. Nothing changes the fact that the variable of growth has the strongest relationship with the employer brand level. The p-value for the hypotheses tested was low that the hypotheses were rejected at the level of 0.01 as well. This means that the company should mainly focus on increasing of the possibilities and thus the sense of achievement of professional growth and consequently to the recognition, respectively to praise. In conclusion, it was investigated the existence of a relationship of organizational commitment with the level of employer brand loyalty. Here it was confirmed through correspondence analysist that the employees with a higher level of employer brand loyalty do not want to leave the company.

5. Conclusions

Building an employer brand covers a wide range of brand care activities. It is a long-term business strategy that focuses on building a unique and desirable business identity and influencing how the business is perceived by current and potential employees. Benefits of building an employer brand include: obtaining a competitive advantage; creating, maintaining or strengthening corporate culture; increasing the positive image of the company in the labour market; increasing the number of applicants, increasing the quality of applicants, accelerating the recruitment of new employees, reducing the financial demands of recruitment, maintaining key talented employees, increasing the motivation of existing employees, increasing the satisfaction of existing employees.

The analysis of the research results confirmed that there are some internal personnel marketing tools that have a greater impact on the employer brand building. It was examined intrinsic and extrinsic motivation and organizational commitment as well, as the variables in relation to the level of employer brand. The research was solely conducted for one enterprise. The management of the company demanded the investigated data for creating the specific internal personnel marketing strategy program from the perspective of building brand value. So the limitation of this research is that these results are only applicable to the enterprise under review. However, its calculation methodology is applicable to other companies in all industries and countries as well. The limitations of the research point towards issues to be addressed in the future, such as identifying the respondents' responses (employees) in order to objectify data in further empirical research.

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A CASE STUDY OF "BRAILLE RIDDLES" PROJECT – AN EXAMPLE OF SOCIAL ENTREPRENEURIAL START-UP PROJECT IN THE REPUBLIC OF CROATIA

ABSTRACT

Entrepreneurship has been considered as the backbone of the innovation sector and the economy of a country and is an essential part of this paper. Establishing an enterprise requires, among others, a thorough analysis of macro and micro environment, right pricing and accurate market definition. Social entrepreneurship has brought a revolution in entrepreneurship itself, as it takes into consideration non-conventional success measuring metrics. With profit maximization, social entrepreneurship has an additional goal of accomplishing given social goals. The aims of this paper are to analyze the mechanisms of social entrepreneurial and startup ecosystems in the Republic of Croatia and to analyze "Braille Riddles" project in that context. The "Braille Riddles" project contains elements of social and startup enterprise and can be classified as a social entrepreneurial project. The main goal of the project is to increase the level of literacy of blind and partially sighted persons by increasing their literacy rates. Through an in-depth analysis of the project as well as depth interviews with active project participants, the main focus of the paper is to put "Braille Riddles" startup project into the social entrepreneurial and startup ecosystem framework in the Republic of Croatia.

Key words: *social entrepreneurial ecosystem, startup ecosystem, social entrepreneurship, startup, entrepreneurship*

1. Introduction

The social entrepreneurial ecosystem as an integral part of the entrepreneurial and startup ecosystems of the Republic of Croatia is becoming more and more pronounced in the social and economic life. Social entrepreneurship suggests that entrepreneurship is more focused on social benefits than maximizing profits. It propagates an altruistic form of capitalism that does not evaluate all human activities in a business context (Tan et al., 2005). Thompson (2002) points out that social entrepreneurship usually represents social, cultural and environmental goals that are often associated with the volunteer sector in areas such as poverty prevention, health care and community promotion. A widespread consensus is drawn by the fact that social entrepreneurs and their undertakings are guided by social goals; that is, the desire to contribute to society in some way or ways (Peredo & McLean, 2006). Alvord et al. (2004) point out that social entrepreneurs recognize current social problems, but they also take into account the wider context of the problem that links disciplines, fields and theories. Elkington & Hartigan (2008:31) describe the social entrepreneurial business structures that fall into three different models, applicable in different situations, and the economic climate: a) *Leveraged non-profit:* This business model uses financial and other resources in an innovative way to respond to social needs; b) *Hybrid non-profit:* This organizational structure can take many forms, but it is characteristic because the hybrid non-profit organizational structure uses profit from some activities to enable the sustainability of operations of other activities for a social purpose. Hybrid nonprofits are often created to cope with government and market failures because they generate revenues to achieve sustainability of operations without the use of credit or other forms of traditional financing and c) *Social business venture:* These models are set up as jobs that are predetermined to create change through social funds. Social business ventures were created due to lack of funding. Social entrepreneurs in such a situation are forced to become for-profit because it is difficult to obtain credit and shareholdings in the social business.

Defourny (2001:16-18) emphasized four criteria to reflect the economic and entrepreneurial dimensions of initiatives for social enterprises: (a) A continuous activity producing goods and/or selling services Social enterprises, unlike some traditional non-profit organizations, do not normally have advocacy activities or the redistribution of financial flows (as, for example, many foundations) as their major activity, but they are directly involved in the production of goods or the provision of services to people on a continuous basis. The productive activity thus represents the reason, or one of the main reasons, for the existence of social enterprises. (b) A high degree of autonomy Social enterprises are created by a group of people on the basis of an autonomous project and they are governed by these people. They may depend on public subsidies but they are not managed, be it directly or indirectly, by public authorities or other organizations (federations, private firms etc.). They have both the right to take up their own position („voice") and to terminate their activity („exit"). (c) A significant level of economic risk Those who establish a social enterprise assume totally or partly the risk inherent in the initiative. Unlike most public institutions, their financial viability depends on the efforts of their members and workers to secure adequate resources. (d) A minimum amount of paid work As in the case of most traditional non-profit organizations, social enterprises may also combine monetary and non-monetary resources, voluntary and paid workers. However, the activity carried out in social enterprises requires a minimum level of paid workers.

According to Lupšić et al. (2012:83-86), social enterprises are divided into: a) *For-profit enterprise:* Socially owned enterprises can take on a standard profit form, such as a joint stock company, a limited liability company or a sole-proprietor. One of the main advantages of a for-profit company is that it can use a large fund of investment capital. Some individual investors give preference to limited liability companies because it is a more tax favorable form of enterprise and there is no double taxation; b) *A for-profit enterprise with a social dimension:* Such enterprises take on a profit structure and make significant concessions towards social goals. There are various ways in which this can be achieved. Some of these structures have existed for decades, such as cooperatives (which can be for-profit or non-profit) and employee-owned enterprises; and c) *Hybrid enterprise:* Instead of being limited to the choice between a profit and non-profit form of a company, some organizations have decided to take advantage of both of them through the creation of management structures and the making of contracts that link for-profit and non-profit structures into a common hybrid structure. Sometimes a for-profit does not generate profits. For example, a for-profit brokerage company Charles Schwab & Company opened an associated non-profit organization, Schwab Charitable, which manages the donor fund activities. In some other cases, a non-profit enterprise generates profit. This usually happens when it wants to continue with activities that belong to the standard business. According to Schwab Foundation for Social Entrepreneurship[1] social entrepreneurship is „the use of new approaches to solve old social problems“. It can be in one of the three forms: 1. Non-profit social enterprise - A non-profit organization to drive the adoption of an innovation that addresses a market or government failure. The entrepreneur engages a cross section of society, including private and public organizations. There is a dependency on outside philanthropic funding, but their longer term sustainability is often enhanced given that the partners have a vested interest in the continuation of the venture.; 2. For-profit social enterprise - A for-profit organization created with the explicit intent to solve a social problem. While profits are ideally generated, the main aim is not to maximize financial returns for shareholders but to grow the social venture and reach more people in need. The entrepreneur seeks investors who are interested in combining financial and social returns on their investment.; 3. Hybrid social enterprise - A non-profit organization that includes some degree of cost-recovery through the sale of goods and services. Often requires setting up several legal entities to accommodate earning income and charitable expenditures in an optimal structure.

According to data from the World Bank (Doing Business), the Republic of Croatia is ranked fairly low according to the standards of the European Union, in 2019 it is 58th in terms of overall business conditions, and 123rd according to the ease of opening the company. Startup is defined as a young company that meets the principle of innovation and has the potential to achieve scalability and global business. Startup is an entrepreneurial venture that is typically a new, fast-growing business that aims to meet market needs by developing a sustainable business model around products, services, processes, or platforms. Startup is usually an enterprise like a small and medium enterprise (SME), a partnership or organization that is designed to effectively develop and evaluate a scalable business model (Katilla et al., 2012). The startup ecosystem (according to: Grow Advisors) consists of ideas, inventions and researchings, startups at various stages, entrepreneurs, startup team members, Angel investors, startup mentors, startup advisors, other entrepreneurial minded people, and third people from other organizations with startup activities. These entities can be further broken down into: universities, advisory & mentoring organizations, startup incubators, startup accelerators, coworking spaces, service providers (consulting, accounting, legal, etc.), event organizers, startup competitions, investor networks, venture capital companies, crowdfunding portals, other funding providers (loans, grants etc.), startup blogs & other business media, and other facilitators. Different organizations usually focus on a particular functional part of the ecosystem and / or startup at its various stages of development.

This specific topic has a purpose to more precisely define and through the examples explain the social entrepreneurial ecosystem of the Republic of Croatia with the emphasis on the start-up ecosystem and the start-up project "Braille Riddles" as an example of a social entrepreneurship startup project. Braille Riddles is a Croatian startup that stems from the

[1] Schwab Foundation for Social Entrepreneurship, https://www.schwabfound.org/what-is-social-entrepreneurship (accessed: 10 April, 2019)

faculty of medicine in Rijeka. The main activity is manufacturing educational tools for blind and visually impaired people, with emphasis on blind and visually impaired children using 3D printing technology. The aim of the work is to find the Braille Riddles project through the primary and secondary sources in the context of the social entrepreneurial and startup ecosystems of the Republic of Croatia. Secondary data were collected from scientific and professional literature and were used to analyze theories and researches in the field of social entrepreneurship, social entrepreneurial ecosystems, startup ecosystems and to set theoretical background for primary research. The primary data was collected through research on a sample of seven members of the Braille Riddles project team. The survey was conducted by a deep interview method using an interview guide.

2. Social entrepreneurship in the Republic of Croatia

Before the analysis of social entrepreneurship in Croatia, it should be clear to explain the terms „social entrepreneur“, „social entrepreneurship“ and „social enterprise“. According to Defourny and Nyssens (2008:4-5): a) The term "social entrepreneur" has been particularly emphasized by American foundations and organizations like Ashoka since the mid 1990s. Those entities identify and support in various ways individuals launching new activities dedicated to a social mission while behaving as true entrepreneurs in terms of dynamism, personal involvement and innovative practices. Such a social entrepreneur brings about new ways of responding to social problems. In Europe, on the contrary, the emphasis has been much more often put on the collective nature of the social enterprise, as well as on its associative or cooperative form, although the US approach is gaining some influence.; b) The notion of "social entrepreneurship" has been conceptualized in rather precise ways in the late 1990s. These conceptualisations stress the social innovation processes undertaken by social entrepreneurs. However, the concept is increasingly being used in a very broad sense as, for various authors, it now refers to a wide spectrum of initiatives, ranging from voluntary activism to corporate social responsibility. Between these two extremes, a lot of categories can be identified: individual initiatives, non-profit organizations launching new activities, publicprivate partnerships with a social aim etc. While Americans now tend to stress the "blurred boundaries" among institutional and legal forms as well as the "blended value creation" (profits alongside social value) that characterizes social entrepreneurship, Europeans rather stress the fact that social entrepreneurship most often takes place within the "third sector" (i.e. the private, not-for-profit sector). In any case, it seems clear that, of the three notions briefly defined here, that of "social entrepreneurship" is the most encompassing one; c) As to the concept of "social enterprise", it first appeared in Europe (a few years before it emerged in the United States), and more precisely in Italy, where it was promoted by a journal launched in 1990 and entitled Impresa sociale. The concept was introduced at the time to designate the pioneering initiatives for which the Italian Parliament created the legal form of "social cooperative" one year later. As will be shown, various other European countries have since passed new laws to promote social enterprises. Along with such approaches, the EMES Network stresses the positioning of European social enterprises "at the crossroads of market, public policies and civil society", especially to underline the "hybridization" of their resources: social enterprises indeed combine income from sales or fees from users with public subsidies linked to their social mission and private donations and/or volunteering. This clearly contrasts with a strong US tendency to define social enterprises only as non-profit organizations more oriented towards the market and developing "earned income strategies" as a response to decreasing public subsidies and to the limits of private grants from foundations.

Over the last two decades, the concept of social entrepreneurship has been on a rise in various regions of the world, including Europe as well. Europe's economic crisis raised the need for alternative models of economic growth and social entrepreneurship was seen as one of them. According to Galera & Borzaga (2009) „a specific feature of the European social enterprise tradition is the setting up of an institutional structure specifically designed to pursue a social goal in a stable and continuous way through the production of goods or services of general-interest. Consistently with the strong European cooperative tradition, the collective and participatory dimensions continue to be a key feature of European social enterprises, which reduce the probability of opportunistic behviours by single individuals."

Social entrepreneurship in the Republic of Croatia is a new phenomenon and is still underdeveloped (Vidović, 2013). In order to put social entrepreneurship in the context of the Republic of Croatia, it is necessary to identify, analyze and respond to the problems, obstacles and facts that the Republic of Croatia faces. One of the problems is unemployment, especially youth unemployment, which is among other social economic problems one of the key problem (Šimleša et al., 2016). Social entrepreneurship in the Republic of Croatia and in the world is closely related to the work of civil society organizations (Lupšić et al., 2012). Social entrepreneurs are motivated to create social change and possess the ability of motivation, organization, and recognition of entrepreneurial opportunities. The entrepreneurial ecosystem of the Republic of Croatia is based on key stakeholders. The stakeholders of the social entrepreneurship ecosystem of the Republic of Croatia are: the public sector, the private for-profit sector, the non-profit sector, the civil society organizations, the community and the social entrepreneur. It should also be noted that the Republic of Croatia has no institutional framework for supporting the development and development of social entrepreneurship. The reason for this is that social entrepreneurship in the Republic of Croatia is insufficiently and unclearly legally defined. It should be emphasized here that social entrepreneurs primarily (and therefore not exclusively) operate in a non-profit sector (the easiest is to understand the social entrepreneurship sector as part of a non-profit sector - where this sector represents organizations that do not enter the public or private profit sector), while social entrepreneurs, as leaders in the areas of social change, operate in a private profit, public and private non-profit sector (Lupšić et al., 2012).

The main document for social entrepreneurship in Croatia is Strategy for development of social entrepreneurship from 2015-2020. The overall objective of the Strategy for development of social entrepreneurship from 2015-2020 is the establishment of stimulating environment for the promotion and development of social entrepreneurship in Croatia in order to reduce regional disparities and ensure an increase in employment levels, and a more equitable distribution of social wealth. The specific objectives are: a) the establishment and improvement of the legislative and institutional framework for the development of social entrepreneurship; b) the establishment of a financial framework for the efficient operation of social entrepreneurs; c) the promotion of the importance and role of social entrepreneurship through formal and informal education; d) the insurance of the visibility of the role and possibilities of social entrepreneurship in Croatia and informing the general public about the issues related to social entrepreneurship. Table 1 shows SWOT analysis of social entrepreneurship in the Republic of Croatia.

Table 1: *SWOT analysis of social entrepreneurship in the Republic of Croatia*

STRENGHTS	WEAKNESSES
• The existence of support for development within the sector of social entrepreneurship (CEDRA HR SEFOR, ZEF), based on the civil society initiative • The existence of various initiatives of social entrepreneurship in the local community • Long tradition of cooperatives in the Republic of Croatia • Encouraging the socio-entrepreneurial initiatives of civil society organizations by the state authorities through the existing National Strategy for Creating an Enabling Environment for the Development of Civil Society from 2012 to 2016 • The existence of organizations that are able to encourage and promote social entrepreneurship (regional development agencies, social entrepreneurship networks, foundations, regional support centers and county co-operation organizations) • The existence of investment aid for entrepreneurship development by state institutions (Entrepreneurial Impulse) • Developing an incentive environment for SME development in the Republic of Croatia (Entrepreneurship Development Strategy 2013-2020) • Developing a civil society sector in the field of providing social services in the community • Existence of interest in the development of socially responsible business and community investment and social entrepreneurship in the business sector, with established collaborative mechanisms and programs (CSR Network, CGDP HGK Community, HRPSOR, Sectoral Associations - HUB)	• Unclear and inconsistent understanding of social entrepreneurship among stakeholders • Negative connotations of communal and non-profit forms of economic activity that are declared unproductive and unjustified and bound with the period of state, planned economy • Lack of analysis, poor, though growing, recognition of the potential benefits of social entrepreneurship for socio-economic development • Existing support systems for social entrepreneurship do not have public institutional support at national, county and local levels, and a significant amount of resources is spent on obtaining funds for the sustainability of the system • Lack of quality and clear legal framework related to social entrepreneurship • Lack of financial instruments available to potential social entrepreneurs (loans, guarantee funds, corporate social responsibility, treasury) • Low preference of social entrepreneurs as clients of financial institutions due to lack of business experience and skills and lack of collateral / stock for financing • Lack of visibility of socially and environmentally responsible products and services on the market • An insufficiently sensitive system of public procurement on quality and responsibility (positive social, ecological and economic effects) of products and services • Undeveloped mechanisms of documenting and statistical monitoring of social entrepreneurship • Lack of clear and reliable data on the size and impact of the sector of social entrepreneurship • Poor development and networking of regional and local support centers for social entrepreneurs • Insufficient expert management structure within the sector (social) entrepreneurship • Lack of business skills with existing and potential social entrepreneurs • Poor involvement in international business and cooperative networks of social entrepreneurs (clusters, knowledge sharing) • A small and unrelated body of knowledge and education programs for social entrepreneurship in the formal education system • Delays and inconsistencies in the reform of the social welfare system, including the development of social services in the community • Poorly developed concept of social entrepreneurship in the context of employment of socially vulnerable and marginalized groups (social employment) • Mismatch of the education system with the needs of the labor market • Lack of a national system and methodology for measuring the impact of social entrepreneurs • Poor capacity of stakeholders to incorporate social / environmental criteria into their governance processes

OPPORTUNITIES	THREATS
• High level of recognition of social entrepreneurship at the European level • Increased awareness of stakeholders about the need to think about alternative economic models due to the crisis of liberal capitalism • A wide range of innovations in the field of social entrepreneurship around the world and in Croatia with an accelerated exchange of information • Available and fast international cooperation and exchange of information and knowledge • New co-operation, cross-sectoral networking and partnerships at local, regional, national and international level • A growing range of institutional solutions for stimulating social entrepreneurship across the European Union and the world • Systematic financial support for the development of social entrepreneurship through European funds and programs (European Social Fund, European Program for Social Change and Innovation) • The need for products and services due to insufficient engagement of market and public entities in less developed regions of the Republic of Croatia • A system of educational institutions and programs developed as a potential network for the expansion of societal competences • The perspectives of the reform of the social welfare system, in the direction of decentralization and localization of the provision of social services • Growing awareness of the importance of the sector of social entrepreneurship in state, regional and local institutions	• Abuse of the concept of social entrepreneurship for activities that are not in accordance with its principles and values • Equalization of social entrepreneurship with the non-profit sector • Possible administrative barriers due to the failure to recognize the full potential of social entrepreneurship by state / public institutions and regional / local communities • The inefficiency of the legislative framework for creating an incentive environment for the development of social entrepreneurship • The lack of cooperation between institutions: national-regional • Invisibility of realized positive effects of the business of social entrepreneurs

Source: Strategy for development of social entrepreneurship in the Republic of Croatia 2015-2020 / Strategija razvoja društvenog poduzetništva u Republici Hrvatskoj za razdoblje od 2015. do 2020. godine

Šimleša et al. (2016)[2] distinguish as the areas of activity most important for the development of social entrepreneurship: 1) the legislative and institutional framework; 2) financial framework; 3) education and 4) visibility. In the Strategy for Social Entrepreneurship Development in the Republic of Croatia for the period from 2015 to 2020, social entrepreneurship is defined as "business based on the principles of social, environmental and economic sustainability, in which the generated profit / surplus of income is wholly or mostly invested for the benefit community", while the social entrepreneur should meet the following 9 criteria:

[2] According to: Strategy for development of social entrepreneurship in the Republic of Croatia 2015-2020 - Strategija razvoja društvenog poduzetništva u Republici Hrvatskoj za razdoblje od 2015. do 2020. godine, http://www.esf.hr/wordpress/wp-content/uploads/2015/02/Strategija-razvoja-dru%C5%A1tvenog-poduzetni%C5%A1tva-u-RH-za-razdoblje-2015-2020.pdf (accessed 12 March 2018)

1. A social entrepreneur achieves balance of social, environmental and economic goals of business.
2. A social entrepreneur carries out the activity of producing and trading goods, providing services or performing an artistic activity that generates income on the market, and which has a favorable impact on the environment, contributes to the improvement of the development of the local community and the society as a whole.
3. A social entrepreneur creates a new value and ensures financial sustainability in a way that in the three-year period of business he plans to realize at least 25% of his annual income by performing his entrepreneurial activity.
4. The social entrepreneur invests at least 75% of the annual profit, i.e. the surplus of income generated by the performance of his / her activity, in the realization and development of the business or activity objectives.
5. A social entrepreneur is distinguished by voluntary and open membership and the autonomy of business or activity.
6. The Republic of Croatia, a unit of local and regional self-government or a public authority can not be the sole founder of a social entrepreneur.
7. Social entrepreneurs are characterized by a democratic decision-making process (involvement of stakeholders in transparent and responsible management), that is, decision-making is not solely related to ownership or membership roles, but already includes key stakeholders: workers, members, beneficiaries or consumers and associate organizations.
8. The social entrepreneur monitors and evaluates its social, economic and environmental impacts and impacts and uses the valuation results in planning its further business and takes care of their improvement.
9. In the event that an entity ceases to perform its activity, it has a defined obligation with its general acts that it has a defined obligation to transfer its remaining assets (other than deposits in cooperatives), after covering the liabilities to creditors and covering the loss from the previous period, to the ownership of another social entrepreneur with the same or similar goals business, or in the ownership of a unit of local and regional self-government that will use it for the development of social entrepreneurship.[3]

3. „Braille Riddles“ project in the context of social entrepreneurial start-up

„Braille Riddles“ is a project by a group of students coming from the University of Rijeka and Zagreb whose goal is to create a series of educational assistive tools for visually impaired persons. Assistive tools currently available on the market are still an unaffordable luxury for majority of visually impaired persons. In cooperation with universities, associations of visually impaired citizens and several companies, the project is intending to produce, by means of 3D technology, easily affordable products that will significantly improve education of visually impaired persons. The team consists of students from Faculty of Medicine of the University of Rijeka, Faculty of Economics and Business, University of Zagreb and Faculty of Electrical Engineering and Computing, University of Zagreb. In May 2016 the project enrolled in STARTUP incubator Rijeka. STARTUP incubator Rijeka, as a new entrepreneurship infrastructure of the City of Rijeka whose objective is to encourage self-employment of young individuals through realization of their own business ideas, has enabled „Braille Riddles“ to cooperate with mentors from various different fields of human activities

[3] Criterion 9 is contradictory to the principles and definitions of a social enterprise as it represents the so-called Asset Lock. Also, applying criterion 9 is losing the sense of financing social enterprises that also have elements of startup companies (equity financing).

such as economics, graphical engineering, computing and science. With their guidance the project managed to develop a prototype of puzzle which helps young children bellow the age of seven to learn braille alphabet. The puzzle was entirely produced by means of 3D printing technology in association with Rijeka development agency PORIN.

Project mission is to improve the education of the blind and visually impaired people with the aim of increasing their integration in society. With 3D printing technology the project creates and supplies easy-to-use educational aids which will in turn improve the overall educational competencies of blind and visually impaired people. Project vision is that blind and visually impaired people have the same possibilities when it comes to development of cognitive and intellectual functions. With the development of project technology the ultimate goal is to diminish the shortcoming of blind and visually impaired and to improve their competencies with which they could be equally integrated and function with maximal efficiency in the modern society.

These specific type of letters are 3D printed. A package of 150 letters is sufficient for one child to efficiently learn the braille alphabet. These letters are working on an interlocking principle where each letter can be connected with another one, giving the children the opportunity to learn by a trial and error method. With these letters children can form words, and even sentences. Braillezz is the unique kind of product that develops users cognitive abilities and spatial orientation. Tactile puzzles are being assembled in notched pad by following its outline. Braillezz covers all kind of themes from some abstract structures to biology. These tactile puzzles were created in order to ease the learning curve of blind and visually impaired children. They have been divided into few categories: 2x2 and 3x3 for younger children and 5x6 and 10x15 for older children. This specific prototype was made in collaboration with Rijeka Development Agency PORIN, on their 3D printer. The main concept of puzzles is that they are connected in a predetermined pattern. When the puzzles get properly connected they depict the "subject" i.e. heart, apple, elephant etc. with different surface patterns (in order for the blind to differentiate the borders of the subject) and the "subject" would be spelled with braille alphabet. Later product development will include app connectivity, which will ease the learning process of our end users with this specific product. 3x3 puzzles are bigger in size and more complex than 2x2 puzzles, these puzzles will be mainly used by more experienced users (the ones which got familiar with the 2x2 concept). The entire business model is set in a way that the end user does not pay for the product. Sales will be condusted in a business-to-business, business-to-government and via crowdfunding platforms, business-to-customer model is omitted.

With literature review and secondary information sources regarding the "Braille Riddles" project one can notice that the correlation between social entrepreneurship and the project is present. The entire research was based on these research questions, in accordance with the research goal: 1) Do the respondents consider that project "Braille Riddles" contains elements of social enterprise and if yes, which ones?; 2) What is the perception of social enterprise from "Braille Riddles" project member's perspective and does the project contain elements of *startup* enterprise? and 3) What do the respondents think regarding equity financing concept and *Asset Lock* concept as one of the key criteria to classify social enterprise as such. Research was conducted on a sample of active team members of the "Braille Riddles" project. Seven respondents in total were participating in the research, all seven were active members of the project. The respondents vary regarding profession and the role in the project. This kind of variation should provide a broader viewpoint regarding the perception of social entrepreneurship and with putting the “Braille Riddles” project in the context of social entrepreneurship.

Before the interview itself the respondents were accustomed with the research subject and research goals were explained. Also, the respondents were engaged in the conversation regarding social entrepreneurship and startup ecosystem in order to ensure that the respondent were acquainted with the concept of social entrepreneurship due to the fact that the majority of the respondents were from natural sciences background. It was necessary to make sure that the respondents understand the activities of social entrepreneurship and that they are able to identify them in their own project. Some of the respondents were not acquainted with the concept of social entrepreneurship but after the definition and context were provided, respondents were able to identify the activities of social entrepreneurship in the project. Also, part of the respondents expressed concern regarding their competences in providing sufficient answers. They were instructed that the point of this research is to shine a light on multiple perspectives and to attain adequate suggestions for improvement.

During the interview the respondents were encouraged to give their own thoughts and attitudes regarding research goals. Also, the respondents were encouraged to point on their previous experiences. The interview was conducted through the interview guide. The questions were structured in two parts; the first part encompassed more general themes regarding social entrepreneurship so the research could get to know the respondent and his/her experience in the project. The second part was focused on assessing the perception of social entrepreneurship and was intended to reveal the details regarding respondent’s perceptions and previous experience with regards to social entrepreneurship. The deep interviews were conducted in a two month period. Although the estimated time of duration of the interview was 30 minutes, the interview often prolonged to an hour due to high engagement of the respondents. The respondents often expressed their opinions regarding praxis of social entrepreneurship in the Republic of Croatia and they have pointed out their objections as well as positive opinions regarding the current situation.

Analysis of the collected primary data as part of the conducted research resulted in data on social entrepreneurship for project stakeholders. Also, the results showed the perception of the members of the "Braille Riddles" project on which stakeholders social enterprise has the greatest significance. In addition, it was revealed how much, in the opinion of the respondents, social entrepreneurship affects the overall success of the project. Respondents shared their views on other examples of social entrepreneurship in the survey. Some of the respondents cited some examples, some of the respondents were not familiar with other social entrepreneurship, and noted that social entrepreneurship in general does not receive the necessary media attention. Table 1 shows participants' responses to the most important research questions.

Table 2: *Answers to the interview research questions*

Stakeholders for which social entrepreneurship has the greatest significance	All of the respondents have suggested the end user as a stakeholder for which social entrepreneurship has the greatest significance while stating the concrete end user in the "Braille Riddles" project at that.
Challenges associated with social entrepreneurship	Lack of financing i.e. limited access to investments. With regards to the project, part of the respondents state a disproportion between media attention and financing results. Also, government inertia was identified as one of the challenges.
Special advantages regarding tenders	The respondents are generally in accordance with the notion that social enterprises need to have special advantages regarding tenders under the condition that tenders are meant for philanthropic projects.
Democratic governance	All of the respondents have stated that democratic governance within social enterprise is a desirable way of governance. They point out that competence of the leader has to be taken into account. Also, they are pointing out that the opinions of all employees should be taken into account when it comes to decision making.
Support from the surroundings (environment)	Regarding support respondents are stating how there is one, but not enough emphasized. Some respondents state that the problem lies in the infrastructure, some state the government inertia as the culprit, while others point the lack of support due to insufficient involvement of key ecosystem players in the financing activities.
Sustainability of business	All of the respondents have agreed with the statement that „Braille Riddles" satisfies the sustainability of business principles. Also, they have stated that the project has potential for generating sustainable cash flow from sales activities, the project satisfies the social component with regards to the nature and goal of the product, the project satisfies ecological component because it uses bio degradeable materials in ptoduction.
Ownership share	Four out of seven will attain ownership in "Braille Riddles" when the company is formed.
Equity financing	All of the respondents have stated that they are willing to give future and/or current ownership share for appropriate investment. This tendency indicates that "Braille Riddles" has elements of a startup project.
Asset Lock	Non of the repondents has agreed with the signing of Asset Lock agreemet. This answer seems to be logical due to the fact that all of the respondents stated that they are willing to give ownership share in return for investment. If Asset Lock would be implemented, debt financing would be the only financing option, and that is not the usual starup praxis.

Source: authors

Based on an analysis of the research conducted, it can be concluded that the Braille Riddles project contains the vast majority of elements of the social enterprise. All respondents pointed out that they were familiar with social entrepreneurship and concluded that social entrepreneurship affects all stakeholders of the project. Also, all respondents put emphasis on solving social problems as the primary goal of social entrepreneurship. Project members are considered to be social entrepreneurs. The awareness of the part of the team members related to the social entrepreneurial environment is limited. It can be concluded that social entrepreneurial activities positively influence the project team, the project itself and the stakeholders of the "Braille Riddles" project. Also, according to research results, the end user of the "Braille Riddles" project of is considered a key stakeholder. The main objective of the project is to increase the level of literacy of the blind and visually impaired by increasing literacy rates. This result is indicative of the very definition of social entrepreneurship which, for the main purpose, suggests addressing social problems, putting emphasis on marginalized groups of people in a given society.

As the main challenges of social entrepreneurship in the Republic of Croatia, and consequently the "Braille Riddles" project, there is a lack of funding, i.e., limited access to capital and questionable infrastructure quality. The results of the survey also state that the existence of customized tenders for social enterprises are desirable to have. Also, the principle of economic democracy is satisfied given that the results of the research indicate the agreement of all members of the team with the principle of democratic governance of the enterprise. The fact that there is a certain level of support in the Republic of Croatia lies in the results of the research that indicate that environmental support exists, but that the adequacy of the same is questionable. By analyzing the results of the research, it can be concluded that "Braille Riddles" possesses all elements of sustainable business (economic, social, environmental), which is one of the preliminary conditions for the classification of socially owned enterprises. Also, a part of the members will acquire the ownership stake in the "Braille Riddles" project at the moment when the project becomes an enterprise. The indicator that the Braille Riddles project contains startup elements is from the results of a survey in which all members of the team (those who own the equity stake and those who do not) are willing for equity finance. The last element of the research refers to the proposal of criteria for social enterprises by Šimleša et al. (2016). No member of the Braille Riddles project agrees with signing an Asset Lock contract.

Some of the research constraints relate to research participants. A sample of the survey was a deliberate sample, and all active members of the Braille Riddles project were encompassed. Nevertheless, the interview had a certain duration, and the answers were based on the previous experiences, attitudes and opinions of the respondents. Also, there is a possibility that respondents were subjective during interviews for various external positive or negative factors (situation at faculty, situation on the project, working day of the week and the time when the interview was conducted, etc.). It is important to emphasize that the respondents had different experiences and theoretical knowledge related to the subject of the research. An additional constraint on the research may also be the subjectivity of researchers when conducting research and interpretation of primary data.

4. Conclusion

The social entrepreneurial ecosystem of the Republic of Croatia is still in its beginnings, but the progress has been made and as such it has extraordinary potential. The social entrepreneurial ecosystem shares similarities with the startup ecosystem. Most of the similarities between both ecosystems can be found in the stakeholders, which make ecosystems of mutually dependent entities. The "Braille Riddles" project contains not only elements of social enterprise, but also startup elements. According to foreign/international organizations and authors, "Braille Riddles" contains the necessary elements to be classified as a social entrepreneurship project and can be classified as „a person who innovatively tries to enrich himself by enriching society in a way that involves the given society at the risk of personal loss". „Braille Riddles" is currently cooperating, and is planning to extend the cooperation, with civil society organizations, which meets the notion of "social entrepreneurship in Croatia and in the world is closely linked to the work of civil society organizations".

According to the definition of the term startup, "Braille Riddles" meets the key criteria: business innovation, business scalability, global business potential, and equity and investment rounds. Furthermore, according to domestic authors and organizations, the project “Braille Riddles” satisfies the prerequisites of a social enterprise: economic, social and ecological sustainability of business, application of economic democracy in decision-making and prioritization of society, i.e. social community within which it operates. It should be noted that the criterion 9 related to Asset Lock does not apply to the project. This is because „Braille Riddles“ is planning to finance itself through equity, which is a feature of startup companies. If any funding should be made, because of Asset Lock, the investor would not be able to make return on investment nor have controlling interest in the project, which makes the entire Asset Lock principle economically illogical. Moreover, members of the "Braille Riddles" project team, who hold the ownership interest, are reluctant to leave the property of the company to a third party or unit of local government without adequate financial compensation.

The world is currently facing major problems. More and more people are focusing their attention on solving these problems. Old models of traditional profit organizations and charities are no longer sufficient to deal with those challenges. From this time forth, the dominant companies will probably be the one that focus on more than just the fulfillment of their financial goals and non-profit organizations that consider companies as a key part of this great social changes.

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FAMILY HOMES AS A FORM OF FAMILY ENTREPRENEURSHIP IN EASTERN CROATIA

ABSTRACT

Social welfare regulations make it possible that the social service of accommodating the elderly and the gravely ill people can be provided by natural persons as a market-oriented professional activity. Family home is a form of accommodation for up to 20 users who live with the service provider's family. As fifteen years have passed since the legal preconditions for opening of family homes were created, with no systematic investigations in this field, a survey was carried out in 2018 on 361 family home representatives in Croatia, 79 of which are located in eastern Croatia. It has been established that family homes are already more common here than in other parts of Croatia, since they, with their capacity of 1.300 beds, accommodate over 39% more of their elderly population than family homes in other parts of Croatia. Due to insufficient accommodation capacity in other nursing homes, especially in this region, there is a significant unsaturated demand for the family home service. The expected growth in the number of single senior households (unfortunately the consequence of younger population emigrating), is opening an opportunity for further growth in this type of family entrepreneurship in eastern Croatia. This is facilitated by the legal conditions which are relatively attainable, availability of accommodation facilities and food supply which, as the survey shows, makes it possible to offer more competitive prices here than in other parts of Croatia. The survey has shown that, in addition to 79 families from eastern Croatia who earn for their living from this entrepreneurial activity, 432 new workplaces have been opened, 334 of which are not occupied by family members. This paper analyses the business environment and explains the position and the growth possibilities for this form of family entrepreneurship in the field of social welfare in eastern Croatia.

Key words: family entrepreneurship, family homes, social welfare accommodation service, Eastern Croatia

1. Introduction

1.1. Accommodation social service

Accommodation social service as part of social welfare activities in the Republic of Croatia is regulated by the Social Welfare Act (Official Gazette 157/13, 152/14, 99/15, 52/16, 16/17, 130/17), the Family Act (Official Gazette, 103/15), the Foster Care Act (Official Gazette 115/18) and a series of bylaws.

According to the Social Welfare Act, the provision of accommodation services outside of own family is provided as institutional care in social welfare homes or other legal entities without establishment of a home, or as extrainstitutional care in a foster family, a family home, an organized housing or a community of housing units, and may be temporary and long-lasting.

The way of financing social services is currently being implemented through three funding models, depending on institution's founder / service provider. Institutions established by the Republic of Croatia are financed from the state budget according to operating expenses, regardless of the number of services rendered, decentralized county homes for the elderly are financed from the budgets of the regional self-government units and from the state budget according to operating expenses regardless of the number of services rendered, while for private providers of services whose founder is not the Republic of Croatia only services contracted wit the state and provided to the state are financed from the state budget. Since the first two models fund the entire business of the institution, and in the third model only the services provided to the beneficiaries in the (relatively small) number in which they have previously been contracted are funded, the current financing models lead to the unequal position of service providers (Social Care Strategy for the Elderly, 2017, p. 19) and hence the users of the service.

The consequences are long waiting lists and long waiting times for accommodation. This is especially true for homes for the elderly and severely ill persons whose founder is the Republic of Croatia and decentralized homes (for which the Republic of Croatia has transferred the founding rights to regional self-government units, i.e. the City of Zagreb) in which accommodation price is below the market since the state subsidies the difference (Bađun, 2017, p. 38). For this reason, the data on unresolved requests (waiting requests) in these homes show an oversized picture, but there is no doubt that in general there is unsatisfied demand, especially for more affordable accommodation.

1.2. Possibility for family entrepreneurship by establishing a family home

Fifteen years ago, amendments to the Social Welfare Act (Official Gazette, 103/03), Article 78a of the Act then in force, provided for social care activities to be performed by family homes, thus opening up the possibility for family entrepreneurship in the area where it did not previously exist.

Today, the applicable Social Welfare Act (Article 172) regulates that a natural person can independently perform as a professional activity of accommodation services in a family home. In Article 175 a family home is defined as a form of provision of accommodation or residence for five to 20 adult users, in this case the elderly (as opposed to foster families where up to 4 elderly individuals can be accommodated). The service is provided by one adult family member - a family home representative (who is not a single person) who can employ other individuals depending on the number and type of users, according to the prescribed minimal conditions.

According to Article 176 of the Act, a family home representative must be a Croatian citizen or a foreigner (according to regulations regulating the work of foreigners in the Republic of Croatia) who has at least secondary education, is medically able to perform the activities and abilities required for the care, upbringing and satisfying other needs of users if there are no legal obstacles or disturbed family relationships, or if in the opinion of the Centre for Social Welfare the health or other interests of the beneficiary may be endangered because of the illness of a family member.

These conditions are relatively viable so this legal possibility has raised interest and resulted in the appearance of a notable number of family homes, most of which are for the elderly and severely ill people, while there are twenty times less homes for the disabled persons.

Business conditions in the Republic of Croatia, and in particular the characteristics of our legal system and legal uncertainty, (too) often have a very negative impact on the survival and development of entrepreneurship, which experts have been warning for years. The consequences are felt by entrepreneurs, because constant legal changes and inadequate legal protection can suddenly break business plans of even the most prepared. One of the indicators of the uncertain and changing environment is the fact that: "... four basic tax forms: income tax, profit tax, value added tax and contributions have been changed on average ten times each year" (Vizek, 2016).

These changes also affected family homes which, under the provisions of the Value Added Tax Act (Official Gazette No. 47/95 to 90/05) and the Ordinance on Value Added Tax (Official Gazette No. 60/96 to 153/05) were not exempted from paying value added tax because it was established for social welfare institutions carrying out activities under special regulations and not for representatives of family homes as natural persons carrying out self-employed activities (Tax Administration, 2006). However, this is no longer the case and therefore based on the opinions of the Tax Administration arising from the applicable Value Added Tax Act (Official Gazette, 73/13, 99/13, 148/13, 153/13, 143/14, 115/16, 106/18) and the Ordinance on Amendments to the Ordinance on Value Added Tax (Official Gazette, 79/13, 85/13, 160/13, 35/14, 157/14, 130/15, 1/17 , 41/17, 128/17, 1/19) established that services and deliveries related to social welfare, including those performed and delivered by family homes are exempt from VAT payments (Stambolija, 2015, p. 124).

1.3. Age and aging of Croatian population

According to multiple methodologically different indicators of age and aging of the population, the population of the Republic of Croatia is an old society with an average age of 44.8 years for women and 41.3 years for men in 2017 (CBS, 2018).

The share of individuals over the age of 65 in the overall population in Croatia in 2016 was 19.4%, which is almost the same as the average for the European Union 27 countries (except for the UK), which is 19.3%. According to the European Commission's projections, this share will be 31.2% in Croatia in 2070, and older than 80 will be 13.0%, i.e. close to 42% of the elderly population, while in the European Union the corresponding value will be 29.2% and 12.9% (European Commission, 2018, p. 23).

In the scientific and professional literature, the elderly are (for the purpose of planning care for the elderly, who at some point may become dependent on the help of others) divided into three age groups: younger 65-74, middle 75-84 and old 85 and over. Generally speaking, individuals in the middle group are mostly somewhat functionally preserved and do not need day-to-day care but community services to preserve their quality of life, while individuals in the oldest group often require full-time care and they are frequent users of accommodation services (Social Welfare Strategy for the Elderly, 2017, pp. 6-8). Due to an increase in average life expectancy, but also because of a changed lifestyle, the problem of care for the elderly and severely ill people is increasingly pronounced, and public services, including accommodation capacities, have not kept pace with the change.

1.4. Specificity of social conditions in eastern Croatia

The consequences of the recent economic and financial crisis, as well as numerous unexpected consequences of war damage, which are particularly pronounced in the eastern part of Croatia, are still strongly reflected in the economic and social status of the population. The necessary preconditions for the most important goal - the growth of (too) low employment rate of working-active population - is not realized, so the recent and ongoing emigration clearly confirms the chronic inability of dealing with this issue.

The level of uneven regional development in Croatia is best illustrated by the fact that in the same year the share of the City of Zagreb in Croatian GDP was 33.6%, almost three times more than all five counties of eastern Croatia together, whose share was only 11.8% in 2016 (Croatian Chambers of Commerce, 2019). It should be noted that eastern Croatia also has fewer than 9% of the population of the City of Zagreb (732,744 compared to 802,762, according to CBS data for 2017). Although public policy-making would require the opposite, quoted latest available GDP data[1] show that regional differences in (non)development are increasing instead of decreasing.

The unfavourable economic and demographic situation has a significant impact on the number of beneficiaries of rights and services in social care, as the number of the elderly increases with respect to the number of younger working people, resulting in a greater burden on the social, health and retirement system (Administrative Department for Health and Social Care of Osijek-Baranja County, 2018, p. 30) and in consequential lowering of the scope of services.

2. Objective and problems of work

The purpose of this paper is to analyse the achieved level and opportunities of developing family homes as a form of family entrepreneurship in eastern Croatia, focusing on the following major problems:

1. to examine the representation of family entrepreneurship through the provision of social services of accommodation for the elderly in family homes in eastern Croatia, and some of its features, compared to other parts of Croatia,
2. to evaluate the achievements in this field of family entrepreneurship in eastern Croatia and analyse the economic and entrepreneurial potentials in the mentioned activity.

3. Research methodology

3.1. Data Sources

Apart from using secondary sources of data on the demand and supply of social services of the elderly in eastern Croatia and the rest of Croatia, with an emphasis on family homes, a survey was conducted to collect data from all family homes in Croatia relevant to this research.

[1] Data on GDP per capita and counties are published in February each year, but with a three-year lag. The last available data refers to 2016

3.2. Research process

The survey was conducted in 2018 using a dedicated questionnaire submitted to the respondents electronically, along with the methodological instructions, and the respondents were in following telephone contacts motivated to respond as much as possible and, if needed, were provided with additional clarifications and instructions regarding filling out the questionnaire.

3.3. Questionnaire

The questionnaire contained information about the location and type of family home, the approved capacity, the structure of the beneficiaries (by type of accommodation, age, gender, functional ability, reasons for accommodation, legal basis of accommodation and payment sources, legal capacity etc.), structure of employed workers and family members, and the price of accommodation, with the condition as of December 31 2017

3.4. Respondents

In order to establish a complete and accurate picture, the survey process includes the overall population, i.e. all those family homes that were active or worked at the end of 2017, divided into eastern Croatia (five affiliated counties) and the rest of Croatia.

Of the 361 active family homes at end of 2017, a high response rate of 354 homes was achieved, out of which 79 (100 %) from Eastern Croatia and 275 (97.5%) from other parts of Croatia.

3.5. Data processing

The collected data were processed using SPSS statistical program. In addition to standard descriptive statistics, the differences between family homes in eastern Croatia and the rest of Croatia was examined for certain variables using Mann-Whitney U and hi-square test.

4. Results and Discussion

It should be mentioned that the comparison between regions deprives us of more precise data about mutually very different Croatian counties (20 counties and the capital city), cities (127) and municipalities (429) and sometimes creates significant generalizations. The results of a research suggested that the Croatian municipalities differ significantly in terms of their fiscal capacity, the distribution of central government aid, the indebtedness, employment and the average net salary paid to municipal inhabitants (Rašić, Bakarić, Šimović & Vizek, 2014, p. 303). However, for the purposes of this paper, we compared eastern Croatia with the rest of Croatia in order to obtain a framework picture of possible differences in the representation of family homes for the elderly and their particular characteristics, according to the first problem of this paper.

4.1. Differences in the representation of family homes in eastern Croatia and the rest of Croatia

According to data from the register and records on social service providers, kept by the competent Ministry for Demography, Family, Youth and Social Policy (hereinafter: the competent Ministry), on December 31 2016 accommodation services in the Republic of Croatia as institutional and extrainstitutional care was provided by the following service providers:

Table 1: *Number and capacity of individual types of providers of institutional and extrainstitutional accommodation for the elderly and infirm persons, and differences between eastern and the rest of Croatia in ratios of capacities of various accommodation providers**

Types of service providers	Republic of Croatia			Eastern Croatia			The rest of Croatia			χ^2	p
	Number	Capacity		Number	Capacity		Number	Capacity			
	f	F	%	f	f	%	f	f	%		
Institutional accommodation											
state homes	3	171	0.58	0	0	**0.00**	3	171	**0.71**	38.81	<.001
county (decentralized) homes	45	10,801	36.72	8	1,681	**30.86**	37	9,120	**38.05**	62.34	<.001
homes of other founders **	112	7,604	25.85	18	1,018	**18.69**	94	6,586	**27.48**	118.50	<.001
other legal entities without establishing a home***	95	1,811	6.16	18	387	**7.10**	77	1,424	**5.94**	6.01	<.014
Total	255	20,387	69.31	44	3,086	**56.66**	211	17,301	**72.19**	286.22	<.001
Extrainstitutional accommodation											
family homes	361	5,549	18.87	78	1,249	**22.93**	283	4,300	**17.94**	41.70	<.001
foster carers	1,544	3,478	11.82	461	1,112	**20.41**	1,083	2,366	**9.87**	235.47	<.001
Total	1,905	9,027	30.69	539	2,361	**43.34**	1,366	6,666	**27.81**	286.57	<.001
In all	2,160	29,414	100.00	583	5,447	100.00	1,577	23,967	100.00		

Source: by the author according to: Social Care Strategy for the Elderly, 2017, p. 13
* Ratios are expressed as percentages
** Founders may be a religious community, a trade company, an association and other domestic and foreign legal or natural persons and an entrepreneur
*** Provider of accommodation without the establishment of a home may be an association, a religious community, another domestic and foreign legal entity, and an entrepreneur

Put of 29.414 accommodation capacities that existed as per the data of the competent Ministry on December 31 2016 (Social Welfare Strategy for the Elderly, 2017, p. 16), 69.3% of the capacity in Croatia is institutional and 30.7% is extrainstitutional accommodation. In eastern Croatia, there is a higher percentage of extrainstitutional accommodation, i.e. accommodation offered by natural persons - families, than in the rest of Croatia, in the ratio of 43.3% to 27.8%. Family homes in eastern Croatia occupy a higher percentage share of the capacity than is the case for the rest of Croatia, 22.9% compared to 17.9%.

We can notice that all the differences displayed in Table 1 were statistically significant at the .05 level (seven of them were statistically significant at the .001 level). State, decentralized, and homes of other founders in the rest of Croatia cover greater part of beneficiaries compared to these types of facilities in eastern Croatia: 0.71% vs. 0% ($\chi 2$ = 38.81, p <.001), 38.05% vs. 30.86% ($\chi 2$ = 62.34, p < .001), and 27.48% vs. 18.69% ($\chi 2$ = 118.50, p < .001), respectively. On the other hand, the portion of beneficiaries covered by other types of service providers is greater in eastern Croatia. These service providers were: other legal parties without establishing a home (7.10% vs. 5.94%, $\chi 2$ = 6.01, p < .05), family homes (22.93% vs. 17.94%, $\chi 2$ = 41.70, p < .001), and foster carers (20.41% vs. 9.87%, $\chi 2$ = 235.47, p < .001).

When we analyzed total coverage of beneficiaries by service providers, we obtained the statistically significant finding in favor of the rest of Croatia for providers of institutional accommodation (72.19% vs. 56.67%, $\chi 2$ = 286.22, p < .001) and a statistically significant result in favor of eastern Croatia for providers of deinstitutionalized accommodation (43.34% vs. 27.81%, $\chi 2$ = 286.57, p < .001).

Speaking of the overall accommodation capacities at the level of Croatia shown in Table 1, they cover 3.59% of the population over the age of 65 (which is estimated at 818,300 in 2017, CBS, 2018),, which is considered inadequate. For example, the Republic of Austria, according to the data of their Ministry of Labour, Social Welfare and Consumer Protection for 2015, has an accommodation capacity of 4.7% of its population aged over 65 (Social Welfare Strategy for the Elderly, 2017, pp.16-17).

Table 2: *Capacities of family homes, the size of population over 65 years and differences between eastern and the rest of Croatia in capacity/population over 65 ratios (expressed as percentages)*

County/ Region	**Populatio n**	**Populatio n 65+**	**Population 65+/populatio n ratio**	**Capacity of family homes**	**Capacity/ population 65+ ratio**	χ^2	p
	N	N	%	f	%		
Virovitica-Podravina	77,086	14,511	18.82	169	1.16		
Požega-Slavonija	69,583	13,729	19.73	59	0.43		
Brod-Posavina	143,827	27,569	19.17	300	1.09		
Osijek-Baranja	283,035	52,811	18.66	490	0.93		
Vukovar-Srijem	159,213	30,839	19.37	282	0.91		
Eastern Croatia	**732,744**	**139,459**	**19.03**	**1,300**	**0.93**	128.34	<.001
The rest of Croatia	**3,391,787**	**678,841**	**20.01**	**4,441**	**0.65**		
Republic of Croatia	4,124,531	818,300	19.84	5,741	0.70		

Source of population data: by the author according to: CBS, 2018

In Table 2 by comparing the accommodation capacities of all family homes that operated on December 31 2017, as determined for the purpose of this paper, with the population over 65 years of age, the coverage of the elderly population with accommodation services is expressed in somewhat higher percentages in eastern Slavonia than in the rest of Croatia, by 39.62% (it was 0.932% whereas the proportion/ratio, expressed in percentage and calculated for the rest of

Croatia, was 0.654)., by 39.62%. The difference between eastern and the rest of Croatia in ratios of capacity to population over 65 years was statistically significant ($\chi2 = 128.34$, $p > .05$).

4.2. Occupancy, prices and income of family homes in eastern Croatia and the rest of Croatia

At the end of 2017, 361 family homes were active in the field of social services, of which 354 participated in the questionnaire, which means that the questionnaire included 98.1% of the overall population .The results are shown in Table 3.

Table 3: *Number, capacity, occupancy, prices and estimated income of active family homes for the elderly and infirm persons, on the day: December 31 2017*

Region/County	Number of family homes	Capacities	Number of users	Number [1] of employees	The average lowest price	The average highest price	Monthly income [2]
Eastern Croatia:							
Virovitica-Podravina	10	169	153	52.6	2,870	3,670	449,600
Požega-Slavonia	4	59	55	21.5	2,725	3,300	149,800
Brod-Posavina	17	300	259	100.3	2,579	3,654	671,100
Osijek-Baranja	31	490	430	168.6	2,874	3,765	1,247,200
Vukovar-Srijem	17	282	244	89.1	2,521	3,435	625,200
Total	**79**	**1,300**	**1,141**	**432.1**	2,755	3,634	**3,142,900**
Relative (%)	22.3	22.6	22.2	21.9	-	-	18.85
Occupancy rate (%)			87.8				
The rest of Croatia:							
Total	**275**	**4,441**	**4,001**	**1542.4**	3,383	4,329	**13,533,518**
Relative (%)	77.7	77.4	77.8	78.1	-	-	81.15
Occupancy rate (%)			90.1				
Republic of Croatia							
In all	**354**	**5,741**	**5,142**	**1,974.5**	3,243	4,174	**16,676,418**
Relative (%)	100.0	100.0	100.0	100.0	-	-	100.0
Occupancy rate (%)			89.6				

[1] - full-time and part-time (according to the number of hours worked per week).
[2] - estimation based on the lowest price and number of users on December 31 2017

It can be said that 354 family homes with a respectable capacity of 5,741 (averaging 16.2 per home), a total of 1,974 employees and 5,142 users (14.5 per home), in part succeeded in mitigating a significant gap that existed and still exists between the available capacities of institutional service providers and real needs for this social service. This also suggests a high percentage of occupancy rate amounting to 89.6% family homes at the national level.

The survey covered all 79 family homes from five counties of eastern Croatia with a capacity of 1.300 and 1,141 beneficiaries (averaging 16.5, i.e. 14.4 per home), which accounts for more than 22% of this activity at the national level.

Family homes do not have a fixed price for their services, except for a small number of those who, often only for a certain part of their capacity, have a social service contract concluded with the competent Ministry, based on which the state pays a contracted fixed price for users accommodated on the basis of Social Welfare Centre decision. In this study, it has been shown that only 58 family homes in Croatia have concluded such contracts with the competent Ministry, based on which 367 beneficiaries are accommodated. Of these, in the family homes in eastern Croatia, the price of accommodation is financed or co-financed by the state budget for only 59 beneficiaries (5.2%) while for the rest of Croatia that number is 215 beneficiaries (5.4%). For all other accommodations, family homes base their pricing on the quality of accommodation and services, adapting the price to local conditions and possibilities, with offering price range.

For the purpose of this research, the lowest and most cost-oriented services of family homes were collected. A very wide price range has been established, which at the lowest level in Croatia ranges from HRK 1,700 to 6,000, while the highest category ranged from HRK 2,000 to 8,000. The average lowest monthly price per user in eastern Croatia, as shown in Table 3, amounted to HRK 2,755, which is 18.6% less than the average lowest price in the rest of Croatia.

The average pension at the end of 2017 amounted to HRK 2,318.72 (Croatian Pension Insurance Institute, 2017), which is below the price offer of 90% of family homes. Out of 354 homes, only 35 of them offer their services at a price below average pension, while the average monthly average per user at the Croatian level was HRK 3,243, while the average of the highest prices was HRK 4,173. Occupancy rate, however, is at a high level, which further reflects the strength of demand for this social service.

Overall monthly income was calculated on the basis of the number of users at the end of 2017 and the lowest price of accommodation and at the national level that average amounted to HRK 16,676,418. This is an estimate of the lowest overall income (lower limit), since a part of the users are accommodated at higher prices, thus realized income is higher in reality. In this way, the annual income, whose lower limit is HRK 200,117,016, is estimated, which is not a negligible financial result for family entrepreneurship in this activity alone.

Overall monthly income in eastern Croatia amounted to HRK 3,142,900, and the corresponding overall annual income at the lowest prices amounted to HRK 37,714,800, which can be assessed as a high result for family entrepreneurship in eastern Croatia.

Table 4 shows that statistical verification confirmed the significance of differences in prices and income between the rest of Croatia and eastern Croatia.

***Table 4:** Differences between Eastern and the rest of Croatia in six main variables (median values and the results of Mann Whitney U test were displayed)*

Variables	**Eastern Croatia (Median)**	**The rest of Croatia (Median)**	**Mann Whitney U**	**p**
Lowest prices	2800	3000	5536.5	<.001
Highest prices	3500	4000	6819.5	<.001
Total income	39200	48000	8087.5	<.001
Number of employed family members	1	1	9875.0	.115
Number of employees	5.5	5.5	40865.0	.238
Employee-users' ratio	.390	.382	42777.0	.807

Eastern Croatia, compared to the rest of Croatia, has lower prices in both cases (Table 4). In other words, the rest of Croatian regions provide services for greater lowest and highest prices (Mdn = 3000 vs. Mdn = 2800 and Mdn = 4000 vs. Mdn = 3500). Additionally, differences between them were statistically significant ($U = 5536.5$ and 6819.5, both $p < .001$). Similar finding was obtained for total income (Mdn = 48000 vs. Mdn = 39200), which was statistically significant as well ($U = 8087.5$, $p < .001$).

On the other hand, there were no statistically significant differences in number of workers (Mdn = 5.5 vs. Mdn = 5.5, $U = 40865.0$, $p > .05$). Lastly, although employee-users' ratio was somewhat higher (Mdn = .390) in Eastern Croatia than in the rest of this country (Mdn = .382), their difference was not statistically significant ($U = 42777.0$, $p > .05$).

The higher affordability of family homes in eastern Croatia and lower incomes compared to the rest of Croatia, which is clear from the data in Table 3, and is confirmed by the indicators of statistical significance in Table 4, has its explanation. Even the fact that the three cheapest family homes (HRK 1,700 - 1,900) are located in eastern Croatia (Vukovar-Srijem, Osijek-Baranja and Brod-Posavina County) illustrate that the purchasing power of the population is significantly lower than in other parts of Croatia, which also had to be adapted when calculating the price of family homes. Therefore, eastern Croatia, which accounts for about 22% of the overall number of family homes, capacities, number of employees and number of beneficiaries, participates in overall income with only 18.8%.

It is important to note that the share of 21.9% of employees, i.e. 432 employees in eastern Croatia's family homes is of great importance for the region. Especially since apart from 98 employees of activity holders and members of their families, they also employ 334 external employees (plus 77 family members without commencement of employment). Table 5 shows the number and structure of employees in family homes in eastern Croatia and the rest of Croatia, where another social value of family homes is that they employ a large percentage of women and individuals with a lower education.

__Table 5:__ Number and structure of employees in family homes

<table>
<tr><th rowspan="2">Job type</th><th rowspan="2">Qualifications</th><th colspan="2">Eastern Croatia</th><th colspan="2">The rest of Croatia</th></tr>
<tr><th>employed</th><th>women</th><th>employed</th><th>women</th></tr>
<tr><td>Home Representatives</td><td>without data*</td><td>74.0</td><td>47.0</td><td>267.5</td><td>173.5</td></tr>
<tr><td>Care workers</td><td>lower education, unqualified worker</td><td>200.6</td><td rowspan="2">266.1</td><td>702.6</td><td rowspan="2">906.5</td></tr>
<tr><td>Professional workers</td><td>higher education, high education, secondary education</td><td>89.7</td><td>329.5</td></tr>
<tr><td>Accounting-Administrative Workers</td><td>high-school education</td><td>4.4</td><td>2.9</td><td>22.3</td><td>15.0</td></tr>
<tr><td>Professional-technical staff</td><td>secondary education, qualified worker</td><td>34.0</td><td rowspan="2">46.5</td><td>109.9</td><td rowspan="2">154.3</td></tr>
<tr><td>Technical and auxiliary staff</td><td>Lower education, unqualified worker</td><td>29.4</td><td>110.6</td></tr>
<tr><td>Total</td><td>-</td><td>432.1</td><td>362.5</td><td>1,542.4</td><td>1,249.2</td></tr>
<tr><td>Of that, family members</td><td>-</td><td>98</td><td>-</td><td>371</td><td>-</td></tr>
</table>

* According to the Social Welfare Act, home representatives must have at least secondary education.

4.3. Circumstances and opportunities for development of family homes in eastern Croatia

By analysing data on gross domestic product (GDP) per capita by purchasing power standard (PPS) in 2016, compared to the EU average (EU28 = 100), out of five counties of eastern Croatia, four of them achieve only one third (34-36%) of the EU average, and only Osijek-Baranja County reached 48% (Croatian Chambers of Commerce, 2019). This significantly deviates from the Croatian average, which in 2016 amounted to 61% of the EU development (CBS, 2019).

Given this situation, the aforementioned overall annual income can be considered a high score for family entrepreneurship in eastern Croatia.

Concluding the analysis of the second problem of this paper, as mentioned above, eastern Croatia is characterized by a decrease in purchasing power in relation to other parts of Croatia as a result of devastation of agricultural resources, lack of industry (especially food production) and consequent unemployment, resulting in depopulation and youth emigration. All the above mentioned makes problems in social service activities even bigger and more complicated.

However, precisely because of this, there are certain predispositions for further development of family homes in eastern Croatia.

In addition to the family-friendly social environment (which family homes should be), the advantage of family homes is their dispersion as they open in small communities and adapt to local needs, which public capacities are not able to, nor will be able to, accomplish.

In eastern Croatia, there are numerous estates, which, due to low interest, are often sold under real value. Part of these facilities can be adapted to family homes and another beneficiary circumstance is the possibility of supplying food produced on properties in local environment.

It is expected that purchasing power will, if not indirectly then indirectly, grow (CNB, 2018)[2]. In 2017 personal transfers from abroad amounted to two billion euros for the first time[3], and a significant portion of these comes and will continue to come in eastern Croatia. Young people who have emigrated and who would like to take care of their older family members will have access to foreign income, and users will have a greater choice, which will partly reflect the choice of family homes.

Given that there is an unsatisfied demand for social services in eastern Croatia, which will still increase, eventual reconstruction or upgrading capacities for family homes can be a completely justified investment. Since the state does not increase the capacities for this purpose, it might be proposed to consider, for example, the possibility to allocate funds to cover interest on credit (for example 1.5%) for building and reconstruction of properties suitable for family homes. Co-financing the difference between the minimum and market (banking) interest rates in our terms would mean that for every 4-5 million of co-financed interest per year allows placement of 100 million of targeted investments in family homes.

There are examples that the legal possibility of establishing family homes has attracted repatriated investment capital, which is then invested in this activity, which may only be desirable from a wider social aspect.

5. Conclusions

The research has shown that the existing 79 family homes for the elderly in eastern Croatia make up more than 22% of family homes in the area of social services at the national level. With accommodation of 1,300, high occupancy rate of 87.8% and relatively affordable prices, family homes in eastern croatia cover 39% more of appropriate elderly population than family homes in the rest of Croatia.

In this entrepreneurial activity in eastern Croatia, 79 families have found their livelihood, and overall 432 jobs had been created, out of which 334 are external employees, dominated by women and individuals with lower education.

Due to the small capacities of state, decentralized and other homes in this area and the expected increase in demand as well as the preconditions for this type of activity, further opportunities for developing this vision of family entrepreneurship in the field of social services in eastern Croatia are open.

[2] According to estimates of the CNB, Croatia may expect a stable and significant foreign currency inflow from personal transfers abroad, and the increased outflow of population recorded in recent years could only further strengthen it.

[3] The methodology does not include the physical transfer of funds (which is very significant), nor the foreign pensions.

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BRAND VALUATION WITH THE USE OF A LICENSED ANALOGUE METHOD AND THE POSSIBILITY OF ITS USE IN CREATING THE VALUE OF THE ENTERPRISE IN CONDITIONS OF SLOVAK REPUBLIC

ABSTRACT

The brand belongs to important parts of an enterprise's intangible and legal assets. However, the problem remains the lack of traditions and difficulties associated with the valuation of this type of intangible assets. This poses a great challenge to managerial accounting. In current economic theory and practice, methods based on cost, comparative and income approaches are used. Valuing this type of intangible asset can guarantee large and measurable benefits to the management of a business that give its owners value in the form of increased sales, increased financial performance of the company, and benefit from the ownership of a particular image or reputation. The purpose of the contribution is to define the issue of branding using the analogue licensing method while pointing to the use of quantified brand value as a very important factor that plays a significant role in building a business property. Given the purpose of the contribution, a quantitative detection method was used to obtain the necessary input data. When choosing a brand licensing company valued using the analogy defined target group of enterprises operating in the Slovak Republic, all of which were subsequently selected the best brand for Slovak Superbrands program 2018. The theoretical part of the contribution describes the brand value and methods of rating the brands used in foreign conditions and conditions in the Slovak Republic. The analytical part of the contribution is a licensing analogue method, which includes the calculation of the production scale, the license fee, revaluation coefficient, the capitalization coefficient and the share of intangible assets for production, and the Sedita brand for € 351,204, which demonstrates the objective of the contribution. The data were supplemented by a documentary analysis, including documents and methods of marking the brand and decree no. 492/2004 Coll., which provides for the designation of the trademark.

Key words: *Brand value, Brand valuation and recognition, Brand valuation methods, Licence analogue method*

1. Introduction

In today's world of global change and processes, competition is a crucial issue for business-policy makers at all levels of the business (Szkutnik, 2018, 10). Establishing a business on national and international markets requires the codification of business strategies to improve capabilities and competitiveness (Massey, Kliestikova, Kovacova, Dengov, 2018, 37). Own brand strategies and tasks can bring the business not only a competitive advantage, but also the importance of influencing customers, measuring brand equity. In fact, a substantial part of the company's assets are not as tangible assets as assets of an intangible nature, including management, marketing, finance and property and brand stories. Reliable brand value measurement and reputation factors provide the right measure to assess the long-term effects of marketing decisions (Jack, 2012, 43).

One of the responsibilities of top management is to create a strong brand while improving the ability of the business to meet its obligations (Alshehhi, Olah, 2017, 40). Strengthening the conceptual difference between products through branding, gaining reputation and more loyal customers create what is more than financial gain and we call it a specific value or mental image of the brand in public.

The aim of this contribution is to theoretically approach the brand, its value and the process of evaluation and valuation of the brand by the chosen method (the licensing analogy method) accepting the conditions of the Slovak Republic.

2. Literature review

Although the term brand has several decades of history, over the past two decades, brand value is considered as the key and core value for an enterprise. The emergence of a branding concept has been added to the strategic value of marketing and has created a focal point for researchers and managers (Stefko, Fedorko, Bacik, 2016, 159).

2.1. Brand and brand value

The word "brand" comes from the old Norwegian word brand, which means burning. According to the definition of the AMA American Marketing Association (2019), a brand is a name, concept, symbol, design or combination of those elements that identify the products and services of a particular supplier and distinguish them from competitors.

The subject of this contribution is the term brand name, which is the term of marketing and business. An economic dictionary defines a trademark as a proposal or a word legally registered as a brand name of a manufacturer or merchant product.

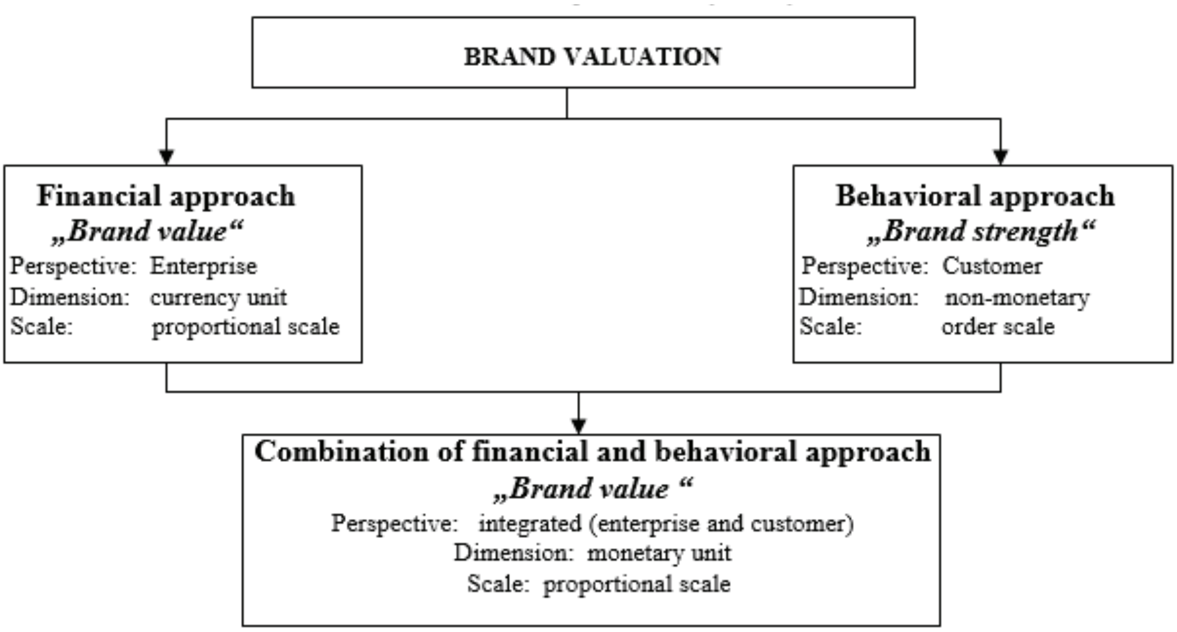
The brand is a holder of value and therefore a well-chosen brand can be economically valued more than other assets of the organization. If the brand is well controlled, its value does not decrease over time, but increases (Aaeker, 2003, 21). A brand may be the sole subject of interest in buying a business and may increase its price several times. Brand value has different interpretations or definitions within expert resources (Haigh, 2000). From the point of view of marketing, the value of the brand is a promise of the experience offered by the brand to its exceptional customer. From the enterprise or business perspective, this term is a guarantee of future earnings. From the point of view of law, brand value in the form of trademark value is part of the intangible asset of the enterprise (Kylianova, 2010, 35). The main categories of brand value are knowledge of brand name, brand loyalty, perceived quality and association associated with the brand (Yildiz, Camgoz, 2019, 219).

Brand evaluation is an evaluation process that is represented by different brand rating methods (Kliestikova, Janoskova, 2017, 153). The brand evaluation process is of primary importance not only for the brand itself but also for better accuracy in the case of acquisitions or mergers (Valaskova, Kliestikova, Krizanova, 2018, 158). As a result, brand app application should be focused not only on strategic brand management but also on financial transactions associated with this process.

Earlier research, however, relates to brand recognition in two ways: marketing brand measurement and financial handling of the brand. The first was used by Keller (1998, 33) and included subsequent studies by Lassar et al. (1995, 15). To measure the strength of Park et al. (1996, 385) to evaluate the brand's own brand expansion, Kamakura and Russell (1993, 13), on one-source scanner data to estimate their own brand names, Montameni and Shahrokhi (1998, 282), to assess the brand's equity at local and world markets. Traditionally, financial branding has been based on the recognition of brands in the balance sheet (Barwise et al., 1989, Oldroyd, 1998, 265), which poses problems with the accounting profession due to uncertainty about the future nature of the brand benefits and hence the reliability submitted information. Tollington (1989, 293) discussed the distinction between goodwill and the property of an intangible brand. Further studies looked at the impact of the customer's perception of perceived quality, which is part of the equity label (Aaker and Jacobson, 1994, 199), and on the link between the value of the shareholders and the financial value of the company's brands (Kerin and Sethuraman, 1998, 266).

Current trends in the field of brand evaluation procedures are not limited to the two approaches. In 2010, the International Organization for Standardization (ISO) came up with ISO 10668, which set out the principles that should be adopted for the valuation of any brand. According to the above-mentioned standard, specifying the principles to be followed for branding, the mark should be subjected to behavioral and financial analysis (Figure 1). These analyzes complement not only their combination, but also the legal aspect, respectively. analysis of the legal aspect.

Figure 1: Understanding brand value



Source: Kylianova (2010): Hodnota znacky a jej podiel na nehmotnom majetku, p.35

The behavioral approach examines the response to the brand in terms of customer attitudes or purchases. Customers typically respond more positively to strong brands than non-branded products or weaker brands. To explore using this method, it is necessary to understand the size and trends of the market, the brand's contribution to the purchasing decision, the attitude of all stakeholder groups to the brand, and all the economic benefits this brand brings to branded business. The marketer must also reflect on why a potential entrant would prefer the brand compared to the brand of competitors and the concept of brand strength, consisting of future sales volumes, revenues and risks (Prentice, Loureiro, 2018, 326).

Financial approach to brand value defines the financial value tag for businesses and investors. In this case, the brand value is defined as the additional cash flow of branded products in comparison to the cash flow from the sale of non-branded products (Soto, 2008, 75). Financial access is one of the most commonly used methods of valuation and branding, as it employs four aspects - cost market, economic and formulas. Sometimes the fifth is also used. aspect of a special situation that recognizes that, in some cases, brand valuation may be related to specific circumstances that are not necessarily in line with external or internal valuations (Gyalog, Olah, Bekefi, Lukacsik, Popp, 2017). Each case has to be evaluated on the basis of individual merit based on how much value a strategic buyer can derive from this purchase, and how much of that value the seller can get from this strategic buyer (Lazaroiu, 2018, 59).

2.2. Brand valuation methods

Brand valuation is now used in a variety of areas to help manage business processes. There are a number of reasons to know the value of a brand: financial reporting, in-house communication, allocation of budget resources for marketing, marketing management, merger and acquisition planning, investor relationship building, licensing and franchising agreements, lending, investigating unfair business practices. litigation, tax planning, evaluation of the activities of advertising agencies, etc. (Masuda, Kushiro, 2018, 343). By evaluating the brand, the company can find out if its marketing strategy is appropriate, can help manage the portfolio of other brands, protect the brand value and compare their success with other brands in the market (Wiedman et al., 2018, 110).

On the world scale, the following methods are used to value brands:

- ***brand valuation based on cost branding*** - based on historical or reconstructed data. The calculations are based on records of economic information or potential costs that they would have to bear in order to create a brand that can generate the same sales and profits (Bartosova, Kral, 2016, 193). Such a brand valuation method defines the mark as the amount of the costs incurred to create or strengthen it, including the costs of promotion, research, advice, registration, wages of marketing department staff). Nevertheless, it is difficult to indicate a direct link with the costs incurred by brand construction and the current ability to generate future profits for the owner of the brand (Yildiz, Camgoz, 2019, 223),
- ***brand valuation based on market marking*** - based on current and widely available market conditions for information about transactions involving comparable brands. The parties who are interested in the transaction and are well informed agree with the brand price and this result may later become a reference point for the valuation of other brands in the same market (Yildiz, Camgoz, 2019, 224),
- ***revenue method*** - brand valuation with used income approach is made on the basis of the expected economic benefits associated with it, the cash flows that are associated with it, as well as the period of occurrence of these benefits, taking into account the elements of risk. In practice, these receivables Methods: a) method of licensing analogy, b) asset valuation, c) Brand Value Added (BVA) method, d) valuation by point assessment, e) method of capitalization of exhausting resources (Sadalia et al., 2019, 81).

Not all of these methods are suitable for determining brand value. The first method is inappropriate because it only takes into account the costs of creating and ignores the mental value of the brand. The second method is not universal: this is due in particular to a small number of transactions made only in connection with trademarks. Since none of the two companies are identical, the selection of companies compared is based on a subjective view, and so the desired outcome can be tailored to the requirements.

The methodology of branding has undergone complex developments, i.e. when the economic significance of the brands and subsequently their inclusion in intangible assets proved, they began to seek the most accurate expression of the financial value of the brands (Jackova, 2012, 55). In the conditions of the Slovak Republic, the issue of brand valuation is regulated by Decree No. 492/2004 Coll., which provides for valuation in two ways:

- ***licensing analogue method*** - used in the case of licenses, patents, trademarks and other negotiable parts of intangible assets. Its essence lies in making an estimate of likely future revenues, and determining the royalty rate by determining the amount of revenue that could be derived from these fees (Mazik, 2005). The annual general value - GV is calculated on the basis of:

$$GV = PR.\ LF.\ CR\ .\ CC\ .\ SA\ (€) \qquad (1)$$

PR – annual production range
LF – license fee
CR – coefficient of obsolescence / rating
CC – coefficient of capitalization / discount rate
SA – the share of intangible assets in production

In the following text, we will appraise a particular brand using the licensing analogue method, including a description of its core indicators.

- ***the method of capitalization of outflows*** - the basis of this method is to determine the length of the period in which the intangible asset will be used (Kardos, 2010). The factor determining the use of this method in practice is the belief that the brand, like the whole of the company, is a good whose value depends on the financial advantages it can create in future periods.

3. Methodology

Given the purpose of the contribution, the quantitative detection method was used to obtain the necessary input data. When choosing a brand of business that we will appreciate using a licensing analogy method, we first define a target group of enterprises operating in the Slovak Republic, from which we subsequently selected the best brands by the Slovak Superbrands program 2018.

The target group of enterprises was mainly small and medium-sized enterprises. The choice of companies of this size was based on the fact that most large enterprises operating in Slovakia are only branches or regional directorates of international enterprises that are supposed to have their brand already appreciated. On the contrary, small and medium-sized enterprises do not address this issue to a great extent, and they do not know what actual value they have on the market and whether their own brand would be more successful than the other brands in the sector. Just comparing enterprises across industries is an important indicator of whether a company is successful in the market. The finances that an enterprise generates by profiting or selling assets are an appropriate indicator for prospective investors or buyers, but they do not really show the real potential for profits that the enterprise will be able to generate in the future because of its currency, its brand and its value as an intangible asset. Among the selected companies that were addressed belonged enterprises operating in the Bratislava, Nitra and Banská Bystrica regions. These were small enterprises and entrepreneurs who focus on the region or Slovakia. Selected medium-sized enterprises focus their activities mostly on the whole of Slovakia or on specific areas in Slovakia. The areas in which the enterprises addressed are not more narrowly specified, particularly in order to make the results of the work more objective for SMEs in general.

Enterprises are not nominated for Superbrands and are not able to sign up for it. Brands are ranked according to prestige, innovation and brand awareness on the Slovak market. In order for a brand to become a member of the Superbrands elite club, it must be of high quality and excellent reputation. The best brands were selected in three phases. At an early stage, the organizers worked with a list of all existing brands in our country. In the next phase, individual brands were filtered by business results and public opinion polls conducted by GfK (Growth from Knowledge), in which respondents narrowed the selection of the best brands. We chose brand of Sedita from this selection process. In addition to that, we chose Sedita because it is a Slovak brand that started its business in true Slovak conditions and has a long tradition.

In addition, Sedita's valuation of quantification of the scale of production, license fee, obsolescence / capitalization rate, and the share of intangible assets in production is based on Sedita's internal data and information published on the official website http: //www.finstat.sk providing basic economic values enabling the quantification of these factors. FinStat s.r.o. processes and presents data about Slovak companies from different sources in one place. It helps people easily and for free assess the financial health of Slovak companies, but it can also be used as a business and marketing tool. Clearly, it allows you to better acquire and segment new customers and monitor your competitors and the entire market.

Sedita was valued by the license analogy method because only this method can be applied in the conditions of the Slovak Republic. The licensing analogy method consists of making an estimate of likely future revenue and determining the royalty rate by determining the amount of revenue that could be derived from those fees.

4. Results

The Slovak brand Sedita has found its application not only in the Slovak market, but also in the markets of V4, Slovenian, German, Romanian, French, Swedish, etc., even in the Canadian market or markets of the United Arab Emirates. The Sedita brand is a guarantee for our customers of consistently high quality products, which is the culmination of more than 50 years of tradition.

The aim of this contribution is the award of the Sedita brand using the license analogy method, which is the most used in Slovakia. This method is based on the principle that the value of an intangible asset is equal to the price most likely to be paid on the market for consent to the use of the same or a similar solution or for its transfer. The right to use it is subject to financial compensation, usually in the form of royalties. In most cases, the amount of royalties is set as a percentage of the net sales price.

The aggregate valuation of the intangible assets is accounted for by the aggregation of each annual valuation for the period that corresponds to the estimated useful life of intangible assets.

It follows from the above that we will rely on the relation (1) of the annual general value. To better understand it, we gradually quantify the factors it contains.

The annual production range - PR - is the sales of the company that reaches, respectively. will be in the future. No net profit or cash flow is considered, as license fees for the use of the trademark depend on the company's sales (Haigh, 2002, 68). The forecast of revenues is an important factor that has a major impact on the cost of valued intangible assets. It is also necessary to state the relationship by which we can calculate the rate of increment -RI.

$$RI(\%) = (y_1 - y_0)/y_0 \,.\, 100 \qquad (2)$$

y_1 – value of the indicator currently
y_2 – value of the indicator in the past

Revenues of I. D. C. Holding, a. s., which includes the Sedita brand for the period 2013-2018 as well as the calculated year-on-year increase in revenues are presented in Table 1.

Table 1: *Sedita's year-on-year growth*

Year	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Revenue (€)	5 028 811	4 779 309	4 809 934	5 183 416	5 730 748	6 020 341
Growth (%)	-	- 4.96	+ 0.64	+ 7.76	+ 10.56	+ 5.05

Based on available information, it is possible to estimate future growth rates. The data in Table 1 shows that by 2018 the growth rate of sales was disproportionate, but it tended to grow. We expect that, from 2018, revenue growth will be at 2% and will increase by 0.5% over the next few years. Valuation time 10 years.

Table 2: *Estimated production range 2018 – 2028*

Year	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Revenue (€)	6 020 341	6 140 748	6 294 267	6 483 095	6 710 003	6 987 403	7 292 431	7 657 053	8 078 191	8 526 882	9 119 469

License fee - LP - this is the fee that a licensee must pay for its use. The amount of the license fee for trademarks is limited. There is a simple rule: the more known the mark, the higher the license fee (Kylianova, 2010). Sedita products have a 50-year tradition on the Slovak market. A stable market position reflects the use of custom recipe, adherence to both manufacturing and production control procedures. The company's trademark can therefore be considered as an average. The amount of the license fee has a major impact on the sector from which license sales will flow. The company's main business is the production of durable pastries. For food production, the average license fee is 2.8%. If we place the production of durable pastry in the consumer industry, then it is recommended to use the license fee in the range of 1-5%. We set the license fee to **1.2%.**

The coefficient of obsolescence or rating - CR - there is a relation between the value and the length of use of intangible assets depending on the type of intangible assets. The value of patents, design, and know-how is declining (Soto, 2008). The reason is mainly technical progress. In this case, an obsolescence is used in the valuation, which gradually reduces the set value between several percent to ten percent per year. Trademark value increases over time. In this case, a valuation factor is used in the valuation, which gradually increases the value of markings by annual addition in the range of **1-5%.**

I.D.C. Holding with annually invests in research and development of new products, which regularly enriches the range of products offered. Despite the existence of negative externalities, the company has long maintained a competitive battle with many larger companies. That is why I choose a recovery factor of **1%.**

Capitalization rate coefficient (or discount rate coefficient) - CC - serves to calculate the calculated amount of the license fee at its net present value. In the theory of finance, this coefficient is used as the determinant. It should include the country's basic risk-free rate and the risk of loss of liquidity or inadequate product sales (Mazik, 2005). Its value currently ranges from **8-40%.**

The capitalization rate (discount rate) is calculated from:

$$CC = 1/(1+d)^t \tag{3}$$

d – rate of capitalization (%)
t – individual consecutive periods in which the updated value is to be found

The resulting discount rate, referred to as Yn, is quantified as the sum of the risk free rate and the risk premium according to the following relationship:

$$Yn = fr + RP\ (\%) \tag{4}$$

rf – risk-free interest rate
RP – risk premium

$$RP = rf.(n\text{-}1)\ .\ (100\text{-}ßß)/100 \tag{5}$$

(n-1) – coefficient of risk premium
ßß – the number of points earned by ßrandßeta™

In the case of Sedita, it is first necessary to determine ßß as the sum of the points of each of the variables taking the value from 1 to 10, j, maximum 100 points. If the enterprise earns 0 points, the maximum discounter rate will be used when it receives 50 points, the average discount rate and, if 100 points, the risk-free discount rate is used.

The individual indicators are quoted as follows: market time (7), distribution (7), market share (4), market position (6), sales growth rate (5), price increase (4) marketing costs (6), brand awareness (8); these indicators together amount to 52.

For the determination of the risk-free discount rate - rf - the 10-year government bond will be used for the debit note ŠD 223 J, SK4120008871, issued on 21.10.2018, due on 15.11.2027, whose interest yield is 3.375%.

After fitting the appropriate variables into relationship (5), we receive a risk marginal amount 14.6%. The resulting discount rate, t. j. the rate of capitalization is quantised from the relationship (4) and we get the value of 17, 955%.

The coefficients of the capitalization rate (discount rate) for the years 2018-2027 will be determined by successive assignment into the relationship, with the capitalization rate (d) - d - we assume the calculated value of 17,995% and for the annual periods - t - sequentially numbers from 1 to 10, valuation is 10 years.

Capitalization rates (discount rates) for the years 2018 - 2027 are shown in Table 3.

Table 3: *Capitalization rates for the years 2018 – 2027*

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CC	0.847	0.718	0.609	0.516	0.437	0.371	0.314	0.266	0.226	0.191

The share of intangible assets in production - SA - this coefficient expresses how the valued intangible asset participates in the economic result, which is expressed in terms of volume of production for this method.

Determination of the share of intangible assets in production - SA for Sedita
In the case of durable pastry, the trademark is key, so we choose the proportion of intangible assets to produce **90%.**

Calculate the value of Sedita
Based on the application of all key value indicators that affect the value of the brand, the Senita brand value was **€ 351,204.**

Table 4: *Calculating the value of the trademark using the licensing analogue method*

Year	PR (€)	LF 1.2 %	CR 1 %	CC 17. 995 %	SA 90 %	GV (€)
2015	6 140 748	0.012	1,01	0.847	0.90	56 735
2016	6 294 267	0.012	1,02	0.718	0.90	49 784
2017	6 483 095	0.012	1,03	0.609	0.90	43 920
2018	6 710 003	0.012	1,04	0.516	0.90	38 889
2019	6 978 403	0.012	1,05	0.437	0.90	34 582
2020	7 292 431	0.012	1,06	0.371	0.90	30 972
2021	7 657 053	0.012	1,07	0.314	0.90	27 784
2022	8 078 191	0.012	1,08	0.266	0.90	25 064
2023	8 562 882	0.012	1,09	0.226	0.90	22 781
2024	9 119 469	0.012	1.10	0.191	0.90	20 693
Total						**351 204**

The value of the 10-year mark calculated by the license analogue method is equal to the sum of the calculated values per year, € 351,204.

5. Discussion

From Table 4 of the Sedita award calculation, it can be stated that the value of the mark was valued at € 351,204. We can evaluate this evaluation very positively, not only in terms of the result achieved, but also in terms of confirming the importance of the brand's in-house evaluation. Companies such as Sedita often do not recognize the fact that not only economic indicators, which are often variable in character, contribute to brand value, but as seen in the Sedita award example, the historical background of the company with 50-year history adds to its value. That's why we can evaluate this award as valuable in terms of both the use and the merits of branding.

The importance of Sedita's brand to the company provides many valuable features. It serves not only to identify the product for consumers, but also for the company to form intangible assets and goodwill adding value to the enterprise, as tangible assets can account for about 10% of the total value, but up to 70% of their intangible assets can be branded.

In Robbin's study (1991, 35), "a wide array of alternative valuation methods that deliver significantly different results" are the first problem. The second problem was the difficulty in assessing the life of the brand. There are a few other barriers to branding. There is a lack of active market for brands. This means that the precision of the model cannot be tested empirically, nor can it be assured of value testing by marketing the mark. Many practitioners are unwilling to publish their models and provide them with academic research. In addition, a large number of models cause confusion amongst traders, and it is difficult to make some concepts. Another important issue is that it is difficult to separate brand value from other intangible assets such as goodwill. Barwise et al. (1989, 56) suggest that "there is currently no general agreement on valuation methods, nor can existing methods be regarded as theoretical or empirical." It is important to note that only after careful consideration of all intangible assets of the enterprise, the expert will be able to determine the importance of the brand in the current market position of the organization. Reilly and Schweihs (1999, 56) have listed the potential for intangible assets. These include, but are not limited to, marketing related assets such as trademarks, logos and names, or the identity of the organization. Customer relationships and customer lists are also included here. Another issue arises in the valuation process of intangible assets, such as a mark that often requires estimation and subjectivity.

After examining the above methods and approaches, it is clear that the branding and process of their valuation are essential for marketing purposes and profits for the company that owns them, and that the developed literature in this arena indicates the interest of various stakeholders and academics. However, despite the variety of available methods and their clarity, the main problem is repeatedly, the lack of consistency between accepted methods and the results achieved. ISO 10668 provides a unified standard for branding, but the lack of a proper or controlling body to decide not only the disputes, but to judge and approve the brand's award made by the company will go down to reduce the ambiguity problem associated with the resulting amount. Therefore, although there has been much progress in branding, there is still room for further.

The licensing analogue method has its own advantages but also shortcomings. On the one hand, this method makes it possible to take account of certain risks of future developments directly to the extent of capitalization. The risk expressed by this value corresponds to the risks of the food sector as well as the position of the company's mark on the market, which is stable, but the competition of foreign products in particular is very large. This is confirmed by the results of the study published by the Slovak Chamber of Commerce. The study has mapped goods in Slovak stores for the last four years and the results are alarming. The share of Slovak food on counters accounts for only 40% of all goods. In view of all the above, we believe that it would be appropriate to use at least two or even more valuation methods when appraising the business brand, with the result that the resulting value would not automatically be the arithmetic mean of the calculated values. Depending on the quality of the input information, the company's situation, and the nature of the individual methods, it would be appropriate to determine the weighting method within the final valuation. We also think that it would be a great contribution to this area if the method of designation of the individual calculation variables is unified. It would greatly accelerate and expose the entire valuation area.

6. Conclusion

The purpose of this contribution was to determine the value of Sedita, taking into account financial and marketing variables. The main approach of the contribution was to combine the different aspects of financial and marketing experts in assessing the brand's specific value. The licensing analogue method can be used to measure various factors simulating demand in the given markets. The method can be used when estimating demand and, at the same time, resource allocation planning to support factors to track the effect of resource allocation that affect brand demand. The value of the Sedita brand can also be used to build company value in reporting areas in the company's balance sheet, internal communication, allocation of budget resources in marketing, internal corporate governance, merger and acquisition planning, licensing and franchising agreements, litigation, planning.

As part of future research, we would like to focus on assessing the value of the brand and other Slovak companies, respectively to assess the value of the brand through other methods with the possibility of comparing them. Also, future research could include assessing the value of the brand within a longer timeframe in order to submit the results through statistical analysis. Part of future research can also be directed to brand evaluation in countries within the Visegrad Group (V4) for comparison.

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CORPORATE SOCIAL RESPONSIBILITY AS A BRAND VALUE-ENHANCING TOOL

ABSTRACT

A socially responsible company does not only focus on financial issues and economics (such as maximize its profit), but also on the environmental and social issues related to their business activities. Nowadays, consumers' satisfaction and over-all educational process in these areas are seen as the important step to company success. Applying the principles of the corporate social responsibility represents one of the ways to gain a competitive advantage for the company, at the same time as improve its image and increase brand value, attract new customers and also not least increase profits. The aim of this article includes to provide a literature review on the issue from the perspective of several foreign and domestic authors. By using methods of description, comparison, deduction, induction, it discusses the essence of corporate social responsibility, the concept of triple bottom line (so called concept 3P - People, Planet, Profit) and also analyses its practical use in the case of the particular company applying the principles of CSR. The secondary data for the analysis was obtained from annual company reports, statistical tables and published professional publications. In order to determine the perception of the corporate social responsibilities as a brand value-enhancing tool, a questionnaire survey was conducted among Slovak consumers. General scientific methods were applied for the processing of the data, as well as mathematical methods to evaluate the data collated from the results of the questionnaire survey. Based on this, proposals are put forward for the effective implementation of these principles. Finally, the benefits of using CSR principles are highlighted, that include, in particular, building customer relationships, gaining their loyalty and increasing the brand value.

Key words: *Corporate Social Responsibility (CSR), Triple Bottom Line Concept, Brand Value, Consumer*

1. Introduction

At present, the topic of sustainable development belongs to one of the most up-to-date and discussed issues. For this reason, using Corporate Social Responsibility (CSR) principles is on-trend, companies are focused not only on profit, but above all on sustainable growth and development (Stefanikova et al., 2015; Kliestik et al., 2018). Companies applying the principles of social responsibility try to take into account both social and environmental aspects in their activities. And just the triple bottom line concept represents a tool that enables CSR put into practice and points out that economic interests may not be in conflict with social and environmental issues. On the contrary, they may create a synergistic effect.

The general public is interested in solving environmental, social and economic issues. By implementation of CSR, companies also contribute to the environmental protection. This can be seen as a competitive advantage for the company, it can also improve corporate image and increase brand value, attract new customers as well as increase profit.

The aim of this article is to define the theoretical basis of CSR from the viewpoint of domestic (Slovak) and foreign authors, and its usage in the particular company. This includes an analysis thereof based on the results of a questionnaire survey, whereby the benefits of the application of CSR principles as a brand value-enhancing tool are highlighted and proposals are put forward for the more effective implementation of the underlying principles within the particular company. The basic sources of research were primary data from questionnaire survey as well as secondary data obtained from annual company reports, statistical tables and published professional publications. General scientific methods were applied for the processing of the data, as well as mathematical methods to evaluate the data collated from the results of the questionnaire survey.

2. Literature Review

The issue of the CSR has been researched and analysed by many foreign and domestic authors, and remains actual.

The concept of social responsibility was first mentioned by Bowen (1953), whose book is considered as the beginning of CSR. He propos the definition of CSR as the obligations of business to pursue those policies, to make those decisions or to follow those lines of action which are desirable in terms of the objectives and values of our society.

Freeman’s definition deals with the relationship between CSR and stakeholders. According to this approach, the corporation has a broader constituency and, consequently, it is responsible towards a wide group of stakeholders, which includes suppliers, customers, shareholders and the local community. In Freeman’s opinion, this group includes all individuals or groups who have a legitimate interest in the activities of a firm. Currently, this approach is used by many business managers (Freeman, 1984).

In 1996, the European Business Network for Social Cohesion was formed (later renamed CSR Europe) to create a space for men and women in business to share experiences, develop solutions and engage in a smart policy dialogue with the EU with a view to enhancing corporate social responsibility within their organizations and beyond. Through its Enterprise 2020 Strategy, CSR Europe currently allows companies to share best practices on CSR and innovate with peers - thus shaping the business and political agenda on sustainability and competitiveness (CSR Europe – 20 Years of Business-Policy Interaction Driving the CSR Movement, 2019).

Since 1996, the European Commission has been dealing with the concept of CSR. In 2001, the "Green Paper: Promoting a European Framework for Corporate Social Responsibility" with the first European CSR definition was published with the plan to make European Union the most dynamic economy in the world. The strategy is aimed at ensuring economic growth and increase the number of jobs with an emphasis on social cohesion. At the same time, the European Commission defines CSR as the responsibility of enterprises for their impact on society and, therefore, it should be company led. Companies can become socially responsible by integrating social, environmental, ethical, consumer, and human rights concerns into their business strategy and operations. Based on the above, we can claim that the main goal of European Union through the European Commission is to ensure the acceptance CSR principles by its Member States (Kunz, 2012).

According to Bussard et al. (2005), CSR represents a set of management practices of organization that minimizes negative while maximizing the positive consequences of its behaviour on society.

Steinerova (2008) argues, that the concept of CSR is a way of doing business and building relationships that both contribute to improving reputation and increasing corporate credibility.

Social responsibility is a voluntary integration of social and environmental aspects into day-to-day business operations and interactions with stakeholders (Chen & Gavious, 2015).

Over the years, many authors have dealt with the issue how CSR affects brand as well as brand value. Poolthong & Mandhachitara (2009) explore how social responsibility initiatives can influence perceived service quality and brand effect. Polonsky & Jevons (2009) develop the sub-issues of issue, organizational and communication complexity associated with global brands' CSR activities. They found out that within these three areas of complexity there are a number of sub-issues that must be addressed if CSR is to be strategically integrated into a global brand. Hur et al. (2014) investigate the relationships among CSR, brand credibility, brand value and corporate reputation.

According to Fatma el al. (2015), CSR activities influence brand value directly as well as indirectly. In addition, the mediating role of trust is found to be significant between CSR and brand value. The study shows that CSR activities build consumer trust in a company which in turn positively impacts brand value and corporate reputation.

On the basis of several definitions of CSR, Dahlsrud (2008) defines five basic aspects that are most common: environmental, social, economic, stakeholder and voluntary. Four of these five aspects are included in up to 80% definitions.

As mentioned, a socially responsible company is not only focused on profit (Musova, 2013). The goals of this company change from short-term to the long-term goals that lead to long-term profit-making and also contribute to the sustainable development of the general society (Bair & Palpacueer, 2015). In this case, the company is focused on the use of the triple bottom line concept, authored by Elkington. Triple bottom line (TBL) represents three areas of "triple responsibility" (Steinerova, 2008). The essence is to achieve a balance between these areas, that ensures the sustainable development of the company, thus helps to seek and create relationships and synergic effect between these three bottom lines (Pavlik et al., 2010):

- Profit - the economic area;
- Planet - the environmental area;
- People - the social area.

By focusing on these three interrelated elements, triple-bottom-line reporting can be an important tool to support a company's sustainability goals.

As mentioned above, the summary of sustainable development principles into the business sphere and CSR activities are the same as the sustainable development pillars and they are divided into 3 areas - Profit, Planet and People (Moravcikova & Krizanova, 2017). A socially responsible company should be active in all three areas in specific activities depending on the business focus and the requirements of other stakeholders (Mala & Bencikova, 2018). In summary, the triple bottom line measures level of social responsibility in the company, its economic value as well as environmental impact.

The economic bottom line is focused on tracking and improving the key business processes, by which the company contributes to the development of the economic environment with an effort to minimize negative consequences of business in this area. It includes corporate ethics code, responsible approach and customer care, provision of transparent information, corruption rejection, intellectual property protection, offer of quality products and services, product innovation and sustainability, good customer relations and good investor relations (Pavlik et al., 2010).

Environmental bottom line contains both internal and external activities. Internal environmental activities include company's environmental policy, implementation of environmental management systems, waste management, transport, purchasing, conservation of natural resources, training programs for environmental management staff (Kliestikova et al., 2018; Moravcikova et al, 2017). As the most frequently used external environmental programs we consider the environmental protection programs, environmental education programs for teachers, creating formal relationships with environmental groups in the field of the environment, building partnerships with non-profit organizations and local authorities in addressing major environmental problems, organizing annual meetings between the organization and local environmental officials, publishing environmental reports, informing the public about the company's environmental activities, philanthropic support for environmental activities (Zeleny, 2010).

The social bottom line includes health care, employee safety and quality employment policy, care for education, retraining, equal opportunities for everybody, corporate philanthropy and volunteering, child labour rejection, respect for human rights, work-life balance, and internal communication. Human resources management and personnel marketing are important elements of the social bottom line (Stonkute et al., 2018). Education, as a systematic and planned company's efforts to enable employees learn competencies necessary for their work, represents an important part of personnel development (Fielden et al., 2018). It is the key to the company's economic development, its prosperity and its competitive ability, that means a harmonious relationship between employees and company's management (Bajzikova et al., 2011; Pavlik et al., 2010).

3. Materials and Methods

The aim of this article includes a literature review on the issue from the perspective of both domestic (Slovak) and foreign authors. By using methods of description, comparison, deduction, induction, it discusses the essence of CSR as well as the concept of triple bottom line (so called concept 3P - People, Planet, Profit) and also analyses its practical use in the case of particular company. Based on the analysis and the results of the marketing survey, the benefits of the application of CSR principles as a brand value-enhancing tool are highlighted, and proposals are put forward for the more effective implementation of the underlying principles within the particular company.

The secondary data for the analysis was obtained from annual company reports, statistical tables and published professional publications – both in print and electronic media. In order to determine the perception of the CSR as a brand value-enhancing tool by consumers, a questionnaire survey was provided. General scientific methods were applied for the processing of the data, as well as mathematical methods to evaluate the data collated from the results of the questionnaire survey. When examining and identifying the utilization of the principles of CSR, the definitions of the approaches and concepts that are mentioned above were maintained.

The aim of the questionnaire survey – both electronic and personal - was to analyse the application of the principles of corporate social responsibility in the particular company from the consumer's perspective, as well as to identify the respondents' awareness and opinion of this issue. The sample size was determined using the Sample Size Calculator that forms part of Creative Research Systems´ survey software and which is provided as a public service. The calculator determines how many respondents need to be interviewed in order to get results that reflect the target population as precisely as possible. This is necessary to avoid any distortion in the survey information. The process requires a base file to work from, which in this case consisted of population data for the Slovak Republic, and in particular data on those aged 18 and above, i.e. 3,932,092 people. The age limit of 18 years was selected because this is considered the age at which people become financially independent. The confidence interval was set at 5%, with a confidence level of 95%. This means that for the questionnaire survey a 5% margin of error is assumed. The sample size calculated by the calculator was determined to be 384 respondents. In total, 404 respondents participated in the questionnaire survey.

The questionnaire survey was conducted during the second half of 2018. The selection of the respondents in the sample set took place at random and was based on the number of Slovak inhabitants aged 18 years and above that represent the target groups of consumers. The quantitative assessment method was applied to the processing of the information obtained from the questionnaire survey. The data were processed empirically in the form of absolute numbers and percentages, with additional written comments and comparisons.

4. Results

In Slovakia, the concept of CSR is widely applied in large enterprises with foreign participation. For general public, this topic is still not well-known, which does not mean that companies are not responsible. Especially companies supporting community projects and charity have deep-rooted principles of social responsibility. Unfortunately, in many cases of Slovak companies, CSR activities are still limited only to philanthropy and charity. However, these principles are applied not only in multinational companies that have brought CSR to Slovakia from the parent company, but increasingly in domestic companies.

Application of CSR concept in specific conditions of the Slovak Republic is analysed in case of the particular company, which is the refinery-petrochemical company Slovnaft, based in Bratislava. Slovnaft was founded in 1895 under the name Apollo. For its existence, it processed oil from the Caucasus, Poland, and later also Romanian and Texas oil, as well as oil from the former USSR. In 1957 the company put into operation the first production unit of the new refinery called Slovnaft.

Currently, Slovnaft is a refinery with a processing capacity of 5.5 - 6 million tons of crude oil, annually. The company's core business is production, warehousing, wholesale and retail sales and distribution. Slovnaft fields the largest retail network in Slovakia offering top quality motor fuels and lubricants as well as other customer services such as shops, gastro service, car wash and others. The striking feature of the Slovnaft refinery is its high complexity i.e. its high conversion factor and processing flexibility, ranking it among the top 3 in Europe. Installed conversion technology and intensive deep hydro-desulfurization enable production and sales only of top quality sulfur-free fuels. Slovnaft's top quality fuels are a strong competitive advantage demonstrated by the fact that up to 80% of production is exported, mainly to EU member country marketplaces. Slovnaft entered into a strategic partnership with MOL Rt. in 2000 and, since 2004, has been an integral part of the successful MOL Group, the leading vertically-integrated oil and gas corporation in Central Europe (Slovnaft, Member of Mol Group, 2019). The vision of Slovnaft is to become the most respected integrated transnational oil group in Central Europe, operating in a space that connects several seas.

CSR activities in Slovnaft can be divided into three fields:

1. Economic Responsibility - Slovnaft's priority objective is to achieve sustainable economic growth. Integrating into the MOL Group and thus joining New Downstream project has greatly helped to achieve this goal. This project was aimed at reducing costs and increasing revenue with a total benefit to the company of $ 140 million compared to the 2011 baseline. In 2014, this goal was successfully met, even exceeded by $ 18 million. In 2015, the company decided to continue the project because of its positive results. Other goals of economic responsibility include maintaining customer relationships by offering the highest quality services at best prices, and vigorously rejecting corruption.
2. Environmental Responsibility - Slovnaft is still trying to save the environment while it recognizes that petrochemical production in not very environmental friendly. Environmental activities include reducing emissions, investing in green technologies and building photovoltaic power plants that supply the company with renewable energy. The photovoltaic power plant is planned to operate at 18.38 MWp, equivalent to more than 9,000 households. The company is also focused on recycling. Specifically, in this area, the company has created a successful project to collect used cooking oil, which will be used in production and it will not pollute the environment.

3. Social Responsibility - Slovnaft takes great care in the safety of its employees. In this area, it received the "Safe Enterprise" award from the Ministry of Labour, Social Affairs and Family of the Slovak Republic. It also focuses on quality employee training. Slovnaft has also created many projects to support the community, focused mainly on athletes and sports competitions, as well as supporting young talented scientists and artists. In total, the company has invested an amount of around € 750,000 to support of talented young people.

Recently, Slovnaft has run several programs focusing on social responsibility (Social Responsibility, 2019):

- ***Every Drop of Oil Counts*** – the program is focused on environmental protection. It is aimed at the collection of used cooking oil that can be handed over by consumers to selected service stations. The oil is then used for diesel biofuel component production that reduces greenhouse gas emissions by more than half. Besides that, environment is saved in such a way, that the used oil does not clog the sewers, attract unpleasant rodents or pollute water. Additionally, consumers due to membership in loyalty BONUS club can earn one extra bonus point for each dcl of oil handed. The project started in 2011 in collaboration with RestOil company, where citizens could hand over the used cooking oil at ten service stations with permanent collection containers. In 2013, this number was expanded by another five. In 2015, a new cooperation was established with a stronger partner, Meroco, which produces a biofuel component from the oil. In autumn 2015, the number of service stations with a permanent collection container was expanded to 88 and thus improved Slovakia's coverage. Currently, citizens can hand over the used cooking oil at 171 service stations in 84 cities and municipalities in Slovakia.
- ***Responsible Neighbour*** – the program is based on the aim of Slovnaft to minimize the impact on residents, who live in vicinity, and provide them with accurate information about negative consequences of its activities (such as necessity of the gas flares, water management and protection, odorous substances, smoke and noise). In some cases, the company cannot be able to avoid the negative impact. So at least, it informs citizens, who have been involved in the program.
- ***Green Belts*** – this program is one of the most successful projects of Slovnaft. Anyone, an individual or a group of people with their project to improve the environment, can participate. The main objectives are to improve the environment as well as the quality of life of the community and cooperate with it at the local level. Currently, the 13th year is underway, where Slovnaft creates, repairs, or takes long-term care of watercourses, parks, campuses and so on. Last year, 31 projects were supported, for which Slovnaft in cooperation with the Ekopolis Foundation distributed € 69,600. Total of 279 projects were supported and implemented, for which a total amount of € 691,600 was redistributed. The best projects include the Lookout Tower Nest in Malinova (from 2014).
- ***Pro LIBRIS*** – it is a grant program aimed at the cooperation between Slovnaft and both Ministry of Culture of the Slovak Republic and Central European Foundation. The main task is to support the translation of contemporary foreign literary works, especially European, into Slovak language. It also helps publish works of art by young Slovak artists under 35 years of age. The program is focused on the culture promotion through the spread of prose and poetry. For two years, the PRO LIBRIS grant has redistributed € 50,000 annually for the publication of works by young talented Slovak authors and supported the publication of 18 books. The grant program is currently evaluated and its future will be decided.

- ***Slovnaft Play Off*** – Slovnaft was a general partner of Slovak hockey for a long time and later a major partner of the extra league. Since 2011, it has become a partner for the final part of the Extraliga Slovnaft Play off. By partnering with the hockey extra league, Slovnaft had trying to show the consumers of the Slovak Republic that it is not just a refinery-petrochemical company, but also a company that is committed to supporting and developing one of the most popular and successful sports in Slovakia. This cooperation lasted until 2015. During this period, Slovnaft helped to raise the league, which was reflected in the ranking of the best hockey leagues of the renowned hockey magazine The Hockey News. The Extraliga ranked sixth in the world and the fifth in the best leagues in Europe. It follows that the support of Slovak hockey and Slovak young talents is clearly visible.
- ***Cooperation with Stefan Svitko*** – Slovnaft has established cooperation with sports competitions as well as with individual athletes. The most effective is the cooperation with the successful Slovak motorbike rider Stefan Svitko. It represents a long-term successful partnership, which is mainly seen in the Rally Dakar. Slovnaft supplies Stefan Svitko with oils for extreme conditions from the MOL Dynamic product line. He uses and tests them on his motorcycles as well as on his accompanying vehicles.
- ***Slovnaft Cup*** – Slovnaft entered into a partnership with the Slovak Football Association. The aim of the cooperation is to support the Slovnaft Cup, which is the highest cup competition in football. The partnership was created in the 2011/2012 season, when this cup competition won the title partner for the first time in history. The cooperation is focused to achieve higher quality and also the value of the cup competition, which should motivate individual teams to perform better. Since the 2014/2015 season, clubs from regional levels can also participated in this competition. The aim of this change is to make the Slovnaft Cup matches more attractive.
- ***Talents of New Europe*** – it is a program that has long supported exceptional young talents whose development could be suppressed or weakened due to lack of funds. The program is for children and students of primary, secondary and high schools with excellent results on the domestic or international scene, who have a clear idea of their further progress. Currently, the 11th annual program is underway. Up to now, a total of 54 children have been supported (30 in sport, 24 in art and science), for which a total amount of € 66,000 has been redistributed.

Slovnaft is open to new collaborations and new ideas are assessed according to the MOL Group's criteria and subsequently to Slovnaft's criteria. For the following period, Slovnaft has defined the main areas that it wants to focus on and then implement. These include support for children and young people, their education, develop their talents, as well as science, research, culture, sports, and helping to protect the environment.
The most common forms of support are:

- Cash and in-kind donations;
- Grant programs;
- Assignation of 2% of taxes;
- Corporate volunteering;
- Advertising collaboration.

As mentioned, in order to determine the perception of the CSR as a brand value-enhancing tool by consumers, a questionnaire survey was provided. The results of the questionnaire survey revealed that:

- Of the 404 respondents in the sample set, 280 (69.31%) were female and 124 (30.69%) male.

- 68 respondents (16.83%) belong to regular customers of Slovnaft (16.13% male and 17.14% female), 136 respondents (33.66%) to casual customers (32.26% male and 34.29% female) and 200 respondents (49.50%) are not regular customers (51.61% male and 48.57% female).
- 162 respondents (40.01%) indicated the Slovnaft company as a socially responsible (43.55% male and 38.57% female), 241 respondents (60.65%) could not judge that (54.84% male and 61.79% female) and just 1 respondent indicated the company as not socially responsible.
- Most of respondents learned about Slovnaft's social responsibility from social networks (158 respondents – 39.11%), company's web site (67 respondents – 16.58%) and other web sites (65 respondents – 16.09%).
- Regardless of gender, respondents perceived Slovnaft as a socially responsible company in the economic area (161 respondents – 39.85%). As the best-rated activities in this area they have indicated an effort to maintain fair customer relationships, top-quality products and vigorously rejecting corruption. The most frequent recommendation from consumers on how Slovnaft could improve in terms of economic responsibility is to set a reasonable price for adequate quality.
- Regardless of gender, respondents perceive Slovnaft as a socially responsible company in the environmental area (151 respondents – 37.38%). As the best-rated activities in this area they have indicated an investment in green technologies, reduce emissions, build photovoltaic power plants, and support projects to restore nature. The most frequent recommendation from consumers on how Slovnaft could improve in terms of environmental responsibility is cooperation with several (non-profit) organizations.
- Regardless of gender, respondents perceive Slovnaft as a socially responsible company in the social area (162 respondents – 40.02%). As the best-rated activities in this area they have indicated a strong stance against child labour, employee safety and education, as well as corporate philanthropy. The most frequent recommendation from consumers on how Slovnaft could improve in the terms of social responsibility, is to increase the interest in education of its employees.

5. Discussion

The idea of CSR was emerged and developed mainly in countries with stable market economies. In Slovakia and other Central European countries, it is necessary to take into account the specific conditions of implementing CSR strategies (Popp et al., 2018). However, it is not always possible to use the same procedures as in developed countries. The sociologist Lewicka-Strzalecka (2006), which deals with the issue of CSR, speaks about the phenomenon of rationality asymmetry when rational procedures are developed by the institution for a market with different characteristics and historical experience introduced in post-communist countries. It is clear that if some of these countries try to implement effective solutions transferred from developed economies, this will not be successful, but on the contrary, poverty as well as social differences will increase (Kliestik et al., 2015; Stefko et al., 2014). For that reason, the way of promoting and implementing CSR activities should be adapted to the country's specific conditions.

The Slovak Republic is characterized by its uniqueness, distinctive culture and history, and that is why the implementation of CSR is perceived differently than in other countries. In this case, the important factor is the level of economy advance and overall social system of the country. Many economically advanced countries demand corporate social responsibility by law, but this fact changes the essential of the CSR concept - voluntary approach.

The main success factors of the CSR (not only in Slovakia) include its perception by consumers. Based on this, we recommend Slovnaft to focus more on informing its customers and the general public about activities carried out in the field of social responsibility, as the level of their awareness is still insufficient.

In terms of maintaining a competitive position, environmental responsibility is also very important. At present, environmental protection can be perceived as a global trend. General society is trying to focus on elimination of negative activities that are caused especially by greenhouse gases and global warming. In this area, constant efforts are needed to develop more environmentally friendly technologies. Building a photovoltaic power plant is a good step. Green electricity from solar parks should reduce CO2 emissions by 9,000 tons per year. By doing so, Slovnaft tries to get information on where the company could possibly head in the future. The company could also start thinking about promoting electric vehicles. Currently, Slovnaft is covered by filling stations all around the country. These stations could be enriched by charging devices to support the purchase of hybrid or electric vehicles and hence the environment. At present, such charging is available at the services station in Petrzalka, Bratislava.

6. Conclusions

Despite Slovnaft's activities and programs focused on social responsibility, the results of a questionnaire survey show which areas of social responsibility the company has underestimated so far and do not give them the attention that customers would require. From this, we can deduce managerial implications for practice.

Applying the principles of CSR in Slovnaft and consequently informing general public about these activities can lead to gain new customers, increase the loyalty of current customers, gain competitive advantage, improve the image of the company and especially increase brand value. Consequently, this effort can improve relations between the company and its customers, because many consumers are generally actively engaged in social responsibility, especially environmental protection. Social responsibility of Slovnaft was identified by a smaller group of respondents (less than 40%), what can be considered as a weakness of the company. The reason is insufficient awareness of consumers about these activities.

If company utilises CSR as an opportunity and increase promotion of these activities, it can gain a strong position amongst the growing competition. However, sustaining and developing such a position requires constant and consistent control and innovation.

The effective implementation and utilisation of the CSR principles:
- Reduces consumer scepticism;
- Increases consumer confidence;
- increases the numbers of customers with ecological thinking;
- Increases company's revenues;
- Increases attractiveness for investors;
- Enables better management of human resources;
- Enables development of a strong market position;

- Raises awareness among existing and potential customers;
- Increases brand value;
- Strengthens a company's image;
- Creates customer loyalty;
- Links the good name of a company with the high quality of services provided;
- Generates mutually beneficial cooperation with other business entities;
- Increases traffic on websites and social media sites.

If a company therefore perceives all its CSR activities as opportunities, applies them correctly, without having a negative impact on the environment and general society, they will help the company to maintain its competitive advantage and increase brand value.

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SOME ASPECTS OF ANALYZING CORRUPTION AND INVESTMENTS IN CROATIA

ABSTRACT

Many social phenomena are more connected today than before, whereas their economic aspect is more often researched, while even more authors research correlation between the corruption and various macroeconomic elements. We shall conduct our research in the period of the transition of the Croatian economy, which is significantly different environment compared to the one existing in the developed Western economies. The goal of our research is to set additional light to the correlation of the two seemingly unrelated social phenomena, i.e. corruption and investments, in order to properly implement economic and total social policy in Croatia.

The basic hypothesis of the research is that lower level of the corruption influences the growth of the investment rate in Croatia, which consequently influences its economic growth. However, and to the contrary of the hypothesis we have set, we have established that the lower level of the corruption in Croatia is in significant negative correlation with the rate of the investments, which is especially expressed in the period where left-oriented parties were the government. Furthermore, suppression of the corruption in Croatia with left-oriented governments is additionally sensitive compared to the right-oriented governments, because some forms of the corruption are more connected with achieving of the higher rates of the economic growth than with right-oriented governments. It still does not mean that the higher level of the corruption speeds up the investments in Croatia, as it was the case in some East-Asian countries. Limiting factors of achieving of the higher rate of the investments and economic growth are the slowness of the state administration, unfavourable entrepreneurial climate, lack of adequate work-power, migrating abroad, etc. There is no doubt that the creators of the economic policy in Croatia, no matter left- or right-oriented point of view, should take into consideration the importance of the phenomenon of the corruption in the economy, as the economic goals, such as the growth of the investments, cannot be reached only by using „traditional "economic instruments.

***Key words**: Corruption, Investment,, Left-wing Government, Right-wing Government,, Economic policy*

1. Introduction

Transition of the economic and political system of Croatia into a modern market economy was additionally burdened by political problems during the process of gaining independence and imposed war troubles. Such unique historical circumstances at the same time present an opportunity to research some economic phenomena that must have some specific features considering its economic environment. Although transition process of the Croatian economy, and the society as a whole, is now at its very end, Croatia still differs a great deal from other members of EU.

The subject of our research is contemporary phenomenon of the corruption in Croatia, as well as its correlation with investments as an important initiator of the economic growth in the conditions of specific transition environment, depending of the fact if the actual government in the observed country is right- or left-oriented. Taking into consideration that left- and right-wing governments in Croatia should have different priorities in conduction of their respective economic policies, the results of the research will contribute to the existing theoretical comprehension. It is completely understandable that Croatian governments when defining goals in implementing of economic policy should properly observe corruptive influences in order to obtain set goals more easy.

2. Economic Side of the Corruption

The history of the corruption is closely related to the development of the human civilization, but so far it was mostly analysed without researching of its interaction with particular economic phenomena. However, contemporary comprehension of the corruption has been significantly changed, especially in the last three decades, when more authors became interested in economic side of the corruption and its correlation with inflation, unemployment, public infrastructure, economic growth, etc., to mention only some of them.

„Rent-seeking "is one of specific forms of corruption that was researched by many authors. Thus, Baumol (1990) has established that „rent-seeking "negatively influences economic growth and distort the system of cash rewards (bonuses) in enterprises. Acemoglu (1995) came to the conclusion that the corruption and „rent-seeking "encourage economic resources toward unproductive activities. Cole and Chawdhry (2002) have included lobbying societies and came to the conclusion the "rent-seeking" destructively influences public investments, etc. Rose-Ackerman and Stone (1996) and Paul (1995) concluded that activities connected to the corruption are followed by high transaction costs. In addition, Mauro (1998) came to the result that the corruption influences the growth of the costs of education. Johnson et al (1997), Friedman et al (2000) concluded that there was a positive correlation of the corruption and shadow market. Li et al (2000) have shown negative influence of the corruption to the system of rewarding the employees.

Furthermore, many authors concluded that the corruption has a negative influence to the economic growth. Hereby we would mention some of them, without exploring their methods of research: Brunetti (1997), Poirson (1998), Kaufmann et al (1999), Leite and Weidmann (2002), Aizenman and Glick (2003), Neeman et al (2004), etc. Méon and Sekkat (2005) came to similar conclusions, considering that the corruption negatively influences economic growth only stipulated lower efficiency of the government and the legislation.

It is important to point out, that despite higher level of the corruption in certain environments, such as some East Asian countries, we can still have high rates of the economic growth, as shown in researches of Rock and Bonnet (2004). The above mentioned specific quality is better known as „East Asian Paradox “. Wei (1997) has tried to explain „East Asian Paradox “by empiric analysis, and came to the conclusion that ethnical connections cause bigger flow of direct foreign investments, i.e. that informal institutions could be an important missing factor that can influence the nature of the corruption. Barreto (2001) has clearly established that corruption encourages economic growth. Shleifer and Vishny (1993) analysing various types of corruption regimes and categorized the countries with high levels of corruption and low predictability as the worst countries in the sense of attracting private investments. Furthermore, the authors distinguish the countries with high levels of the corruption and higher predictability as better for attracting relatively higher levels of the private investment, and countries with lower levels of the corruption and high predictability which are the best for investment.

The countries where there is “East Asian Paradox” probably belong to the latter. Many authors researched the influence of corruption to the inflation, as well. Thus, Al-Mahrubi (2000) showed that there was relatively strong positive connection between corruption and inflation on example of 41 countries. By researching of the influence to the inflation in transition countries, Abed and Davoodi (2002) have also established their positive correlation. The authors have also concluded that corruption reduces direct foreign investments. Bahmani-Oskooee and Nasir (2002) have concluded an interesting research, concluding that there is a negative connection between corruption and external monetary stability of certain countries. On the other hand, Piplica (2011) has established that corruption positively influences inflation in transition countries members of EU, but that their correlation is weak.

Empiric analysis of the relation of the corruption and investments has been conducted on micro- and macro- levels, while combined forms of researches have been used. In the context of our research Pellegrini and Gerlagh (2004) have got interesting results showing that corruption directly affects investments, and only indirectly economic growth. Mauro (1995) has shown negative influence of the corruption to the investment and economic growth by econometric analysis. Several authors concluded that the corruption negatively influences the rate of the investments, such as Brunetti and Weder (1998), Mo (2001), Lambsdorff (2003). Smarzynska Javorcik and Wei (2002) have analysed data at the company level and showed that the corruption affects foreign investors as a tax and reduces FDI of the certain country. The authors have also showed the influence of the corruption to the changes of the ownership structure in joint ventures. Rose-Acherman (1999) has elaborately researched the influence of the corruption to the society as a whole. The author has established that the high level of corruption affects limitation of the investment and economic growth, which consequently results in an inefficient government. She also considers the corruption to be closely connected to politics and that it especially affects developing countries and countries in the process of transition.

Campo et al (199) have researched the influence of the corruption at company level and concluded that it increases operative costs, created uncertainty, which in the end obstructs the investments. Bara et al (2003) and Gaviria (2002) have reached mutually opposite results by using the data on the company level. Namely, Bara et al (2003) have researched 3.100 companies from 81 countries and concluded that the corruption has a significant negative influence on investments. Gaviria (2002) has researched data from 2.612 companies from 29 countries of Latin America and Caribbean and concluded that there is no significant relation between corruption and investments. Hellman et al (2002) consider that the companies that benefit from corruption can broaden their activities by increasing investments.

3. Models and Analytical Instruments Applied in the Research

Our research of influence of the corruption to the investments will comprise period of transition of Croatia from socialist to modern market economy. The problem of researching corruption emerges from its very nature, since corruption is almost always concealed, while corrupt actions and their perpetrators that can cause significant consequences to the society are especially hardly revealed. Corrupt actions often remain undisclosed for various reasons, while many of such activities only participants are aware of the deed, so they are not interested in informing the authorities against them very selves. Moreover, corrupt activities may seem completely legal to the public, and the perpetrators can have status of highly regarded citizens.

Models for measuring of the corruption used so far, are based on the research of the perception of particular categories of the population of its existence, and most widely used are Corruption Perceptions Index (CPI), Bribe Payers' Index (BPI), and Global Corruption Barometer (GCB). Taking into consideration that the corruption amongst state officials and politicians is its potentially most dangerous form, we shall use Corruption Perceptions Index (CPI). Results of the state of the corruption in certain country are based on the answers of business persons and experts. CPI is made so that data from 13 sources and 10 independent different institutions is obtained. Each of the observed sources then calculated the frequency or dimension of particular corrupt activities and marks it with numbers 0–10 (nowadays 0-100), whereas bigger number signifies lower level of the corruption. Thus, 10 (100) points means that there is no corruption in the country, while 0 points means that the country is completely corrupted.

Taking into consideration that the growth of the investments significantly affects the growth of GDP of a country (GDP = C + I + G + (X-M)), we have joined statistically processed indicators of the investment rate of a particular year to the above mentioned indicators of the corruption. In our research we have used indicator: Total Investment Percent of GDP, considering that the portion of investments within GDP have special importance. We have particularly considered relation of the corruption and the investments when left or right centre parties constituted authority. We have in addition considered relation of the corruption and economic growth, in order to explain the results of the research. We have measured economic growth by growth rate considering it more appropriate measure in comparison to GDP per capita. In any case, higher rates of the economic growth as a rule contribute to higher GDP per capita. Linear regression model is $y_{it} = \alpha_{it} + \beta_i x_{it} + \varepsilon_{it}$ whereas:

y - total investment, percent of GDP (growth rate)
x - corruption perception index
α - constant
β - regression coefficient
ε - stochastic variable
The unit of observation is i=1,2,...,N, where N=20, and the time period is t=1,2,....,T. In our work we have set basic hypothesis that lower level of the corruption influences increase of investment rate in Croatia, which consequently influences its economic growth.

4. The Data, the Estimation and the Results

We have performed our research for the period of 1999-2018, when we have had available CPI data for Croatia. In this period Croatia was in mature stage of the transition, while this process is closing to the end nowadays. Furthermore, Croatian market in this period has higher degree of liberalization, which enables more objective indicators, thus in 1992 Croatian Cumulative Liberalization Index was above 2, i.e. 2,37, while in 1995 it was 4.83.

In total, we have joined 20 corruption indicators to the indicators of the investment rates in Croatia, and analysed obtained results. We have, as well, for further explanation of the obtained results, joined corruption indicators to the rates of the economic growth, and analysed obtained results. We have additionally, considered the total research in the context of the periods when right- or left- oriented governments ruled Croatia. Present Croatian government is fourteenth in turn, while in the period of 1999 – 2018 we have had total of 7 Croatian governments. Should we join Croatian governments, in their respective terms of mandate, GDP growth rate, investment rate and corruption index, and at the same time mark if they were right- or left-oriented, the result would be following table:

Table 1: *Corruption, Investments and GDP in Croatia*

Years	Party	Political Profile	Politic Orientation	GDP Const. Prices	Total Invest. Perc. of GDP	Corruption
1999	CDU	Christian democracy	right	- 0.9	19.9	2.7
2000	SDP	Social democracy	left	3.7	20.1	3.7
2001	SDP	Social democracy	left	3.5	22.1	3.9
2002	SDP	Social democracy	left	5.3	25.8	3.8
2003	SDP	Social democracy	left	5.6	28.0	3.7
2004	CDU	Christian democracy	right	3.9	27.4	3.5
2005	CDU	Christian democracy	right	4.1	27.8	3.4
2006	CDU	Christian democracy	right	4.9	29.7	3.4
2007	CDU	Christian democracy	right	5.3	29.7	4.1
2008	CDU	Christian democracy	right	2.0	31.4	4.4
2009	CDU	Christian democracy	right	- 7.3	25.1	4.1
2010	CDU	Christian democracy	right	- 1.5	21.4	4.1
2011	CDU	Christian democracy	right	- 0.3	20.7	4.0
2012	SDP	Social democracy	left	- 2.3	19.2	4.6
2013	SDP	Social democracy	left	- 0.5	19.4	4,8
2014	SDP	Social democracy	Left	-0.1	18.8	4.8
2015	SDP	Social democracy	left	2.4	20.0	5.1

Years	Party	Political Profile	Politic Orientation	GDP Const. Prices	Total Invest. Perc. of GDP	Corruption
2016	CDU	Christian democracy	right	3.5	20.8	4,9
2017	CDU	Christian democracy	right	2.8.	20.8	4.9
2018	CDU	Christian democracy	right	2.8	20.4	4.8

Source:https://www.imf.org/external/pubs/ft/weo/2018/02/weodata/weorept.aspx?pr.x=53&pr.y=10&sy=1997&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=960&s=NGDP_RPCH%2CNID_NGDP&grp=0&a=, Transparency International, accessed 11February 2019. and https://www.transparency.org/cpi2018, (accessed 11 February 2019)

When we consider corruption and investment rate in Croatia for the whole observed period, regardless of the fact if right- or left-wing oriented governments were ruling, their relatively significant connection is obvious, and it is expressed in negative correlation of the indicators for measuring of the corruption (higher level signifies lower corruption) and investments (total investment, percent of GDP).

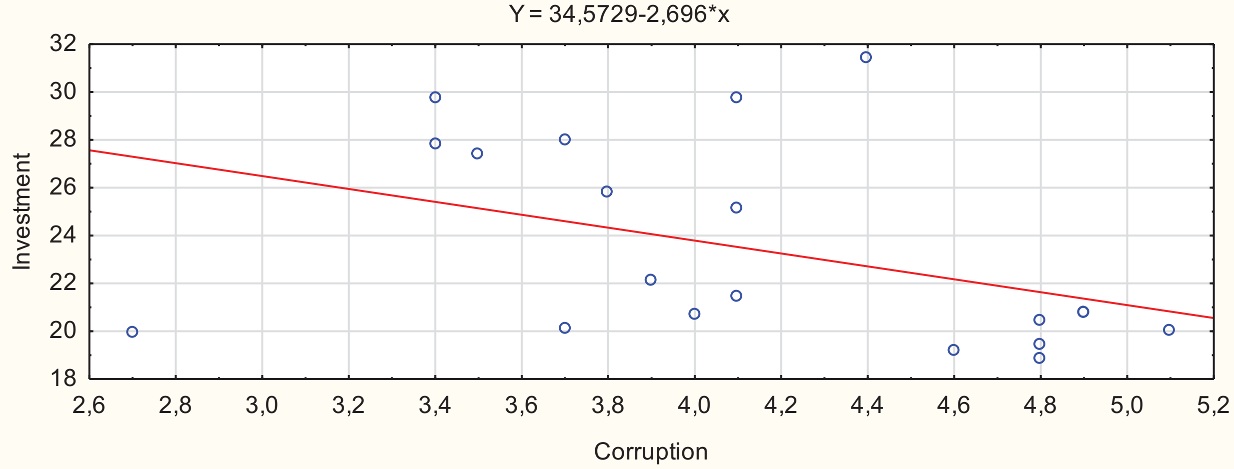
Table 2: *Corruption and Investments During Left- and Right-wing government in Croatia 1999 – 2018 (Regression Results)*

Dependent: Investment	R = 0,41295	F = 3,70064
No. of cases: 20	R2= 0,17053	df = 1,18
adjusted R2= 0,12445	Stand. error of estimate: 3,92045	p = 0,07035
Intercept: 34,57293	Std.Error: 5,86095	t(18) = 5,8989
Var2 b*= -0,41		

Source: own calculation

In the observed period average rate of the investments compared to GDP amounted 23,4%, which could not be considered as satisfying amount considering significantly worse Croatian GDP per capita, in comparison to the average rate of the EU members. In the 75% of the cases the proportion of the investments in GDP was not above 30%, while in several occasions it was below 20%. The average value of corruption in Croatia in the reference period from 1999 to 2018 calculated by the CPI method is 4.1. It is below half the maximum level of the CPI score, which means that Croatia still has higher level of corruption. Moreover, in 75% occasions CPI was not above the amount of 4.8 points. Croatia has not had a satisfactory level of CPI in the observed period compared to developed countries. The average level of corruption in Croatia is above the average level of corruption in EU countries for the observed period.

Graph no. 1 Corruption and Investments During Left- and Right-wing government in Croatia



The obtained result suggests a certain connection of the corrupt actions with the investments in Croatia, but that does not mean that the growth of the investments in Croatia would be significantly facilitated with higher level of the corruption as it was the case in some East Asian countries. On the other hand, developed members of EU have by average lower level of corrupt activities and higher rate of investments, showing that they were more efficient in the conduction of measures for corruption suppression, which facilitated investment and keeping it on higher level.

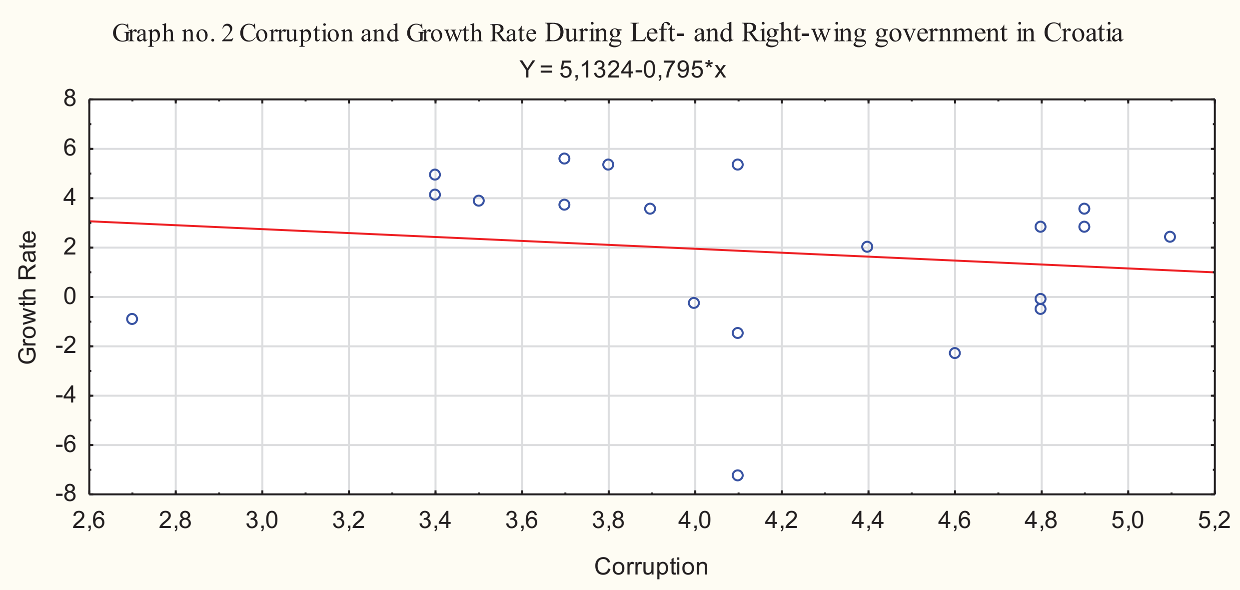
However, if we consider relation of the corruption and economic growth in Croatia, measured by the GDP growth rate, their weak positive correlation is expressed in a negative correlation index for measuring corruption (higher level means lower corruption) and economic growth rate. Corruption eventually was not an obstacle to the economic growth of Croatia.

Table 3: *Corruption and Growth Rate During Left- and Right-wing government in Croatia 1999 – 2018 (Regression Results)*

Dependent: Growth rate	R = 0,15682	F = 0,45387
No. of cases: 20	R2= 0,02459	df = 1,18
adjusted R2= -0,02959	Stand. error of estimate: 3,30120	p = 0,3121
Intercept: 5,132445	Std.Error: 4,935205	t(18) = 1,0400
Var1 b*= -0,16		

Source: own calculation

The average value of growth rate in the reference period from 1999th to 2018th is 1.8% and we cannot consider it to be satisfactory. Furthermore, in the period of 2009-2014, we have had negative rates of economic growth, which was disastrous for Croatia. 75% of the level of economic growth rates is within 4%, which is not good for economic growth of Croatia. In more than 25% of the observed years Croatia has had negative rates of economic growth, which is disturbing. However, half of the values of the rates of the economic growth are above 2,8%, which could be considered as a minimal satisfactory level. The average deviation from the average (standard deviation) for the corruption perception index is 0.64 and 3.25 for the growth rate. The correlation coefficient of corruption measured by the corruption perceptions index and economic growth was very low and amounted to - 0.16 which means that they are not too much related phenomena. Significant initiators of economic growth in Croatia are personal and public consumption.



We also tested our basic hypothesis with +/- 95% confidence and rejected the statement that the lower level of corruption influences the growth of the investment rate in Croatia, which consequently influences its economic growth

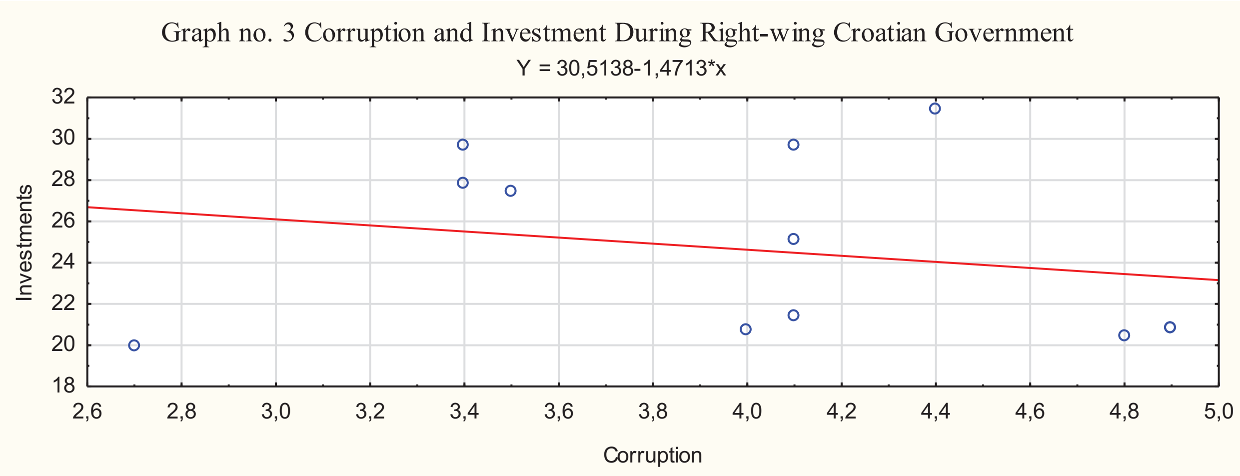
4.1. The Data, the Estimation and the Results During Right-wing Croatian Governments

However, if we observe connection of the corruption and investment with right-wing Croatian governments, their weak positive connection is obvious, although milder compared to left-oriented Croatian governments, which is expressed in negative correlation of indicators for measuring corruption (higher level means lower corruption) and investment rate compared to GDP.

Table 4: *Corruption and Investment During Right-wing Croatian Government 1999 – 2018 (Regression Results)*

Dependent: Investment	R = 0,22899	F = 0,55340
No. of cases: 12	R2= 0,05243	df = 1,10
adjusted R2= -0,04231	Stand. error of estimate: 4,46769	p = 0,47404
Intercept: 30,51380	Std.Error: 8,06461	t(10) = 3,7837
Var1 b*= -0,23		

Source: own calculation



Average portion of investments within GDP with right-oriented Croatian governments in the observed period amounts 24,6%, which is higher than with left-oriented Croatian governments, but still not sufficient for encouraging of the stronger economic growth. Apart from 1999, the portion of investments within GDP did not fall below 20%, but only once it was above 20%. On the other hand, average CPI is somewhat lower than with left-oriented Croatian governments and it amounted insufficient 4,02 of 10 points, which showed that the level of corruption was still high.

It is obvious that right oriented Croatian governments have by average lower CPI (higher level of corruption), with an average of higher level of investments within GDP in comparison the left-oriented Croatian governments, but their correlation is weak and amounts only -0,23. It still does not mean that the higher level of the corruption encourage investments in Croatia, as it was the case in some East Asian countries, however the correlation must not be ignored. Should the right-oriented governments be efficient in suppression of the corruption, they have to be aware that a certain portion of investments was connected to certain forms of corruption, which was essential to achieve higher levels of the economic growth.

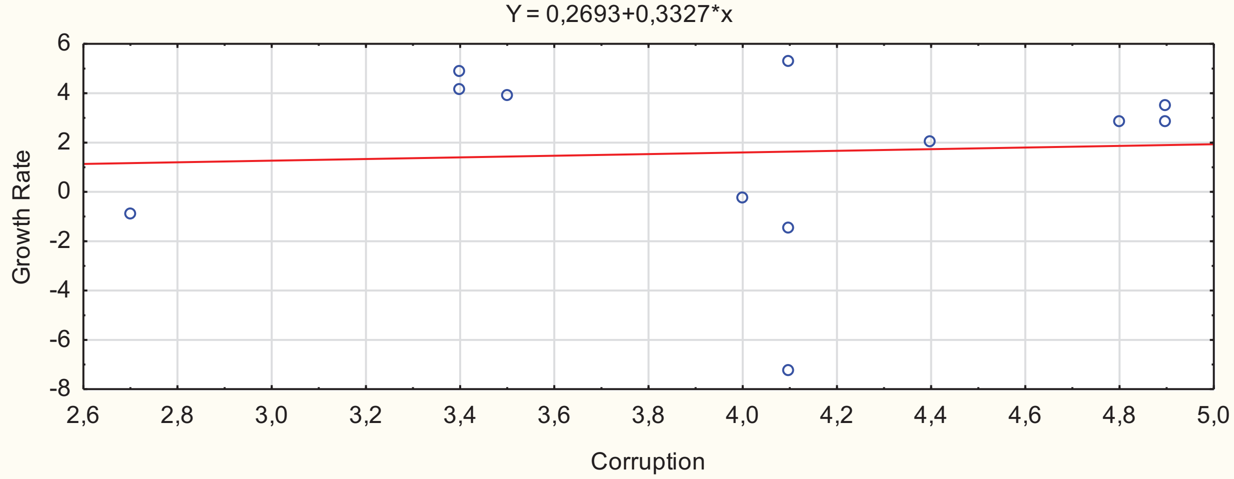
Table 5: *Corruption and Growth Rate During Right-wing Croatian Governments 1999–2018 (Regression Results)*

Dependent: Growth rate	R = 0,06318	F = 0,04008
No. of cases: 12	R2= 0,00399	df = 1,10
adjusted R2= -0,09560	Stand. error of estimate: 3,75345	p = 0,84532
Intercept: 0,26929	Std.Error: 6,77535	t(10) = 0,03975
Var1 b*= 0,063		

Source: own calculation

However, when we observe the relation of CPI and growth rate, their minor positive correlation is shown, i.e. economic growth in Croatia with right-oriented governments is not significantly dependent of corruption suppression. Right oriented Croatian governments have had somewhat lower CPI in comparison with left-oriented Croatian governments, and medium value of the economic growth level in the observed period was lower in comparison to the left-oriented Croatian governments, and it amounted 1,61%, which is insufficient for reaching medium GDP per capita of EU members. Half of the values of the economic growth rates was still above 2,8%, which could be rated as minimally satisfying rate.

Graph no. 4 Corruption and Growth Rate During Right-wing Croatian Governments



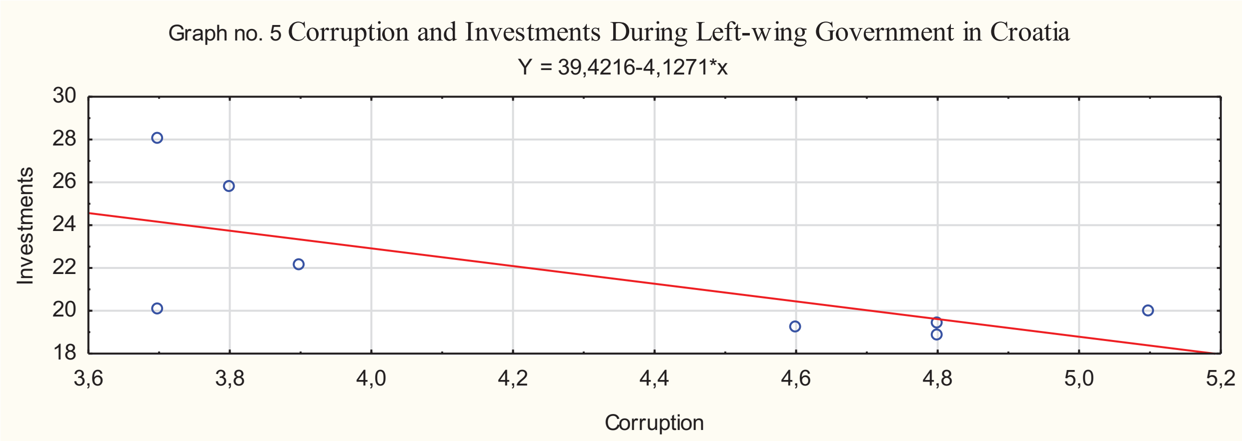
4.2. The Data, the Estimation and the Results During Left-wing Croatian Governments

Corruption and investments with left-oriented Croatian governments have quite a strong positive connection, higher in comparison to the right-oriented Croatian governments, which is expressed in negative correlation indicators for measuring corruption (higher level means lower corruption) and investment rate in relation to GDP amounting -0,70. Left-oriented Croatian governments have more difficult position in corruption suppression in comparison to the right-oriented governments.

Table 6: *Corruption and Investments During Left-wing Government in Croatia 1999–2018 (Regression Results)*

Dependent: Investment	R = 0,69992	F = 5,76222
No. of cases: 8	R2= 0,48989	df = 1,6
adjusted R2= 0,40487	Stand. error of estimate: 2,64123	p = 0,05326
Intercept: 39,42161	Std.Error: 7,45173	t(6) = 5,2903
Var1 b*= -0,70		

Source: own calculation



Nevertheless, left-oriented Croatian governments have by average somewhat lower level of corruption expressed in higher CPI of 4,3 in comparison to the right-oriented Croatian governments, but at the same time the portion of investments within GDP is by average lower, i.e. 21,67%. The portion of investments within GDP was below 20 more than once, and it never exceeded more desirable 30%.

Should left-oriented Croatian governments would like to have success in corruption suppression, they have to be aware that the significant portion of investments is still connected to certain forms of corruption, which is important for achieving higher rates of economic growth. Therefore, it is important to prioritize the forms of corruption which disable growth of investment activities and at the same time to take care of other forms of corruption.

Table 7: *Corruption and Growth Rate During Left-wing Croatian Governments 1999–2018 (Regression Results)*

Dependent: Growth rate	R = 0,74374	F = 7,42753
No. of cases: 8	R2= 0,55315	df = 1,6
adjusted R2= 0,478682	Stand. error of estimate: 2,07797	p = 0,03439
Intercept: 18,05169	Std.Error: 5,86260	t(6) = 3,0791
Var1 b*= -0,74		

Source: own calculation

Furthermore, corruption and economic growth with left-oriented Croatian governments have has a strong positive correlation expressed in negative correlation of CPI and the rate of economic growth in the amount of -0,74. Therefore suppression of the corruption with left-oriented Croatian governments is more sensible in comparison with right-oriented Croatian governments, because certain forms of corruption are more connected with achieving of higher rates of economic growth.

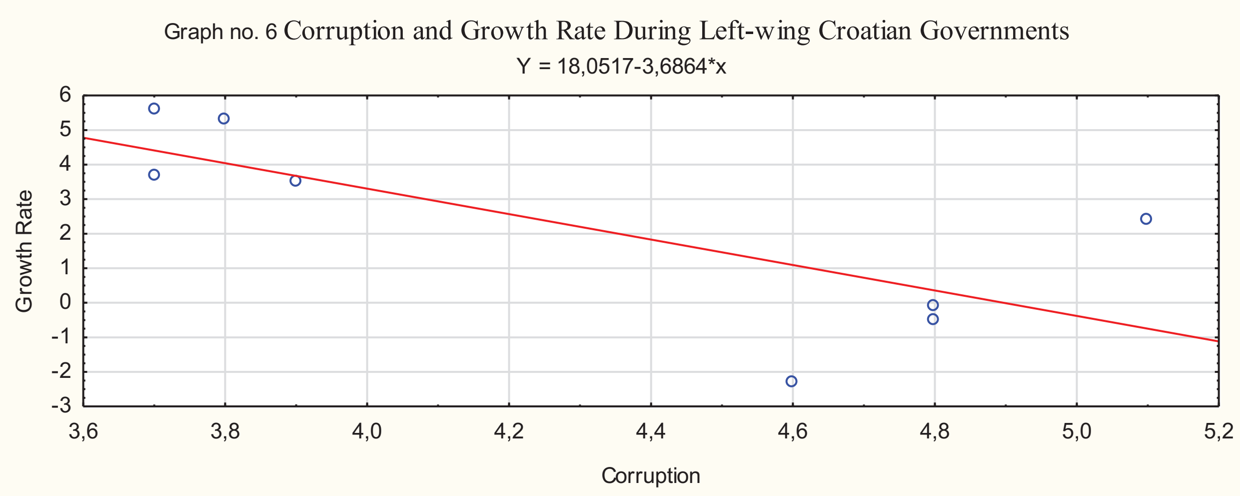


Table 8: *Recapitulation of Statistical Processing and Relevant Data Analysis*

Corruption, Investment and Growth Rate	R	Regression Equation
Corruption and Investment	-0,41	Y = 34,5729-2,696*x
Corruption and Growth Rate	-0,16	Y = 5,1324-0,795*x
Corruption and Investment (Right-wing Governments)	-0,23	Y = 0,2693+0,3327*x
Corruption and Growth Rate (Right-wing Governments)	0,063	Y = 0,2693+0,3327*x
Corruption and Investment (Left-wing Governments)	-0,70	Y = 39,4216-4,1271*x
Corruption and Growth Rate (Left-wing Governments)	-0,74	Y = 18,0517-3,6864*x

Source: own calculation

5. Conclusion

Research of certain aspects of the relation between corruption and investments in Croatia was conducted for the period of the transition of the Croatian economy, which is significantly different environment when compared to the one existing in developed western countries. As opposed to the hypothesis we have set at the beginning of the research, we have established that the lower level of the corruption in Croatia is in significant negative correlation to the rate of the investments, which is especially expressed for the period when left centre parties ruled the country. At the same time left-oriented Croatian governments have had significant negative correlation between lower level of the corruption and economic growth, therefore corruption suppression with left-oriented Croatian governments is more sensitive in comparison to the right-oriented Croatian governments, since some forms of the corruption are more connected with achieving higher rates of the economic growth. Limiting factors of the economic growth in Croatia can for sure be found in slowness of the state administration, unfavourable entrepreneurial climate, lack of adequate work-power, migrating the country, etc. Therefore, governments in Croatia should have adequate knowledge of economic aspects of the corruption, since using only 'traditional' economic instruments could not result in adequate economic goals like growth of investments and economic growth.

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THE MAIN ASPECTS OF BRAND PORTFOLIO MANAGEMENT

ABSTRACT

The issue of brand portfolio is currently very attractive to any company operating in the market that wants to maintain its position and to be successful in a competitive struggle. Creating a brand, determining its proper placement in the market and in the minds of customers, designing brand design, managing of the importance of brand, these activities are a challenge for every company. A more complex situation occurs when managing a brand portfolio or a group of different brands when the problem is not building one brand, but building a collection of brands, each of which has its own strengths and limitations. Managers' decisions that are optimal for one brand may not be optimal for other brands. It follows from this that creating a brand portfolio strategy and building a successful brand portfolio is about compromises and demanding choices. Brand portfolio management is therefore one of the main activities of managers. However, not every company is aware of importance of brand portfolio management and that leads to ineffective brand portfolio management and unnecessary losses. The aim of our paper was therefore to emphasize the importance of brand portfolio management through the design of the brand portfolio management process with a clear explanation of its individual phases.

Key words: *Brand, Brand Portfolio, Management.*

1. Introduction

The current business environment is driven by a variety of trends, especially by globalization, internationalization or increasing international competition (Olah et al., 2018; Garcia-Duran, Johan Eliasson, 2018). Companies must therefore adapt to these changing conditions in all areas of their business as well as in brand management.
Creating one brand, determining its right market positioning and customer mindset, designing and optimizing brand design, or managing brand relevance over time while making profitable business activities, is a challenge for every company (Moravcikova et al., 2017). Companies need to consider many factors that affect brand management and brand placement in the minds of consumers, especially the age structure of potential consumers of the brand, as well as the aging of the population, as older consumers no longer address brand differences as

younger consumers (Kolarova et al., 2017). A more difficult situation occurs when managing a brand portfolio or a group of different brands, where the problem is not building one brand, but building a collection of brands, each with its strengths, but also limitations. The decisions of the managers that are optimal for one brand may not be optimal for other brands (Valaskova et al., 2018). It follows that creating a brand portfolio strategy and building a successful brand portfolio is about compromises and challenging elections (Kliestikova, Janoskova, 2017).

In today's challenging business environment, the brand portfolio strategy is taking the lead and attention of companies around the world, as top managers of companies realize that building strong brands does not guarantee long-term financial success on its own, but through the successful management of a strong brand portfolio. Very important for the success of the company and its brands is also effective customer relationship management (Krizanova et al., 2018). Each company faces issues related to its brand portfolio, because even when a company has and manages only one brand, it can create or acquire a new brand, or expand its current brand, and all these actions affect the entire brand portfolio, its composition as well as optimization. Through successful brand portfolio management, the company can maintain and build the value of its brands as well as the value of the entire company (Salaga et al., 2015). Customers have positive associations with brands that are of high value and do not doubt the quality of that brand's products (Janoskova et al., 2018).

2. Theoretical Background

At present, the brand portfolio is very attractive issue for any company operating in a market that wants to maintain its position and be successful in a competitive struggle. Nowadays, it is relatively easy to manage only one brand and pay all the attention to it and put all available resources into it. Such a situation may be typical of a small company that does not have enough resources to build multiple brands and then group them into an efficient portfolio, as well as for a large company whose brand portfolio strategy is focused on just one single brand portfolio. The main objective of this strategy is then very simple, namely to manage and promote short-term brand sales while building it in the long term. If a company optimizes the results of its single brand, it optimizes the results of the entire company. This is the simplicity of the strategy mentioned above. However, it is obvious that this simple strategy also has its pitfalls mainly due to the fact that, as a company can optimize the results of a whole company by optimizing a single brand in the portfolio, it can also be negatively affected by the lack and inefficient optimization of brand results.

Another situation occurs with large (multinational) companies in which we find a large number of brands grouped into different suitable portfolios according to their characteristics. The complexity of some portfolios is striking, for example, Nestlé has up to 8,000 different brands.

Many authors have dealt with and are still dealing with this issue. An important author is Aaker (2009), according to which the brand portfolio includes all brands managed by the company. Significant results in brand portfolio management brought Laforet (2011, 2015), who researched the impact of putting the brand name on the product packaging on customer buying behavior and the importance of brand portfolio management as such. Varadarajan, DeFanti & Busch (2006) point to an important area in brand portfolio management, which is not yet thoroughly explored and should be given increased interest. They have designed a conceptual model that defines the motives for discarding brands from the portfolio and suggested a direction for future research. They underlined the importance of removing the brand from the portfolio in view of the need to allocate resources to increase the competitiveness and financial performance of other brands in its portfolio with the greatest potential to positively influence its image and reputation. In this context, the authors focus on organizational and environmental factors affecting the trend towards brand rejection. Mishra (2018) also explored the issue of discarding the brand from the portfolio, but from the perspective of consumers.

Shah (2015, 2017) presents a list of success factors and results of brand removal from a portfolio that brand managers can tailor to the specific context of brand removal, and which academics can use to further explore systemic aspects of brand removal. Factors contributing to the successful effect of brand rejection from the portfolio are a proactive approach to discarding a brand with the involvement of top managers and other company teams with different functions, timely decision-making in view of the strategic role and importance of brand being excluded from the portfolio, and the last factor is management interests of all key stakeholders affected by brand discarding.

The authors Morgan & Rego (2009), Wang & Chung (2015) pay attention to the impact of the brand portfolio on company’s performance. Morgan & Rego (2009) analysed the relationship between the five specific properties of the brand portfolio, between the number of brands in ownership, the number of segments they are placed on the market, the degree to which brands compete with each other, consumer perception of quality, the price of the brands in the portfolio and marketing and financial performance of the company. The authors found out that each of these five properties has a significant impact on aspects of the company's marketing and financial performance.

Wang & Chung (2015), in their study, sets out the dimensions and subcategories for understanding the brand portfolio strategy in the hotel industry and shows a new approach to analysing competitive positioning and performance, according to which the successful construction and management of a strong brand portfolio is a key component of a hotel success. The authors proposed four dimensions of the hotel brand portfolio strategy: scope of the brand portfolio, competition in brand portfolio, brand portfolio placement and brand portfolio element. In the study, were evaluated hotel brand portfolio strategy procedures in hotel businesses and tested performance differences, suggesting that operating performance varies depending on the specific focus of the business within the hotel brand strategy.

The literature search and publications of the brand portfolio suggests that the complexity and diversity of the brand portfolio strategy has attracted global attention. The brand portfolio strategy is about deciding on the scope, location and internal structure of the brand portfolio in order to achieve a synergistic effect of the brand in the portfolio and make the brand portfolio more efficient. The essence of the brand portfolio strategy is how to allocate limited resources to brands to maximize brand portfolio profits, which businesses achieve by its timely and efficient optimization.

Manage such a large portfolio as e.g. the above-mentioned Nestlé is not possible without its effective management. In particular, its necessity arises from the fact that not all brands in the portfolio are always equally desirable for customers, often being rolled over by competing brands of the same product category, etc. In our quest to find a publication, whether domestic or foreign, dedicated to the brand portfolio management process, we have seen a relatively large gap. This is the main reason for focusing our paper to managing the brand portfolio, and our intention is to highlight its importance in the entire brand portfolio management process.

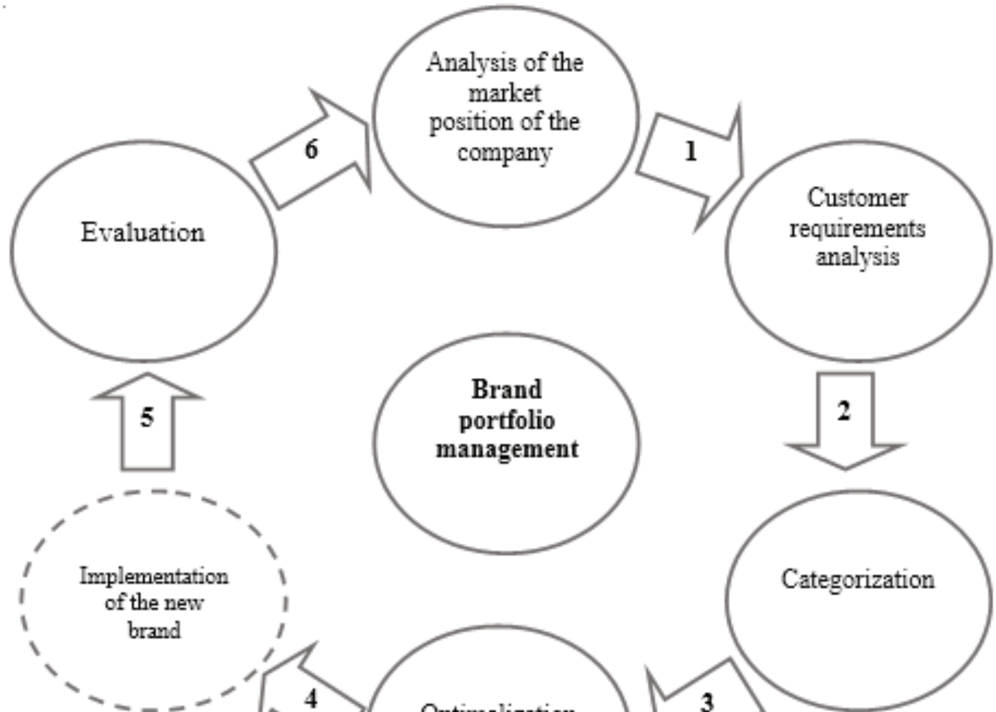
3. Methods

The creating of a proposal of a process of the brand portfolio optimization based on our portfolio management expertise that can help managers of the company achieve logic and consistency across marketing levels, identify the right combination of private brands and national brands, and eliminate illogical branding and unproductive competition. It can support the consistency of the brand's overall perception across the company and, above all, bring company the opportunity to exploit their growing power in a changing market environment and a challenging economy. We have created a brand portfolio management model according to the CREOPM project portfolio management model of authors Bayney and Chakravarti (2012), which we have adjusted to meet the requirements of portfolio brand management.

4. Results and Discussion

Brand portfolio optimization is seen primarily as a process of creating smaller, smarter, more profitable brands under a single banner in terms of logic and consistency across the portfolio. Occasionally, it includes an extension within a particular category. In the broadest sense, it is especially the process of aligning company goals at all levels of marketing and ensuring that the product portfolio expresses these goals through its mix and timing. Brand portfolio optimization involves creating a tight internal discipline to maintain company marketing and sourcing at the same level. Figure 1 illustrates the process of brand portfolio optimization proposed by us, followed by an explanation of the content of its individual phases.

Figure 1: *The proposal of the brand portfolio management model*



Source: own processing

1. Analysis of the market position of the company, in which the company managers analyze their market position. They try to find out whether their position is consistent with the strategy of the entire company as well as the brand portfolio strategy. What is their market share and the value of the company. What is the value of their individual brands. What is their position compared to the competition. We consider it necessary that this phase be supplemented and supported by the implementation of a financial analysis of the company to determine the current state of the company in terms of the intended intentions in the area of brand portfolio management. The result of this phase is to determine the current status and direction of the brand portfolio strategy.

2. Analysing customer requirements, when the company already knows its market and financial situation, it is important to find out the opinions of customers. Whether the brands in the portfolio are perceived from the customer's perspective as the company desires. A suitable method for identifying customer requirements and opinions can be a questionnaire survey with questions about their satisfaction with the products of the company as well as whether customers are missing something, whether they would add other products to the current portfolio, and so on.

3. Categorization of brands where brands in the portfolio are categorized as:

- Those who have to remain in the portfolio in view of their performance and the value they bring to the company and in view of their perception from the customer perspective.
- Those that must be eliminated from the portfolio as they continue to fail to meet the requirements of the brand portfolio strategy and do not bring the required value to the company, or there is a lack of interest from customers in terms of sales of specific products sold under the brand.
- Those that the company plans to create in view of the brand portfolio strategy.

Within this phase, it is important to take into account the inter-brand relationships that may be as follows:

- Brands can be independent of each other, so there is no relationship between them and each brand is capable of independent existence. In this case, the categorization of the brands is based exclusively on the current state of the company and the performance of the brands.
- Brands can support each other, i.e. that it is possible to obtain unilateral or bilateral brand support. In this case, the categorization is, of course, more complicated because the intended discarding of a particular brand due to its performance can be rejected by managers as the brand supports another more powerful brand. At that time, managers must find another solution in line with the brand portfolio strategy.
- Brands can compete with each other, i.e. that the positive development of one brand can cause a deterioration in the development of the second brand, which also makes the categorization process more difficult (Kral, Bartosova, 2017).

4. Creating an optimal portfolio. This phase practically represents the optimization of the brand portfolio. Based on all the information gathered in previous phases, managers of the company create the most optimal combination of brands that will maximize the value of the portfolio while respecting constraints. For the purpose of creating an optimal brand portfolio, company may use a number of optimization methods, whether they are linear, nonlinear, dynamic, quadratic programming, network analysis methods, and so on. Creating an optimal portfolio through one of the above methods should, in our opinion, be followed by a phase involving the correction of the optimal portfolio resulting from the judgment and subjective views of top managers on the portfolio, as these cannot always be integrated into portfolio optimization models.

5. Implementation of the new brand into the portfolio. We have deliberately labelled this phase by dashed line because it may or may not be part of the process. Its inclusion in the process depends on the previous phase, i.e. whether new brands have been included in the new optimal portfolio. Part of the implementation of the new brand are also appropriate marketing activities and communication with customers for the need to inform them about the creation of a new brand.
6. Evaluation. A phase that is to assess the functioning of a new portfolio over a given period of time. Managers evaluate whether the value of the portfolio is developing in the direction they planned. We would therefore consider the evaluation phase as post-optimization, as it can only be implemented after a certain period of time for the new optimal portfolio to function.
As the Figure 1 shows, the whole process of optimization is considered cyclical, i.e. that individual cycles are repeated over time, and it is up to a particular company to consider how long a period of time it sets to repeat the optimization process. For the needs of the efficient functioning of the entire optimization process, consistency is needed at every stage, strong internal and external communication, or the complexity of the process management.

5. Conclusion

Brand portfolio management is undoubtedly one of the company's core business. However, not every company is aware of the importance of brand portfolio optimization and because of that there is ineffective brand portfolio management and unnecessary losses. Therefore, the aim of our contribution was to emphasize the importance of management of the brand portfolio by designing the brand portfolio management process with a clear explanation of its phases.

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12 Legal Issues in Regional Development

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PROBLEMS OF TRANSBOUNDARY MOVEMENTS OF GENETICALLY MODIFIED ORGANISMS

ABSTRACT

Genetically modified organisms make an important part of today's world. The ecosystem and its self-regulation have been damaged, i.e. the relationship between input and output elements does not occur on a spontaneous, natural level. In addition, people have realized the importance of eating habits and the quality and safety of the same is being discussed in various areas (legal, economic, political). After regulating national provisions in the area of food safety, it is necessary to define a supra-national framework in order for people to be protected to the fullest extent possible. Therefore, the subject matter of this paper is to study transboundary movement of genetically modified organisms and the analysis of relations between the Member States in the European Union. In the entire process of transboundary movement of genetically modified organisms, it is necessary to harmonize the needs of the exporting country and the importing country. It is imperative to coordinate surveillance of genetically modified organisms with an aim of preserving biodiversity and human health. Regarding legal documents, it is necessary to outline the following documents that regulate this matter: Regulation (EC) No.1946/2003 of the European Parliament and of the Council of 15 July 2003 on transboundary movements of genetically modified organisms, the Cartagena Protocol, Directive 2001/18/ EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and the repeal of Council Directive 90/220/ EEC. The methods used in this paper are the following: method of analysis and synthesis, historical and comparative method.

Key words: *genetically modified organisms, European Union, transboundary movements*

1. Introduction

The purpose of this paper is to critically examine the process of transboundary movement of genetically modified organisms. Prior to that, the basic thesis describes the procedure for approving genetically modified organisms. The bodies appearing in the procedure and the deadlines significant for the approval procedure have been clarified. All possible types of transboundary movements are processed in the master documents. Thematic links were made between international and European documents that regulate the subject matter in almost identical terms. The final chapter outlined the recommendations and conclusions. In the introduction it is necessary to emphasize that the paper was derived from the doctoral thesis: The Regulatory System of Genetically Modified Organisms in the European Union.

2. Approval procedure for genetically modified organisms

The twentieth century in the development of genetics represents a significant shift. The approach to life completely changed because humans began to exploit their knowledge and technology and have created new phenomena that did not exist in the natural environment. The consequence of rapid development is genetic engineering, which is one of the basic characteristics of the speed of development. The speed of development of phenomena that does not exist in a natural environment. For the purpose of protecting human life and the natural environment, a series of legal acts regulating the procedure for approving genetically modified organisms (hereinafter referred to as GMOs) were adopted. The legal documents governing the procedure for approving genetically modified organisms in the European Union are: Regulation (EC) No. (EC) No. 1829/2003 of the European Parliament and of the Council of September 22nd 2003 on genetically modified food and feed (hereinafter referred to as “Regulation 1829/2003”) and Regulation (EC) 1830/2003 of the European Parliament and of the Council of September 22nd 2003 concerning traceability and labelling of genetically modified organisms and traceability of food and feed produced from genetically modified organisms and amending the Guideline 2001/18 (hereinafter referred to as "Regulation 1830/2003"). The first Regulation prescribes the procedure for the approval of GM food and feed by the European Commission, and after the completion of a risk assessment by the European Food Safety Authority (hereinafter referred to as EFSA). In addition, GM food and feed labelling rules and the presence of GM food in situations where it is technically impossible to avoid such presence have been elaborated. The second mentioned Regulation, 1830/2003, prescribes traceability and labelling. The subject of Regulation 1829/2003 is: GMOs used as food and feed material; products used as food and / feed that contain, consist of or are produced from GMOs; food and feed produced from GMOs. Prior to the release of GM food and feed into the market, it is necessary to carry out a good risk assessment to counteract any negative impact on human and animal health and the environment. The procedure is initiated by filing with the competent authority in the Member State, with the competent authority having to acknowledge receipt of the application within 14 days and notify the EFSA without delay. Thereafter, the EFSA informs the European Commission and other Member States and makes a summary of the documentation available to the public. Within 6 months of receipt of a valid request, the EFSA shall deliver its opinion. Upon receipt of the opinion of the EFSA within 3 months, the Commission shall submit to the Standing Committee on Food Chain and Animal Health (SCFCAH) a decision. The approval obtained for the above-mentioned procedure is valid for 10 years.

3. Common provisions

The purpose of acts at the international, i.e. European, level in the field of genetically modified organisms (hereinafter referred to as GMO) is to protect the environment and consumers. Depending on the particular area, the national interest, the social environment one or other option may outweigh. At the international level, the Convention on Biological Diversity[1] was adopted advocating the use of the precautionary principle in situations of significant reduction or loss of biodiversity, i.e. the lack of scientific security will not be the cause of non-

[1] Decision on the promulgation of the Confirmation of the Convention on Biological Diversity Act, International Agreements 6/96. The Convention is an international document published by the United Nations. It has three goals: to preserve biodiversity and its sustainable use and to ensure a fair distribution of benefits derived from genetic resources. It was open for signing on June 5, 1992 in Rio de Janeiro on Earth Summit, and came into force on December 29 1993.

implementation of measures to avoid or reduce the risk. In addition, the Cartagena Protocol in Article 1 refers to the precautionary principle, i.e. the purpose is to ensure an adequate level of protection in the area of safe movement, transfer and use of modified organisms, which may have a negative effect on the conservation and sustainable use of biodiversity and which may have serious risks to human health (Cartagena Protocol, Article 1). Particular emphasis has been put on the transboundary movement of GMOs.[2] The same principle is pervaded by further articles, and it is stipulated that in the case of lack of scientific safety due to the lack of relevant scientific information on the impact of living modified organisms on the conservation and sustainable use of biodiversity and the potential impact on human health, it is necessary to take the necessary measures to prevent possible negative effects (Cartagena Protocol, Article 11, paragraph 8). The actions that are implied by the Cartagena Protocol are development, handling, transportation, use, transfer and release of living modified organisms.

Regulation (EC) No 1946/2003 of the European Parliament and of the Council of 15 July 2003 is the parent document in the case of transboundary movement of genetically modified organisms (hereinafter referred to as: Regulation (EC) No.1946/2003). When it comes to the transboundary movement of GMOs, it is necessary to harmonize the needs of exporting countries and importing countries. In the European Union (hereinafter referred to as the EU) in the case of imports, it is necessary to meet the requirements in force in the EU and the exported food must meet the standards of the importing country. To this end, it is necessary to make communication at European level and to include both Member States and potential candidates in order to create a uniform framework for action.

The common elements in the transboundary movement of GMOs, irrespective of the type of genetic modification used, require the exporter to include the following information along with a document accompanying the GMO:

1. that the product contains or consists of GMOs,
2. unique identifying marks, if any[3]

In the case of **GMOs intended for direct use as food, feed or for processing**, in addition to the information provided so far, they must also be accompanied by an exporter's statement:

1. indicating that GMOs are intended for direct use as food, feed or for processing and clear indication they are not intended for deliberate release into the environment,
2. lists of contact for further information

When the subject is a **GMO intended for restricted use**, in addition to the information provided so far, an exporter's statement with the following content shall also be supplied:

1. all requirements relating to safe handling, storage, transport and use
2. contact for further information and, in doing so, the name and address of the individual or institution to whom the GMO is dispatched or who dispatch of the GMO

[2] Transboundary movement is defined as the movement of a living modified organism from one party to another party and extends to the movement of a living modified organism from a party to a non-party.
[3] Not applicable to products consisting of or containing GMO which will only be used directly as food, feed or for processing. The same are subject to Directive 2001/1 /EC or future legislation that would regulate traceability, marking or identification.

GMOs intended for deliberate release into the environment and all others to which Regulation 1946/2003 applies shall, in addition to the information specified at the beginning of this chapter, be accompanied by an exporter's declaration with the following content:

1. identity and the relevant characteristics and characteristics of GMOs,
2. all requirements regarding the safe handling, storage, transport and use of the same,
3. contact for further information and the name and address of the importer and the exporter,
4. statement that the transfer is in accordance with the requirements of the Cartagena Protocol applicable to the exporter[4]

In the case of transit, the exporter must provide a notification of transit of GMOs to the parties that have made a decision to regulate the same through their territory and must also notify the Biosafety Clearing House (hereinafter referred to as the BCH) regarding the decision.

4. Exports of genetically modified organisms to third countries

In the case of **deliberate introduction of GMOs into the environment**, prior to the first intentional transboundary movement of GMOs, the exporter must send a written notice to the competent authority of an import party or a non-party[5] regarding deliberate release to the environment. The notice must also contain the minimum information from Annex I to Regulation 1946/2003 and the exporter is responsible for the accuracy of the information in the notice.[6] However, if the importing party fails to confirm the receipt of the notice or does not make its decision known, this does not mean its consent to a deliberate transboundary movement. If the importing party fails to reply within 270 days of receipt of the notice, the exporter will again send a written reminder with a response time of 60 days after receipt of the reminder. The copy shall be sent to the Cartagena Protocol Secretariat, the exporting Member State and the Commission.[7] The procedure for the transboundary movement of GMOs for the purpose of deliberate introduction into the environment may continue without a reaction to the notification only if it is the procedures referred to in Articles 9 and 10 of the Cartagena Protocol or other appropriate procedures specified by the importing Party, which is not a signatory to the

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[4] Not all of these have any impact on other requirements of the Community and international level and have been developed in accordance with the foreseen handling, transport, packaging and marking procedures (Article 18. of the Carthage Protocol).

[5] A non-party is thought to be a state that did not sign the Cartagena Protocol.

[6] Name, address and contact details of the exporter; name, address and contact details of the importer; identification of the GMO and if there is a domestic classification in the country of exportation; if the dates of transboundary movement are known; characteristics of parent organisms or recipient organism, taxonomic status, common name and place where it is taken or obtained; if the centres of origin and genetic diversity of the recipient organism or parent organisms are known and the characteristics of the habitat where organisms can sustain or reproduce; characteristics of the organism or organisms of the provider related to biological safety, taxonomic status, usual name, place where it was obtained or taken; description of nucleic acid or modifications, techniques and resulting GMO characteristics; the planned use of GMOs or their products, and also of processed materials which are also of modified origin and contain new combinations obtained by the techniques listed in Annex IA to Directive 2001/18; quantity or volume of GMOs for movement; previous or existing hazard assessment report; proposed methods of safe handling, storage, transport and use and packaging, marking, documentation, disposal and contingency procedures; legal status in the country of export (for example certain prohibitions, restrictions, etc.) in the situation of movement of GMOs must lit the results and the purpose of each announcement, a statement of the accuracy of the information provided.

[7] Time required to get the relevant data does not apply into deadline calculations.

Cartagena Protocol. According to the Carthaginian Protocol, in Article 9, the exporting party independently or through the importing Party informs the national body of the importing Party of the transboundary movement of live modified organism. The importing Party shall, within ninety days of receipt of the notification, confirm the same, and shall contain the following facts: date of receipt of the notification; whether it contain all necessary information and whether it will be in accordance with national regulations or according to the procedure laid down in the Cartagena Protocol. If a party does not acknowledge receipt of the notification, it does not mean that it agrees to transboundary movement. Article 10 stipulates a further procedure. Therefore, the importing party is obliged to notify the applicant in the stated period regarding the further continuation of the transboundary movement of GMOs. Within 270 days of the date of receipt of the notification, the importer party shall notify the applicant and the MBC of its decision in writing. The decision may be of the following content: unconditional approval of import or with some of the conditions; ban on imports; seeking additional information; or, inform the applicant that the time of the transboundary movement of GMOs is prolonged for a certain period of time. Also in this case, the silence of the importing party does not imply consent to the transboundary movement of GMOs. Likewise, the deadlines provided for by Regulation 1946/2003 do not apply to Articles 13 and 14 of the Carthaginian Protocol. Article 13 provides for a simplified procedure in which an importing Party may prescribe precautionary measures to the BCH for the purpose of the safe movement of live GMOs. In addition, signing of bilateral, regional and multilateral treaties is planed that can negotiate procedures for the deliberate transboundary movement of living modified organisms, provided that they do not prescribe a lower level of protection than that provided for in the Cartagena Protocol. The parties are obliged to inform the BCH about all contracts and agreements concluded. Except in the case of exceptions, where the procedure is more complicated, Member States and the Commission, after consultations with the Cartagena Protocol Secretariat, are obliged to take certain measures to facilitate the importing Party's decision on transboundary importation, and again in accordance with the Cartagena Protocol provisions.

In particular, the exporter is obliged to keep the notification, receipt of acknowledgment and the party's decision and, if possible, a non-party decision for at least five years and send a copy of the said documents to the competent body of the Member State from which the GMO is exported and to the Commission.[8] In the case of changes of circumstances that may affect the outcome of the risk assessment on the basis of which a decision has been made or have become available to the relevant scientific or technical information, a review of the decision may be requested from a party or a non-party. In the event that a Party or a non-Party fails to reply within 90 days, the exporter shall send a written reminder to the competent body of the Party or non-Party, a copy of the same to the Secretariat, and request a response within the period indicated in the reminder.

Exceptions to these rules are as follows:

1. the GMOs listed in the Decision adopted at the Conference of the Parties to the Convention will be excluded from the action and should not have negative effects on the conservation and sustainable use of biodiversity and potential risks to human health;
2. the exception applies to GMOs intended for direct use as food and feed for animals or for processing,

[8] In keeping with the confidentiality rules, the Commission will publish the said documents in accordance with EU regulations.

3. pursuant to Article 13(1) (b) and Article 14 (3)[9] of the Cartagena Protocol , it does not apply to importing Parties listed in advance by the BCH

In the case of **direct use** and placing of GMOs on the market for **direct use as food, feed or for processing**, the Commission shall, on behalf of the EU or the Member State making the decision, notify the BCH or the other party through the BCH on the decision. The information is sent to the BCH within 15 days from the day of acceptance of the decision.[10] The minimum information to be submitted is set out in Annex II.[11] The Commission or the Member State shall send a copy of the said particulars to the designated body of each Party in order to notify the Secretariat in the event that it does not have access to the BCH. The exporting Party shall comply with any decision on import intended for direct use as food, feed or for processing carried out by the Party or any other party in the case of non-Parties in accordance with its domestic legal framework and in accordance with the purpose of the Cartagena Protocol. If the party or non-party of import is a developing country and a party or non-party is a county in transition, the same shall notify the BCH through a decision to import GMOs intended for direct use as food, feed or for use, all in accordance with Article 11 (6) of the Carthaginian Protocol and the exporter will not continue with the process until the same requirement is satisfied. If a party or non-party of import fails to confirm the receipt of a notice or to publish its decision, it does not mean imply acceptance nor refusal to import GMOs for direct use as food, feed or for processing. No GMO intended for direct use as food, feed or for processing shall not be the subject of transboundary movement unless the Commission or third country's competent authority issues an approval in accordance with Article 12 of the Regulation (EC) No 178/2002, i.e. the procedure for exporting or re-exporting of food or feed for the purpose of placing on the market of a third country, taking into account the rules, codes, standards or practices of the importing country. If there is any agreement, its provisions will be applied.

GMOs intended for restricted use are also subject to the autonomous regulation of either a Party or non-Parties to the Protocol, i.e. they may, in accordance with their regulations, carry out a risk assessment and set standards for GMOs intended for restricted use.

5. Unintentional transboundary movement of genetically modified organisms

In the case of **unintentional transboundary movement of GMOs**, Member States will take the necessary measures to prevent them, and if they become aware of the potential for release of GMOs that lead or could lead to transboundary movement and could have adverse effects on conservation, sustainable use of biodiversity and human health:

[9] Namely, the articles refer to the importation of live modified organisms to which the consent procedure is not applied because they have obtained prior notification or have concluded bilateral, regional and multilateral agreements and arrangements and the process of intentional cross-border transmission is conducted in accordance with the aforementioned.

[10] This section does not apply to deliberate release in accordance with Part B of Directive 2001/18 / EC where GMOs are not intended for direct use as food, feed or for processing

[11] Applicant's name and contact details for domestic use; name and contact details of the decision-making body; name and identity of GMOs; description of gene modification, techniques used and resulting characteristics; any GMO identification; taxonomic status, common name, place where the characteristics of the recipient organism or parental organisms are obtained or taken; centres of origin and genetic diversity of recipient organisms or parental organisms, and a description of the habitat where they can be maintained or replicated; approved use of GMOs; risk assessment report in accordance with Annex II to Guideline 2001/18; proposed methods of safe handling, storage, transportation, use and packaging, marking, documentation, disposal and contingency procedures.

1. inform the public and the Commission, all other Member States, threatened or potentially threatened States, BCH and international organizations,
2. consult threatened or potentially threatened states and assist them in defining measures that would reduce significant negative impacts[12].

6. International information procedures

Notwithstanding the emphasis on the protection of classified information by the Cartagena Protocol, Member States are obliged to notify the BCH and the Commission of:

1. national legislation and the guidelines necessary to carry out the Cartagena Protocol pursuant to Articles 11 (5) and 20 (3) (a) thereof, respectively, each Party shall submit to the BCH copies of national regulations,
2. national contact points for notification of unintentional transboundary movement,
3. all bilateral, regional and multilateral agreements concluded between Member States, relating to intentional transboundary movement,
4. all data relating to unintentional or illegal transboundary movement,
5. final decisions made by a Member State on the use of GMOs in the same and following decisions:
    - restricted use of GMOs divided into risk groups 3 or 4 which are likely to become the object of transboundary movement,
    - on deliberate release of GMOs in accordance with Part B of the Directive 2001/18 / EC,
    - on the import of GMOs into the Community[13]
6. a summary of the risk assessment and ecological review of GMOs and, where possible, information on their products, processed materials of their origin, and contains new combinations of genetic material obtained using modern biotechnology,
7. any review of decisions relating to intentional transboundary movement,
8. any decisions taken by a Member State concerning protection clauses in the Directive 2001/18 / EC or emergency measures within the legislation on GM food and feed (Regulation 1946/2003, Article 15).

Regarding the confidential data, the Commission and Member States will not disclose them. The following information shall not be considered confidential: the name and address of the exporter or importer, the general description of the GMO or the GMOs, a summary of the risk assessment of the impact on the sustainable use of biodiversity, and the impact on human health, as well as the necessary methods and plans in emergency situations. In order for the system to be networked, Member States are obliged to appoint competent bodies that will be contacting

[12] Such information shall also include data from Annex III (appropriate information on estimated quantities and relevant characteristics and / or properties of GMOs, information on the circumstances and the date of release and the use of GMOs in the country of origin, all other available information on possible negative impacts on the conservation and sustainable use of biodiversity, on human health and information on management measures, any other relevant information, contact for further information).

[13] Delivery of a decision is determined within 15 days from the day of its adoption.

at European level. Member States are obliged to make their appointments known to the Cartagena Protocol Secretariat.

The purpose of the Regulation 1946/2003 is to establish a harmonized notification and information system for transboundary movement of GMOS and to ensure the coherent implementation of the Cartagena Protocol provisions in the area of safe movement, handling and use of GMOs which may have a negative impact on biodiversity conservation and human health. Therefore, the application refers to all GMOs over which transboundary movement is applied and may have a negative impact on the protection and sustainable use of biodiversity and potential risks to human health must be taken into account.[14]

7. Conclusions and recommendations

Nowadays, human health and the environment combined with biotechnology must be in balance. Biotechnology is the science that started developing in the 20th century, but also, is a science which, at this point, has no end in sight. Any social community had to react and legally regulate the scope of biotechnology. In these situations, it is expressively stated what is at the forefront in regards to science: law or biotechnology. Thus, the legal system of any country will try to follow the biotechnological system in rational terms. Therefore, at the international, European and national level, approval procedures, deadlines and remedies have been defined. The Carthaginian Protocol and master documents at the European level in the field of genetic engineering are regulated by a one-way approach to matter. However, it is necessary to take into account differences that are characteristic of individual Member States. The recommendation is more focused on the needs of a Member States and defines control bodies at a supranational level. It is evident that this is a very sensitive matter, but also national differences must be taken into account: geographic location, historical circumstances, biodiversity and religious affiliation of the population. Consumers need protection, and legitimate protection cannot be obtained if consumers do not shape politics independently. The population is in fear and disbelief, and so far there is a wealth of evidence of situations when multinational companies' interests prevailed over the interest of the population. The foundations of each policy should be the citizens, which implies their participation in policy-making, specifically genetic engineering. Educated citizens would represent a balance to the system, a balance between power of the state and multinational companies. In this way, the theory of self-organization, i.e. homeostasis, gets its meaning.

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THE FUNCTION OF ADJUDICATION IN PROTECTION OF ECONOMIC VALUES

ABSTRACT

For decades, the contemporary theorists of law have been debating about how judges reach their decisions with the particular focus on the supreme court of a country. The different conceptions have been developed to provide answer to this question although the demarcation line between descriptive and prescriptive theories on adjudication was not always clear. A particular theoretical question is whether judges make decisions, or should make decisions, based exclusively on principles or policies are equally good reasons for decisions. Another question refers to the functions which adjudication performs in the community. This paper examines the functions and methods of adjudication with special focus on protection of the economic values prevailing in a community. After presenting various theories on adjudication, we will examine several decisions of the Constitutional Court of the Republic of Croatia with economic effects in order to compare them with the theoretical model developed on the ground of different theories analysed in the previous chapters.

Key words: *adjudication, values, theory of law, principles, policies, constitutional court*

1. Introduction

In contemporary theory of law, the discussion about what the judges do goes on for decades. The idea that the judges only apply the statutory law belongs to the 18th century doctrines while the contemporary theory of law places adjudication in the central place in the functioning of legal order. In the type of legal order which today prevails, the courts have a wide discretionary power in decision-making and also participate in a special way in 'constructing' the law itself. Courts decisions are often important both for the protection of the individual right and for the general and groups' interests. Strategic litigations appear as a new tool for changing structural relations in the community and decisions often have a strong impact on the state economy. In this article we will present and compare theories of adjudication in which the aforementioned features of the courts are outlined and based on that presentation, we will propose the model for explanation of the courts' activities. We will then apply the said model to analyse certain decisions of the Constitutional Court of the Republic of Croatia (RC) which have economic effects.

2. Adjudication and the protection of the rights of community members

Different models have been developed in theory of law to explain the function of adjudication in the protection of the citizens' rights. While Dworkin emphasized the importance of adjudication for the protection of substantive rights of individuals, Fuller has underlined its importance for the protection of procedural rights such as the possibility for affected parties to present proofs and reasoned arguments and impartiality of those who decide (Fuller, 1978, 365; 366). In this paper we will analyse Dworkin’s theory of adjudication.

First characteristic of Dworkin’s theory is a broader understanding of the adjudication function in the protection of citizens' rights. Contrary to the opinion that the court may protect only the rights of citizens explicitly defined by the legislator, Dworkin introduces the concept of political rights. According to this concept the rights are not derived only from the established system of formulated norms but also from political morality i.e. in the ultimate case from the universal system of values which is being realized in different ways in certain communities (Dworkin, 2011, 327; 455). Among political rights Dworkin differentiates between the political rights of individuals to request from the legislator to enact certain rights (*rights on legislative decision*) and *legal rights* for which an individual may seek the protection at the court (Dworkin, 2011, 407). The first group of political rights exists in the community thanks to the political morality of the community although they may not be enforced on demand by courts. They are not enforceable by courts because the general standard which is the source of its existence is still not recognized in the community as a ground for court's decision on individual rights. The second group of political rights exists in the community as the rights which may be enforced on demand by courts. Each obligation whose fulfilment may be sought at the court is legal obligation and each political right which may be realized at the court is legal, i.e. legally enforceable right.

Thus, which *legal rights* a certain community member has in the community is not exclusively linked with the activity of the legislator but with the activity of judicial bodies. Whether certain political rights are only at the level of *rights on legislative decision* which empowers individual to request the legislator to enact them or at some point in time they became the *legal right* which are enforceable on demand, depends on the decision of the courts. Courts assess in the court procedure about a particular content of relevant political rights and during that process they may confirm any political right as *legal right* even when they have not been grounded in the procedure which in the community’s practice regularly applies for the creation of general legal standards. The absence of a formulated norm which guide the judge in his function of the protection of the rights is not an obstacle for judge to provide the protection of a political right in a case before her. The political right should be recognized by court if, according to proper court's assessment, such a protection of right contributes to the integrity of the community. If it is possible to derive general standard for court' s decision from the political morality of a certain community grounded on the universal system of values, then political rights protected by such standards already exist in that community regardless of whether they have been recognized and confirmed by institutions authorized for the creation of the general standards such as legislative institutions. If the legislator has not recognized and acknowledged such general standards in a certain community, political responsibility lays in the courts to do so instead of the legislator.

According to Dworkin, a part of political rights of a community member corresponds to the obligations of other members and the other part of political rights to collective obligations of the community as a whole (Dworkin, 2011, 327, 405, 406). When elaborating political rights, Dworkin primarily deals with the rights of an individual in relation to the community and the community’s responsibility towards an individual. Although Dworkin has not separately elaborated the political rights and obligations in mutual relations between the community's members, they are equally important for individuals. In any case, the community is politically responsible to ensure protection of all rights of individuals, those arising from the responsibility of other members and the rights arising from the community's responsibility.

Second important characteristic in Dworkin’s theory refers to his perception about the importance of the courts for the protection of rights. The way he understands political rights explain why he sees adjudication as a central institution of legal system; there are several reasons for that. Firstly, although Dworkin claims that political rights exist even before being confirmed in practice by adjudication, it seems that there is still institutional precondition for such justification of their existence. In other words, although the political-moral discussions about which political rights exist in a certain community might be interesting, it makes not much sense for the protection of rights of individual if there is no adjudicative organ in a community where such arguments, at least in theory, may be exposed. First of all, such assertion makes sense for *legal right* formulated by the legislator which Dworkin describes, in line with the regular understanding of this notion, as “the right enacted by the legislative body of a legitimate government to be enforced on demand of individual citizens through the decisions, if necessary, of an adjudicative institution body like a court” (Dworkin, 2011, 331). Community members enjoy full protection of the enacted legal rights owing to the existence of the institution of the court. However, even the political rights which are not recognized by the legislator as enforceable on demand may become legal rights providing there exists the court which, in a certain moment, might recognize them as such. Another argument in favour of a central role of the courts for political community arises from the specific political responsibility of the judges. We have already mention that the courts have a special political responsibility to establish the existence of legal rights even when the legislator has not yet recognized them as such. Such political responsibility of the courts is based on the following thesis: enforceable rights exist even before the judge has commenced to confirm them in a concrete case, thus, community members have right to win the case before the judge every time they claim their earlier existing enforceable rights (Dworkin, 1978, 81). In this context, the basic function of adjudication is to recognize already existing *legal rights* belonging to community members independently of the neglecting practice of institutions. Such Dworkin’s theoretical position may be viewed as stimulation to the court's activism which may have an impact on the progressive development of the value-based community.

Third characteristic of Dworkin’s theory is his focus on observing the adjudication as a process of decision-making based on principles. The first two characteristics directs the understanding of the courts as specific community's bodies irreplaceable for deciding about political rights of the community members. Additionally, he links such understanding to the thesis about the way the courts rule. Namely, Dworkin links the adjudication function with the ruling procedure based on a special type of argumentation used in the adjudication process. According to him, the court brings decision based on the 'argument of principle' regardless of how much such arguments are contrary to the 'policy arguments'. The difference is in that 'policy argument' promotes decisions in the interest of the collective goals of communities (Dworkin 1978; Dworkin, 1986), and 'argument of principle' is focused on certain interest represented by the community member as his right of such character that it makes irrelevant all arguments based on politics. This is a moral consideration independent of political goals and may be limited only by other rights which are protected by principles and not by political goals.

Finally, the fourth characteristic is derived from his concept of political rights and central role of the courts in the protection of those rights linked with the third thesis on the justification of the court's decision on principles. Based on the thesis on differentiating between principles and politics, where principles have priority for performing judicial function, we may deduce the thesis about superiority of individual interest over those of the community. Since for the adjudication body, political rights of the community's individual member are above the political goals of the entire community, only adjudication may provide the protection of the rights of individual member of the community, regardless of political interests of other members or the entire community which in a political sense may be more powerful than individual.

3. Adjudication and collective goals of the community

In the previous chapter we have seen that adjudication may be explained as the function aimed at protecting individual rights. However, in the legal theory we can also recognize the attempts of some scholars to emphasize the function of adjudication in protecting collective goals. The theories with focus on the relation between adjudication and the collective goals, point to the fact that judiciary function is not only the implementation of general standards on a particular case and the realization of social relations according to legal norms, but above all the realization of certain visions of the community based on public values. In theory, a distinction among models of adjudication is made based on whether adjudication is directed more to the lawsuit or to the regulation (Chayes, 1976). Due to regulative social function, judiciary acts politically on the community values. For example, Posner rightfully points to the possibility that the court, in its ruling, also uses arguments based on policies which takes account about the community (Posner, 1993; Posner, 2005). Fiss also emphasizes the fact that the court's decisions may be crucial for the restructuring of social relations of entire community (Fiss, 1982). Kennedy, similarly, only with a different accent, points to the groups' ideological interests and the role of the court for the preservation or alteration of the power relations between these groups (Kennedy, 2009). What is common to Posner, Fiss and Kennedy is that they see the adjudicative function not only for the protection of the rights of individual community members but also for the realization of collective goals. In this chapter we will further explain Posner's position while the following chapter will be dedicated to the views of Fiss and Kennedy.

First characteristic of Posner's theory corresponds in part with Dworkin's insistence on considering the adjudication as an activity not only limited to the implementation of formulated norms. Yet, while Dworkin opines that the courts always implement the existing law, whether being formulated by the legislator or existing independently of the legislator, Posner strongly points to the creative role of adjudication. He agrees with Dworkin that the judge tries to achieve his goal of deciding the case in the best possible way, using not only laws and precedents accepted in some countries as the source of the law but also using political morality of the community. A greater importance that Posner gives to a broad area of the judges' discretionary power derives from his understanding of adjudication as a function which enables joint living of the communities' members i.e. a function which fulfils the purpose of the law to make life easier to the people. This is Posner's pragmatic approach to adjudication which, following Benjamin N. Cardozo insights, comprises the instrumental concept of law as the means in the service of human needs (Posner, 1993, 29). According to Posner, the judge brings decisions according to his own vision of a good society. His duty is to reach, the most reasonable result in a given circumstance which includes but is not limited to the facts of the case, legal doctrines, precedents and such rule of law virtues as *stare decisis* (Posner, 1993, 130). This creative role of the judge is the most obvious when such a result should be reached in hard cases. According to Posner “the judge in the difficult case is more a policy maker than a conventional lawyer and within his domain of freedom or discretion may be as free-wheeling as a legislator” (Posner, 1993, 131). However, such understanding of adjudication does not necessarily mean the judge's activism. According to Posner, in his position of the policy maker, the judge may consider different methodological options for achieving the best result, e.g. judicial activism or judicial self-constraint. Therefore, it is irrelevant for the creative role of judge whether she brings decision contrary to the legislator. The relevant is the judge's position to either preserve the existing law or to make changes. Nevertheless, the creative role of the courts is different from the creative role of the legislator. The difference exists due to the institutional and procedural differences between them and “they impose bounds on the domain of the reasonable in judging that are not found in legislating” (Posner, 1993, 131).[1] On the other hand, the creative role of the legislator has limits that the judge does not have, such as, pressure from interest groups and popular sentiment.

Second main characteristic of Posner theory partially corresponds to Dworkin's second thesis. Adjudication is also a central element in Posner's explanation of law in all the three meaning he ascribes to it (Posner, 1993, 221). First meaning of the law would be a 'distinctive social institution' which is manifested when we differ law from primitive prelegal ordering. In this context, the adjudication is important in that it represents the transition from the society where the rights of individuals were based on customary norms ensured through threat or revenge to legal society where posited norms on rights are ensured by the centralized adjudicative body. Posner's pragmatism may be seen in his description of the appearance of the adjudication and the law. The cause of the development of society from prelegal to legal lays in the division of work which, due to the functioning of the law through adjudication, has brought many advantages to members of the society. In other words, adjudication, as well as the entire formal legal system appeared through specialization of legal functions in the creation and implementation of norms as pragmatic response to the needs of the society. Indicative for the Posner's pragmatic approach to the law and adjudication is also his assertion that the norms, evolved from the needs of the society, appeared before the creation of adjudication in a legal society. “The fact that norms precede formal legal systems is, no doubt, one cause of belief in 'natural law'” (Posner, 1993, 5). The second meaning of the law, according to Posner, is the collection of sets of propositions contained, among the other, in various statutes (Posner, 1993, 221). However, the propositions are also contained in court decisions and both, statutory and court propositions, are the result of the social needs. Posner argues that the law is an answer to social conflicts and accordingly, contrary to legal formalists who view the law isolated from its societal environment, a clear border between the law and the society is erased (Posner, 2005, 21). Furthermore, it is not only that the law cannot be reduced to propositions stated in the statutes. The law is neither reducible to any arbitrary assertions of will. It mirrors “a sufficiently wide and durable interest to be fairly described as moral, as something more than a local and transient preference” (Posner, 1993, 243). Consequently, the judge appears again as the central agent of law. Contrary to the formalistic view that the judge only enforces the statutory propositions, Posner argues that it is more appropriate to assess the work of the judges as an act of recognizing the needs of the society and resolving conflicts. In this sense, the statutes and other sets of propositions serves the judge to respond to the needs of the society when reaching

[1] Posner has proposed several principles and ways for stabilizing legal decisions as a contrast to the problem of indeterminacy of legal decisions: 1) avoidance of contradiction by the judge, not only within an individual opinion but across his opinions; 2) the 'publicity principle' which means that the judge avow the true grounds of decision; 3) judicial self-restraint; 4) rules limiting the circumstances in which judges consider themselves free to overrule previous cases; 5) conversion of multi-factored tests to formulas or algorithms. However, these devices always rest on policy judgements of the judge. (Posner, 1993, 134)

decision. A large part of the law which judges must observe are in fact moral and political deliberations about moral foundation of the law which derives from below, from the society itself (Posner, 1993, 243).[2] In the third sense, the law is the source of the rights, duties and powers and Posner equals this meaning with the activities of the judges in solving conflicts (Posner, 1993, 241; 221; 233). In that sense, without adjudication there would be no sense to talk about the law as the source of rights, duties and powers.

Third characteristic of Posner's theory is that it differs from Dworkin's view about the way the judges bring decisions. Posner criticizes Dworkin's understanding of adjudication according to which it is justified only when it admits 'the rights' based on 'principles', and unjustified when such 'rights' are overridden by 'politics’ defined as collective goals. “Many collective goals, ranging from national survival and public order to prosperity and social insurance, are no less deeply woven into the fabric of our political morality than such principles as that should be treated equally or that no person should be allowed to profit from his wrongdoing” (Posner, 1993, 239). Posner claims as arbitrary to differentiate between politics and principles as well as tying the rights only to principles. „There is no basis for excluding collective goals in determining the scope of legal rights” (Posner, 1993, 239). According to this, when reaching the decision, the judges equally measure collective goals and principles and their activity is focused on 'wealth maximisation'. It is a special 'ethics of productivity and cooperation' which the judges apply within the frame of pragmatic consideration also taking into account other factors such as worsening of a situation for certain individuals even when wealth maximisation is realized or influence of luck on market activities.[3] Along with these key points in Posner's theory which emphasizes collective goals of the community his liberal-conservative stance towards political demands for more radical reforms may be linked as well as a greater inclination toward realistic understanding of the law which develop from below i.e. from the society itself. [4] Finally, for Posner, the law is an activity of licensed legal professionals (the judges and legislators) and their activity is determined “by vague but powerful notions of professional property rooted ultimately in social convenience or, equivalently, durable public opinion” (Posner, 1993, 239). The policy arguments based on collective goals are connected in Posner' s theory with the conservative stance on the preservation of the moral attitudes of the society.

The fourth characteristic may be determined based on the previously explained the understanding of Posner's theory. His pragmatic approach to the function of adjudication as the central institution of the community in the service of the realization of common life goals based on the development of social relations from below, together with the thesis about policy influence on decision-making of the courts points to the conclusion that Posner attributes to

[2] This part refers to Posner's critic of Oliver W. Holmes separation between law and moral. About the influence of moral criticisms of the court's ruling see Posner, 1993, 233.
[3] “Wealth maximization is an ethic of productivity and social cooperation – to have a claim on society's goods and services you must be able to offer something that other people value […] Unfortunately, wealth maximisation is not a pure ethic of productivity and cooperation, not because even lawful efforts at maximising wealth often make some other people worse off, but more fundamentally because luck plays a big role in the returns to market activities… So, once again, the foundations of an overarching principle for resolving legal disputes are rotten, and one is driven back to the pragmatic ramparts.” Posner, 1993, 391.
[4] Posner criticizes communitarian republicanism, i.e. a set of left-liberal proposals as unrealistic. “It has unwarranted confidence in law's power to change attitudes, and specifically to inculcate civic virtue […] The interesting choice is not between legal system and anarchy; it is between a legal system that pretty much confines itself to altering incentives and one that, in addition, seeks to mold character and shape attitudes.” Posner, 1993, 418.

adjudication a stronger position to protection of collectives than it is seen in Dworkin who still attributes greater attention to the individuals.

4. Adjudication in the function of transformation or conservation of structural relations

Finally, we will review in short, the theorists who emphasize the function of adjudication in the transformation and confirmation of structural relations in the community. For Fiss, adjudication with elements of structural reform is not focused on specific incidents or transactions but rather on the conditions of social life (Fiss, 1982, 128). It is not seeking to correct past unlawfulness, but rather to change the structure of society in the future and reconstruct the social reality (Fiss, 1982, 124). The focus is on social conditions that threaten important constitutional values and on organizational dynamics that creates and supports these conditions. A victim in strategic litigations is not an individual, but a group. The legitimacy of this kind of adjudication does not depend on consent, the thesis which Fiss ascribed to Fuller's description of adjudication, but more on the competence and the special contribution that it makes to the quality of social life.

For Kennedy, adjudication is a forum for ideology with "massive long-term influence on the content of formal law" (Kennedy, 2009, 69;70). Adjudication changes the world outside the dispute presented before the court and consequently judges can be seen as the creators of law in the same way as legislators and administrative officials (Kennedy, 2009, 268). Kennedy contemplates adjudication as an instrument of ideological projects. Although judges present their decisions as indispensable result irrespective of ideology, Kennedy considers their solutions as externally motivated ideological endeavour to develop a particular solution. Kennedy assumes a distributive approach towards adjudication which "starts from the fact of the ideologized group conflict and asks how it is affected by legal institutions" (Kennedy, 2009, 66). On the other side, adjudication, primarily manifested in appeal courts to which Kennedy directs his attention, produces formal law that influences ideologized group conflicts (Kennedy, 1982, 67). As is the case with Fiss, Kennedy believes that when this group of conflicts becomes a lawsuit, the prosecutor and the defendant are actually representatives of groups in conflict. The focus of such adjudication is on a certain rule that influenced the way in which the dispute evolved and which is the permanent structure of group conflicts (Kennedy, 1982, 41). According to Kennedy, legal rules that structure competition between groups are the background taken as a default. Different critiques of adjudication base their goals on attributing different meaning to these background rules.

5. Model for examination of the functions of adjudication in protecting community's economic values

On basis of the above outlined theories of adjudication, we can conclude the following. The adjudication is the central institution of legal order, which performs the function of protection of values, whereas it is not solely related to the previous activities of the legislator. While adjudication can be observed from two aspects - from an individual's position or the community's position - it can be said that adjudication protects values that are important to individuals and values that are important to groups and the community as a whole. The distinction between principle-based and policy-based arguments is useful but their differentiation is not mutually exclusive. The existence of this distinction does not mean that the courts should only use one type of argumentation. Finally, both of the theories presented in the second and third chapter still contain prescriptive theses about what the judges should do, while the actual state can only be established by describing the actual practice of the courts in a particular community. Theories that emphasize the importance of courts in the preservation or transformation of the structure of society are an important addition to understanding the function of adjudication. Taking into account the first two theories, together with theories of structuring social relations, it can be said that the arguments of policy and the arguments of principles can arise in deciding on individual rights, collective interests and structural relations in the community.

In this regard, we can propose the following model for explaining the functions of courts and the way they perform such functions. On the one hand, we will distinguish between actions of courts based on different types of arguments and on the other, we can make the distinction with regard to the functions they perform.

ARGUMENTS	**FUNCTION**		
	Protection of individuals	**Protection of collectives**	
Principles	A. Rights	C1. Collective goals Structuring function	C2. Collective goals Structuring function
Policies	B. Rights	D1. Collective goals Non-structuring function	D2. Collective goals Non-structuring function

The court may exercise the function of protecting the rights of individuals and the function of protecting collective goals. The latter can be described as structuring or non-structuring function based on whether it has an effect on the structuring of social relations contrary to the patterns of behaviour defined by the statutes or not. In this respect, in both functions policy-based and principle-based arguments can be used. Thus, the principles can be used as justification for protecting individual rights as well as for justifying the protection of group interests or interests of the community. For example, when a court makes a decision based on the principle argument of suppression of degrading behaviour, such a decision can serve to protect the right of a prisoner not to be closed in the small cell as well as to protect some community's goals by creating collective behavioural patterns without degradation. In doing so, in order to protect collective interests, the meaning of degrading treatment can be extended so as to include some of the behaviours that previously had not been perceived as degradation and thus influence existing structural relations. Likewise, policy-based arguments can be used to protect the rights of an individual, as well as to protect collective interests. For example, if a court makes a decision based on the policy-based argument of safeguarding the competitive economy, such a decision may serve to protect the right of a person with a particular characteristic to be employed instead of another person with a different characteristic as well as to protect some collective goals by creating the competitiveness in the community. Furthermore, the decision which promotes the protection of the competitiveness can establish new structural relations in the society different from those prescribed by existing statutes, for example when decision abolishes better position on the market previously established by statutes for one group of persons. What could happen when making adjudicative decisions is that principles or policies preferred by court come into conflict with principles or policies preferred by the legislator. Additionally, in some situations the court has also to decide whether to make a decision in favour of individual right or collective goal.

If the function of adjudication can be determined as the protection of the individual rights and collective goals then the lists of rights and goals protected by the particular legal system can be conceived as the community values. The community values can be systematized in different ways and one of the categories can be named economic values. The useful conceptual tool for determination of the economic values is the concept of 'economic constitutional law' which corresponds to the weak form of 'economic constitution' concept. It refers to the economic provisions of the constitutional law, which are interpreted by the same methods of interpretation as the other constitutional provisions and only *ratione materiae* distinguish it from other parts of the constitution (Baquero Cruz, 2002 26,27). The subject matter can be detected by the analysis of constitutional rights although it is not always clear what makes constitutional rights economic (Daintith, 2004). Following this concept of economic values, for the purposes of this paper, we will define economic values in accordance with the usual content of the modern constitutions. In such constitutions, it is easy to determine content which protects individual values that are important for the economy of the state and the economic life of individuals. This primarily refers to values related to entrepreneurship, property and work. For instance, economic values are freedom of entrepreneurship, equality of economic agents in the market, the protection of property and legal certainty necessary for activities in the economy domain. Some of these values that are directly related to the economy are often formulated in principles and norms-goals in the constitutions. Other values relate to all aspects of community life, and thus also reflect on the economy. For example, the principle of equality, the principle of legitimate expectations and legal certainty are community values that reflect in the economic sphere as well, and for the purposes of this paper we will also regard them as economic values.

6. The practice of the Constitutional Court in the protection of community's economic values

In this chapter, we will outline four judgments of the Constitutional Court of the Republic of Croatia which also have economic effects. The judgments will be analysed through the previously presented model of adjudication functioning in the protection of economic values.

The first example refers to a policy that abolishes one economic activity with aim to protect the value of health. Namely, the case was about the sale of tobacco products through a vending machine that the legislator banned justifying its policy by protection of citizens' health. The Constitutional Court investigated whether such a legislator's decision violated the value hierarchy between a policy serving the public goal of protecting health and the principles of protection of entrepreneurial freedoms and property rights (RC Constitutional Court, U-I-1156/1999, 2000). The policy itself was legitimate and based on the constitutional principle of health protection, so this decision dealt with a conflict between the two constitutional principles. The Constitutional Court decided that the legislator did not leave reasonable time for adjustment to the new business conditions and that the state policy had violated the freedom of entrepreneurship and the right of peaceful enjoyment of one's property. Although the state's policy aiming to regulate economic activities in a way that enables realization of its health policy is legitimate, it cannot be exercised by unduly infringement upon the values of freedom of enterprise and the ownership rights of individuals engaged in some economic activity. These values are also directed at the benefit of state economy which is in general interest. In this case, the Constitutional Court protected the economic values by using the principle argument. The decision itself had an effect on the preservation of economic activity that was about to be abolished by statutory law, hence it can be said that the decision had an effect on the structural relations in the community contrary to the structural relation defined by statute (case A and C1).

The second example relates to the relationship between the state policy towards efficiency of judiciary through improvement of enforcement procedure and the rights of individuals to plan their business activities (RC Constitutional Court, U-I-5612/2011, 2013). Namely, the state estimated that the general goal is not to introduce previously enacted model of enforcement based on new service (model 1), due to which individuals, by relying on the state legislation, abandoned their earlier payable occupations in order to perform a new service as their sole occupation. The Constitutional Court had been examining whether the statutes that ruled the enforcement model (model 2) violated the value hierarchy between the public interest policy that the legislator wanted to achieve by abolishing the institute of public enforcement agents (model 1) and a principle protecting the rights of individuals appointed as public enforcement agents. In this case, the Constitutional Court has given priority to a constitutional principle over the legislator's policy. It is the principle of legitimate expectations according to which individuals cannot be unjustifiably put into a state of uncertainty and insecurity. This principle has proved to be more important than the legislator's policy which, in the opinion of the then legislator, attempted to achieve economic savings with regard to the high cost of new service (model 1). The policy was focused on the economic values of the community and the achievement of legitimate goals. According to the opinion of the Constitutional Court, the legislator could have implemented such a policy with economic effects but had to take into account the values that, inter alia, protect the subjects of the labour and economy market. The Constitutional Court did not influence any structural relations against the statues because the decision of the Croatian Parliament remained unchanged. However, it did have an effect on individual rights as it granted the right to satisfaction for seventy-one persons who were appointed as public enforcers (according to model 1). Although it seems that the individual's right won over the state policy, with this decision based on the application of the principle-based argument the Constitutional Court contributed to the protection of the principles of legal certainty. The Court directed the legislator to pursue its political discretion by maintaining public confidence in the state's legal system and by respecting the rule of law. There is no doubt that these fundamental values of the community are also reflected in the economic sphere as the economic values of protecting the stability of agent’s activity in the economy. Consequently, in this example, it can be said that Constitutional Court used the argument of principle that could serve collective goals as well (case A, C2).

The third example relates to the policy of the state, which sought to facilitate the enforcement process for employees when returning employees to work or service (RC Constitutional Court, U-I-2881/2014, 2016). On the other hand, the principle of equality prescribes that all should be treated equally when in equal situations and different treatment in different cases. The question is whether such a policy has unlawfully put a group of citizens in a better position than other citizens. The Constitutional Court found that there was indeed favouritism of a group of enforcement agents in comparison to all others, thereby violating the principle of equality of treatment by comparable groups. The Constitutional Court did not, however, deprive individuals of the right that had been previously granted to them, and instead gave the same right to other enforcement agents. Accordingly, the legislator’s policy in favour of employees must not be detrimental to the principle of equality by which the rights of individuals are protected and which also represents the value of the community that is reflected in the economic field as well. In this case, the Constitutional Court used a principle-based argument, whereas the decision can have an impact on the structural position of the enforcement agents in the community different than the structural relations defined by the legislator (case A and C1).

Finally, the fourth example refers to the policy according to which women have a more favourable position in acquiring the right to pension than men in terms of the age of men and women (Constitutional Court, U-I-1152/2000, 2007). Such a legislative policy may have justification in the collective aim of improving the status of a group of citizens in the community who have an unfavourable position in society due to socio-economic reasons. On the other hand, the principle of equality demands equal treatment in equal cases and different treatment in different cases. Accordingly, if there has been a change in social conditions due to which women are no longer significantly impaired because of their shorter working lives, then more favourable retirement conditions no longer have justification. The Constitutional Court followed this argument established by the European Court of Human Rights (ECtHR, Stec and others v. United Kingdom, 2006). The Constitutional Court has estimated that the policy of a more favourable position is not in line with the principle of equality and in this way change the position of all individuals belonging to one group of citizens. Nevertheless, it has also determined the timeframe within which equalization of retirement conditions for women and men must be achieved. There is no doubt that this kind of decisions have an important impact on the economy. The value of equality is not only in the function of protecting individuals but can also be in the function of group and general interests that also reflect on the economy. The decision is based on the principle-based argument in the part relating to the abolition of the difference in retirement between the two groups of citizens, but also on the policy-based arguments since the court did not immediately repeal the unjustified inequalities, but it rather set a transitional time for adjustment. Namely, such reforms have economic effects for the state and it takes time to implement them. The decision has an impact on the structural relations in the community in terms of equalizing the position of men and women (case A, B, C1 and D1).

7. Conclusion

The legal theory provides concepts which can be incorporated as the elements of theoretical models. The model of adjudication contributes to a better understanding and prediction of adjudicative decision-making. It can be applied for analysis of different aspects of social life and this paper is focused on adjudicative protection of economic values. In the second and third chapter we have outlined two theories of adjudication by highlighting some common points as well as the differences. Dworkin and Posner point to the central role of adjudication in the community and the functioning of courts that is more than the mere application of the statutes. In doing so, Dworkin approaches adjudication through his concept of political rights, while Posner describes adjudication through a pragmatic understanding of law as a practice that facilitates life for members of the community. The difference, at least at first glance, comes from two views of what the judges do. While Dworkin emphasizes the use of principles as arguments for a court ruling, Posner points out the importance of policies. Likewise, based on the emphasis when describing the adjudication, one can get the impression that Dworkin emphasizes more the function of adjudication in the protection of individuals, while Posner seems more inclined to emphasize the function of community protection. Fiss and Kennedy's explanations of adjudication are demonstrated in the fourth chapter and point to the function of adjudication in preserving or changing structural relations. On basis of the presented theories, we have outlined a model in the fifth chapter that can describe adjudication, and such a model can also be applied when considering the importance of adjudication for the community's economic values. Finally, in the sixth chapter, we have examined some decisions of the Constitutional Court of the Republic of Croatia that have economic effects. It is evident from the aforementioned decisions that judicial practice in the Croatian legal order uses the arguments of principles, observes policies and collective aims; its decisions sometimes also affecting the structural relations in the community defined by the legislator, while sometimes their effect is limited to the protection of individual rights and collective goals with no structural function.

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LEGAL INCONSISTENCY OF BARANJA WINE CELLAR 'GATOR' WITH THE PRINCIPLE OF *SUPERFICIES SOLO CEDIT*

ABSTRACT

*The traditional 'gator' wine cellar in the region of Baranja is already a well-established cross-border attraction and protected cultural resource of economic importance to the regional tourism of Slavonia and Baranja. Due to its unique architectural form created by digging and casting into the soft hill as opposed to building, the cellar may extend below ground in two separate cadastral parcels. In the legalization procedures that have been extensively pursued in recent years, many cases appeared in which a cellar was constructed below a neighbouring land plot without a valid construction permit and the owner's approval. Outlined practices are contrary to the rule of the legal unity of real property (*superficies solo cedit*)—one of the main principles of Croatian property law adapted through the Roman legal tradition. Considering that the cadastre and land register do not always reflect the actual situation of the real estate because they were not accurately maintained during the period of former SFR Yugoslavia, it could cause legal uncertainty in real property trading and generate further problems in the economic exploitation of the protected objects.*

By analysing the legal position of 'gators' within the framework of Croatian property law, the objective of this paper is to define its legal nature and address the potential practical problems that arise through their commercial usage. Consequently, this article aims to provide solutions how to overcome the challenging issues resulting from breaking the unity of real property.

Key words: *Baranja, gator, legal insecurity, property law,* superficies solo cedit

1. Gator – architecture without an architect

The main objective of this article is to analyse the legal status of a unique form of architecture, locally known as a 'gator', examples of which have become well-established cross-border tourist attractions. Most of the objects were registered in Zmajevac on the slopes of Banjsko brdo as well as Suza, Draž, Gajić, and Batina. As a rare example of Croatian rural architectural heritage, some of them are even protected as immovable cultural property[1] and their touristic valorization is an important factor in overall economic development and the regional tourism of Baranja. These artificial caves were built underneath the ground without any construction material by carving into a loess hill that, due to its softness, allows for relatively easy digging, while its vertical stability reduces the possibility of its collapse (Banak, A. et al. 2012, 411–413; Bognar, 1978, 21–23; Španiček, 1993, 69–70). Specific features that favor the construction of underground spaces were discovered a long time ago; the oldest known facilities, like the Belje wine cellar in Kneževi Vinogradi, originate from Roman times. While most of the cellars were built in the second half of the 19th century, the more recent ones date from early 20th century. Given that 90% of the arable land around Zmajevac were vineyards, the cellars were still in use after WWII. The situation changed and the construction declined in the 1960s because a law came into force prohibiting the peasants the sale of wine in bulk. Considering that there was no organized buying-in of the grapes and that younger people left the villages due to labor shortage, the construction has gradually ceased (Španiček, 1993, 76–79).

The objects were built by locals without any architectural plan, so cellars of different sizes, spatial layouts, and numbers of rooms can be found. Apart from some objects that are used as cave dwellings, most of them, in accordance with their economic function, are used as thermally stable wine cellars since the temperature stays constant between 12 and 14°C in both summer and winter.
The structures usually consist of two parts—a brick building used for a grape press in front of the tunnel and a second section, which includes the carved chamber itself. Since the cellars are carved horizontally into the vertical slopes of loess sediment, they may extend beneath multiple separate cadastral parcels, usually stretching underneath the neighboring land plot. The building, however, cannot legally belong to two pieces of land at the same time. Built illegally without a valid permit and explicit landowner consent, many gators have a questionable legal status causing problems in economic usage. Moreover, they are built contrary to the Roman legal principle *superficies solo cedit*, which implies that a land plot is always considered the principal thing and includes everything that is reasonably, permanently affixed to it—even under the surface as in the case of gators. Through the gradual reception of Roman norms, this *regula iuris* has become a part of the continental European legal tradition[2] and as such was adopted into Croatian property law as the principle of the legal unity of real property (cf. Josipović, 2003, 98–132; Petrak, 2010, 129–130; Žiha, 2016, 73–83).[3]

By focusing on the legal position of gators within the framework of Croatian property law, the first part of the research will examine the consequences of building a gator on another owner's land and the problems that arise from the inconsistency in adhering to the principle of the legal unity of real property. Furthermore, in the second part of the contribution, special attention will be devoted to the concrete issues that could emerge from the process of legalisation. The paper will conclude with a set of proposals for regulating the status of gators and preventing eventual problems in their commercial exploitation.

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[1] The Ministry of Culture has proclaimed gators as immovable cultural goods of significance for the Republic of Croatia, and some of the cellars are already registered in the Croatian Register of Cultural Property (*e.g.* Z-2322 in Suza, Z-2323 in Zmajevac) https://www.min-kulture.hr/default.aspx?id=6212&kdId=345762872 (Accessed 6 March, 2019)

[2] See e.g. Austrian ABGB §§ 295, 297 & 417sqq, German BGB §§ 93sq & 946, Swiss ZGB Art. 667 & 671, French Code Civil Art. 552sqq, Italian Codice Civile Art. 934sqq, Spanish Código civil Art. 334

[3] The central role for the reception of the legal principle in Croatia had the application of the *Austrian General Civil Code* [*Allgemeines Bürgerliches Gesetzbuch*, ACC] in its territory. For more details about the process of the reception of the principle in Croatian property law s. Gavella, 1993, pp. 335sqq; Gavella et al., 2005, pp. 29–40

2. Inconsistency with the principle of the legal unity of real property (*superficies solo cedit*)

As one of the main principles of Croatian property law, the *Act on Ownership and Other Real Rights* [OA],[4] integrated a concept of the legal unity of real property in accordance to which a single real property should incorporate a specific land plot including all objects that are permanently connected to it regardless of whether they are on the surface or below the ground (Art. 2 para. 3 & Art. 9 para. 1 OA). This also includes all objects that are erected below the surface under the condition that they are not joined with the land for only transitory purposes but remain there permanently (Art. 9 para. 3 OA).

Although gators are not dug vertically but rather carved horizontally into the loess sediment, the tunnels are completely below the ground, and according to their function as wine cellars or even housing units, they are of a permanent nature. Considering the aforementioned legal rule, the cellars should be legally unified with the land plot and all structures above the surface, which, as such, should form a single piece of real property. Consequently, all structures under the ground should be owned by the same legal entity as the land and objects above unless other rights or restrictions have been established and registered in land registry. The real situation in practice is significantly different since the owner of the gator is not necessarily the same person as the owner of the land parcel. Considerably more serious is the fact that the real situation is often not registered and thus not visible in the cadastre or land register, thus jeopardising legal certainty and affecting legal transactions. As the basis for the registration of ownership and other real rights in the land registry, the cadastre contains information on the position, shape, and surface of cadastral parcels and buildings or other structures that are subject to registration. However, given that a cadastral plot is by definition a two-dimensional image, the register increasingly encounters limitations in the valid registration of spatially complex objects such as construction under the surface—in this case, gators. Although, a three-dimensional representation of complex situations is not necessary from a strictly legal point of view, in order to provide legal certainty and security concerning real estate, it would be beneficial to include a three-dimensional view and make the complex spatial objects identifiable.[5]

[4] Official Gazette 91/96, 68/98, 137/99, 22/00, 73/00, 114/01, 79/06, 141/06, 146/08, 153/09, 90/10, 143/12, 152/14, 81/15, 94/17. The Croatian term is "Zakon o vlasništvu i drugim stvarnim pravima".

[5] Due to its long tradition of multi-level usage of land, the Netherlands is one of the countries that has carried out the most research in the field of 3D cadastre. Especially in the areas of intensive use of land such as large cities in terms of multi-story buildings, apartments, and installations, the current 2D cadastre does not meet the needs and requires the implementation of 3D cadastre. (Cf. Stoter; Salzmann, 2003, 495–410) Studies and proposals to introduce 3D cadastre models also exist in Croatia. (Vučić, 2015, 8–153)

Picture 1: *Extract from the cadastral plan*
Approximate map scale 1:1000

Source: https://oss.uredjenazemlja.hr/public/cadServices.jsp?action=dkpViewerPublic
(Accessed 8 March 2019)

Picture 2: *Geodetic situation of the building*
Approximate map scale 1:200

Source – author's sketch

The previous pictures show a typical situation in which the building, as a single structure, is partly located on land, which, legally speaking, belongs to the gator-builder but lies partly under the surface of the neighbouring parcel. In this particular case, the structure consists of a single tunnel under the adjacent land, but as mentioned before, a strict definition of 'gator' does not exist, so various spatial layouts and numbers of rooms with multiple purposes can be found. At the same time, the real status of immovable is not visible either in the cadastre or in the land registry, which can endanger legal security as well as cause problems in the economic and legal exploitation of real estate.

Such an example of the legal separation of property is contrary to the Roman principle *superficies solo cedit,* which originates from the concept of accession (*accessio*), whereby the ownership of a movable object, in case of permanent connection, merges with the immovable as a main legal object and shares its legal status (cf. Schmidt, 1890, 121–164, Biermann, 1895, 169–280, Kaser, 1947, 219–260, Meincke, 1971, 136–183, Rainer, 1989, 327–357, Puhan, 1953, 332–340, García, 2008, 1007–1015). Stating that this principle is based on natural law rather than imposed by strict regulations, the Institutes of Gaius (II, 73) explained it in the following manner: "what is built by another on our land, although he may have built it for himself, becomes ours by natural law, because the building above yields to the ground below." Various factual situations have been debated throughout Roman legal sources,[6] but specifically, the case in which somebody constructed an object (*inaedificatio*) with his own material on another owner's land was already discussed in the oldest Roman legal source—the Law of the Twelve Tables (451–450 BC). The ownership of building materials used in the erection of a structure remained unaffected as long as the building was preserved (cf. Tab. VI, 7 & VI, 8; Gai. D. 41,1,7,10). If the object collapsed, the 'sleeping ownership' over the materials revived and could be claimed.

[6] *E.g.* Pap. D. 8,4,17; Ulp. D. 9,2,50; Paul. D. 13,7,21; Paul. D. 20,1,29,2; Gai. D. 41,1,7,10; Gai. D. 41,1,7,12; Pomp. D. 41,1,28; Ulp. D. 43,17,3,7; Gai. D. 43,18,2; Paul. D. 44,7,44,1; Paul. D. 46,3,98,8; Sev. Ant. C. 3,32,2,1; Diocl. Max. C. 8,10,5.

In the 13th century, the concept was adopted and further developed, authorising the landowner to an infinite vertical space limited by the horizontal borders of his land plot. According to the reasoning of glossator Accursius (the so-called *ad coelum* doctrine) based on the fragment D. 8,2,1, the owner of the soil is entitled to everything above and below—"all the way up to Heaven and down to Hell" (*Cuius est solum, eius est usque ad coelum et ad inferos*) (Cf. Goeke, 1999, 61sqq). The idea of the unlimited reach of landowner's rights *ad infernum* is nowadays challenged by various subsurface rights like littoral, mineral, and riparian rights. How far this right extends has never been explicitly defined. Although it would theoretically reach to the centre of the Earth, Von Jhering argued that such an approach would be an "abuse of logic". The expansion of property below the ground should, according to his opinion, find its limits in practical interest, and the owner should tolerate the economic use of others in case his practical needs are satisfied and he is no longer able to use it for himself (Von Jhering, 1863, 91–92). The same approach is applied in contemporary Croatian property law. The space to which landowner's rights extend is, in principle, limitless, but he is not authorised to prohibit works by another person at a depth at which he has no justified interest to exclude them (Art. 31/3 OA). In our case, gators are carved directly underground in the event of renovation approached and even dug from above, which means that they would restrict the owner's property rights and their practical usage.

Both Roman and contemporary regulation make the outcome of the construction on another owner's land dependant on the subjective element of the parties, namely, whether they acted in good faith or not. In this respect, three situations need to be distinguished as their legal consequences differ.

a) Unfair gator builder - fair landowner

If the builder were aware that he constructed a cellar with his own materials but under another owner's parcel, the gator will, according to the principle, become the property of the neighbour to whom the parcel belongs (Gai. D. 41,1,7,12; Art. 152 OA). In fact, if the landowner is *bona fides*, i.e., he is not aware of the builder's activities on his parcel, which can indeed be the case here because the construction is carried underground, the principle of *superficies solo cedit* applies without exception. If the law on civil obligations gives him the right, the builder can claim compensation from the landowner. The neighbour is authorised to regain possession of his land with the cellar and its appurtenances and demand all benefits that the builder received due to the unauthorized use of his land. He may also claim compensation for damages if he has suffered them in accordance with the norms of law in civil obligations (Art. 152 para. 4 OA). If the gator is not needed from his point of view, he may request restoration to the previous condition (*restitution in integrum*), allowing the builder to take away his material. However, the legislator requests the owner to have an 'inherent interest' in the establishment of the previous condition (Art. 152 para. 3. OA). There is no general definition when such a legal interest exists, but it is judged on a case-by-case basis. Since the stability of the adjoining land could be threatened, before any removal of the construction work, according to Art. 153 of the *Building Act* [BA],[7] a removal design following the submission of notification to the building control authority of the commencement of works should be carried out. Gavella highlights the potential problem that obtaining a permit to remove an object could prolong or in some cases call into question the owner's request for restitution (Gavella et al., 2007, 540, fn 431). The removal of a gator that was registered as an immovable cultural good in the Register of Cultural

[7] Official Gazette 153/13, 20/17. Croatian term is "Zakon o gradnji".

Heritage of the Republic of Croatia or any part thereof should be carried out according to the act governing the protection and preservation of cultural heritage (Art. 153 para. 3 BA).

b) Fair gator builder - unfair landowner

In the case the landowner was unfair and knew about the construction works of a fair builder but intentionally failed to prohibit them, legal consequences will differ from the previous situation. Since immovability is always considered the principal thing, the building will become a part of the land, but an inverse application of the principle of *superficies solo cedit* will occur because the legal order favours a fair builder versus an unfair landowner. From the moment of construction, the land plot, together with the constructed object, shall belong to the builder, leaving the former landowner the right to require compensation of the market value of the land (Art. 153 OA). Nevertheless, we consider the legal provision to be too strict to the unfair landowner because its literal interpretation would mean that the builder obtains the entire land plot regardless of its size together with its entire appurtenance, including, for example, landowners of houses or vineyards. Since the *ratio iuris* of this provision should not be to bring the former owner into such an unfavourable position, we agree with the suggestion of Maršavelski (2007, 193) that the court should, in such cases, make the necessary parcelling of land and assign the builder only the part of the land plot in terms of which he was in good faith.

c) Unfair gator builder - unfair landowner

In the case both parties were unfair, the gator will become the property of the landowner even if he did not immediately prohibit further construction. As the owner, he has, of course, the right to protect his possession within thirty days from the moment he finds out about the act of obstruction and, at the latest, one year after the date on which the obstruction began (Art. 21 para. 3 OA). Considering the legal nature of the ownership as such, while assessing whether the landowner was fair, an account should be taken of the fact that the owner is not required to take any action to determine whether the builder carries out unauthorized construction on his own land. He is not obliged to prohibit construction, but at the same time, he is authorized to do so. Even if he knew about the activities but failed to prohibit them in a timely manner, he can only be criticized for his ambiguous attitude (Gavella et al. 2007, 541; Maršavelski 2007, 189). However, the legislator provided a certain consequence in that case by denying the landowner the right to require restoration to the previous condition. Accordant to Art. 154 para. 2 OA, the builder is, on the other hand, authorised to restore the land into its previous condition at his own expense by taking back his built-in material, although not after the expiration of the time limit within which, following the legal effectiveness of the court decision, he should surrender the possession of the land with the building on it to the owner voluntarily.

Exceptions of the principle that a single real property consists of a geometrically specified land parcel with objects permanently connected to it are possible and regulated by the OA. Permanent structures can be separated from the immovable that they are built under and the legal status they share by special rights that entitle its holder to own the building on other owners' land, specifically, the right to build (Art. 280–296 OA)[8] and the right to have parts of one's building and equipment on the servient tenement (Art. 196 OA). In order to ensure that the separation of one part of the immobile from the whole unit would not undermine trust in legal transactions, an essential precondition for the acquisition of these property rights is their registration in the land registry.

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[8] As a new form of property right, the 'right to build' was introduced through the reform of property law, which began with the adoption of the OA. Since the reform was mostly modelled on Austrian law that traditionally had a decisive impact on Croatian civil law, the right to build was adopted from the Austrian 'Baurecht' (Josipović, 2014, 36–37), although we are originally dealing with, yet again, the Roman legal institute of *superficies*.

This is precisely the key issue in our research on the legal status of gators. Although the law provides the possibility of their legal arrangement, their existence is *de facto* not visible in the cadastre or land registry. Private ownership, as well as other real rights, are entered in the land register at the request of the parties. Since gators were built by locals without any prior construction plans or permits and, as we assume, with only the oral consent of neighbours, i.e. landowners, it was not the custom to register such buildings in the cadastre or land register. Unfortunately, the fact that, due to the abandonment of the principle *superficies solo cedit* during the socialist period, the land register was not accurately maintained, and discrepancies between the cadastre and land register, as well as between the actual state of affairs and the entries, still exist, making the situation even more complicated (cf. Žiha, 2016, 76–81).

Taking into account the time and circumstances in which the gators were built, we can assume that the builder knew about the fact that he was building a cellar below the adjacent parcel but was unaware about the legal effects it has on his building. At the same time, his neighbour probably tacitly allowed the construction under his parcel since the land was usually used as an agricultural area (arable land, permanent grassland, vineyards, or kitchen gardens) so that the underground structure did not interfere with the execution of his property rights. Referring again to the Roman legal tradition and the principle *ignorantia iuris nocet* or *ignorantia legis non excusat*, the builder cannot be excused for being unaware of the valid law, because according to this principle, a person is bound by legal regulations even if he does not know of them. Although the knowing landowner could have prohibited the violation of his ownership but failed to do so, the gator became a part of his land plot and shared its legal status without giving him the right to require restoration to the previous condition. Expecting the gator builder or his heirs to use their right and restore the land into a previous condition at their own expense is not probable because their touristic potential is increasingly exploited, they are recognized as immovable cultural goods of significance for the Republic of Croatia, and some of the cellars have already been registered in the Croatian Register of Cultural Property. Sometimes, years after their construction or being acquired by new owners, gators have been extended or adapted for new economic, often touristic, purposes. Irrespective of such additions, adaptations, or annexes to the existing building, it is not possible to acquire ownership over the land plot unless it is otherwise provided by the neighbouring landowner (Art. 156 para. 1 OA). The same derives also from Art.150 para. 2 OA, which stipulates that ownership of the real property extends to other owners' built-in materials because, yet again, *superficies solo cedit*. The eventual compensation of the gator owner for the investment in the object is regulated by the rules of the law on civil obligations.

Considering the debated issues, what would, therefore, be the most appropriate solution for the involved parties? The most simple solution would be to establish the right to build in favour of the gator holder, which would authorise him to have his wine cellar below the neighbouring parcel. It is a specific right that separates an otherwise complete immovable into two separate entities and acts in legal terms as a piece of real property itself (Art. 281 para. 2 OA). The owner of the gator would have the powers and duties of a usufructuary regarding the land and should pay his neighbour a monthly fee in the amount of an average rent unless agreed otherwise (Art. 281 OA). In order to establish the right to build, the gator owner and the landowner should conclude a written agreement and register the right in the land register, entering it simultaneously as a burden on a land plot and as a particular land registry unit in a newly-established land registry file. Registration of the right to build as a burden on the neighbouring land in favour of the gator owner will be possible only after a written declaration of the permission of the landowner to encumber his land plot. The gator will be in conformity with this registry as if it were erected directly on the right to build (Art. 286–288 OA).

Another possible solution would be to establish the right of real servitude, specifically the right to have parts of one's building and equipment on the servient tenement regulated by Art. 196 OA. Taking into account that the particular immovable usually consists of two parts—the front building constructed above the ground on the land plot of the gator owner and the cellar under the neighbouring parcel—the owner of the dominant tenement (the gator owner) would be authorised to have the gator as a part of his building below the neighbouring property based on his right of servitude. He would be bound to bear the cost of maintaining such part of his building and to pay the neighbouring owner of the servient tenement compensation for using his real property in the amount of rent unless provided otherwise in an agreement or by law. The right would be established by entry of the right in the land register as a burden on the servient tenement (Art. 220 para. 1 OA). Since majority of objects were built until 1960ies, according to Art. 229 OA, the servitude was already established by occupancy if the gator builder was in fair possession of servitude for 20 years, and the owner of neighbouring land did not voice any objections. In this case, the gator builder would acquire servitude, regardless of the fact that it was not registered in land register, and the eventual subsequent entry of his right would have a declaratory effect, meaning that the builder acquired the servitude in moment when 20 years have passed (Gavella, 2007, 23). However, the main obstacle is that this unregistered servitude would not have effect towards third party, i.e. the new buyer of neighbouring land, since he would not have a way to know of its existence (ibid). Considering that such servitudes are most likely not registered, and that the owners of the land have changed several times in this long period of years, proposed solution is not applicable to solve legal problems of gators in general, but it could help in several cases. Ultimately, a valid entry into the Land register according to the provisions of *Land Registration Act* [LRA][9] would be the only secure way to ensure legal certainty about the actual and legal status of the real property. In this sense, Art. 33 LRA, and Art. 81 of *Land Registry Rulebook* [LRR][10] contain rule that registered servitude in the land register should be described in details.[11]

3. Problem of legalisation

Although the owner of the immovable is authorized to use it and any benefits arising from it as he sees fit, including the use, utilization and disposition of the thing he owns (Art. 30 OA), in order to build on his immovable, he must follow procedures prescribed in detail in the BA and in the Physical Planning Act [PPA][12] (Gavella et al., 2011, 44–50; Krtalić, 2006, 814). Only if the construction complies with the prescribed procedures will the building be legal and thus recognized in the cadastre and land register. However, for numerous reasons, Croatia had serious problems with the illegal construction of buildings, which culminated in 2010, when it was recognized as an obstacle in the process of joining the European Union. In 2013, it was estimated that more than 350 000 buildings in Croatia were built without valid construction permits (Britvić Vetma, 2013, 122). However, by the date published on the web site of the Ministry of Construction and Physical Planning, up to the 30th of June 2013, 826 948

[9] Official Gazette 91/96, 68/98, 137/99, 114/01, 100/04, 107/07, 152/08, 126/10, 55/13, 60/13, 108/17. The Croatian term is "Zakon o zemljišnim knjigama".
[10] Official Gazette 81/97, 109/02, 153/02, 123/02, 14/05, 60/10, 60/10, 55/13. The Croatian term is "Pravilnik o unutarnjem ustroju, vođenju zemljišnih knjiga i obavljanju drugih poslova u zemljišnoknjižnim odjelima sudova (zemljišnoknjižni poslovnik)".
[11] The rule states that servitude, which is limited to certain spatial boundaries, must be precisely defined, and such boundaries can even be set in the sketch attached to the request for the establishment of servitude.
[12] Official Gazette 153/13, 65/17, 114/18. The Croatian term is "Zakon o prostornom uređenju"

applications for legalization were received by the authority.[13] First, the Act on Procedures Regarding Illegally Constructed Buildings was drafted and came into force in 2011,[14] but it did not give the expected results in the sense of a higher number of legalizations of illegal buildings. There were numerous reasons for such results, namely, high costs and complicated procedures (Britvić Vetma, 2013, 123). A new act with the same name was promulgated in the next year and came into force on 6th October, 2012. This act simplified the process of legalization and is still in effect with several changes over years. Thus, all contemporary legalizations are performed according to its rules.

The Act on Procedures regarding Illegally Constructed Buildings from 2012 [APRICB][15] defines illegally constructed buildings in Article 2 as buildings or reconstructed parts of an existing building without a valid permit authorizing the process of construction. Illegally constructed buildings become legal with the special decision of the public administration called "the decision on the state of construction'' (Britvić Vetma, 2013, 138) or "the decision on the derived condition'' (Tomić, 2015, 186).[16] This decision is issued by the special body of the public administration, which is competent to allow normal, legal construction and generally deals with every other kind of spatial planning and construction.[17] Based on Articles 2, 5, and 6 of the APRICB, in order to make illegally constructed buildings legal, several prerequisites must be met:

1. The illegal building must be visible on the digital orthophoto map in scale 1:5000 made by the State Geodetic Administration based on the aerial photogrammetric mapping of the Republic of Croatia, which started on 21st June 2011 (in text DOF5/2011).
2. The illegal building must not be contrary to the spatial plans of its location but only in sense that it must not be built outside the construction-allowed area of national parks and nature parks, in the corridor of traffic buildings, on archaeological sites, or inside spaces of immovable cultural heritage.
3. The illegal building must not be built in other similar areas in which it could be contrary to the public interest.

Based on the listed prerequisites, gators in Baranja County are ultimately buildings that cannot be legalized. Firstly, since the usual gator is partially constructed below ground, partially above, it is debatable as to whether they are visible on the DOF5/2011 maps. Since more than half of the gators is inside the hill, it is highly probable that they are not visible on said maps, and as such, the system of the cadastre's plans, as shown in our example (picture 1), does not recognize their existence. On the other hand, it is questionable whether the fact that the building is not visible because of its 'constructional nature'[18] is reason enough to preclude its proper legalization. In other words, if the building would be outside the hill, it could be legalized, but it would not be a gator as such. This strongly suggests that in certain situations, as discussed before, the cadastre should have a three-dimensional representation, especially in the cases of the buildings below ground. In order to serve its purposes, data from the cadastre should be in accordance with the data in the land registry (Šago, 2018, 594), and there was a serious

[13] S. https://mgipu.gov.hr/UserDocsImages/7401 (Accessed 6 March 2019)
[14] Official Gazette 90/11. Croatian term is "Zakon o postupanju s nezakonito izgrađenim građevinama"
[15] Official Gazette 86/12, 143/13, 65/17, 14/19 Croatian term is "Zakon o postupanju s nezakonito izgrađenim zgradama "
[16] Croatian term is "rješenje o izvedenom stanju".
[17] Jurisdiction of this body is territorial, meaning that it must have jurisdiction on the area where the illegal building is located.
[18] By the term 'constructional nature', we understand the construction method and the process of building because if the gator were not underground, it would lose its main feature and would not be considered a gator at all.

discussion of their junction in one register (Butorac, 2017, 143–162), which did not result in their merging. Thus, currently, there are two separate registers; cadastres that contain information on the actual situations of the cadastral parcels and the land register, which contains data on the ownership and other legal rights to immovables (Josipović, 2001, 90–92).

If we observe it from a historical point of view, gators are buildings that have existed in the County of Baranja for some time (Španiček, 1992, 70). A possible solution for solving their legal status could be found in the provision of the BA, which stated that buildings built before 15th February 1968 should not be legalized, since they are considered as legal buildings. According to Article 175 of the BA, certificate of the cadastral office, the Central Office of the State Geodesic Directorate, or other administrative body that proves that the building was constructed before 15th February 1968 is the official act with the legal force to equalize such a building with one that has a valid construction permit. In other words, the fact that the illegal building was constructed before 15th February 1968—and it can be proved with a certificate from a competent public body—makes such a building legal. If this rule is applied to gators, it would mean that all of them built before 15th February 1968 were legal based on their age.

Still, there are several potential problems. First of all, it is questionable as to whether such certificates exist for all gators and what would happen if some gators were constructed after the said date? Moreover, what would be the consequences in a situation in which the gator is constructed before the said date but is reconstructed in the meantime? The most important dilemma concerns the status of gators that were built before the said date and are inconsistent with the rules of ownership on real estate, particularly the principle of the legal unity of real property (*superficies solo cedit*).

Regarding the first question, in the practice of the administrative bodies, there is at least one example of the prescribed situation as in the use permit (*uporabna dozvola*) issued by Beli Manastir's administrative body for spatial planning and construction from 17th May 2018. The quoted document states that one gator from the village of Zmajevac was built before 15th February 1968 and is therefore legal. However, the biggest problem arising from this administrative act is the fact that the word 'gator' and the said use permit are not mentioned in the description data of the immovable in the land register. This is the case because the use permit and the decision on the state of construction are not officially noted in the land register or cadastre by omission of the owner himself, who is obliged to deliver it to the cadastre. However, there is no sanction for not complying with the prescribed obligation, and such a regulation makes the whole process of legalization meaningless. In the situation with gators, it can be presumed that the owner or the competent body did not know how to carry out the registration of the use permit because the gator is partially under neighbouring land, and the effect of said permit would have to have an effect on both properties. If we allow the effect of said decision on the neighbouring land, it would mean that the builder of the gator had an illegal building on the neighbouring land for more than 50 years, which is contrary to main principles of Croatian and also continental European property law. We strongly believe that this is not the case and that in the construction of gators, neighbours had certain agreements and oral permits among themselves as was the custom in the time of their construction.

The answer to the question of gators constructed after 15th February 1968 is simple; such gators are illegal unless they have a valid construction permit, which is, again, highly unlikely. Reconstructions after 15th February 1968 without construction permits would again make modifications illegal and would have a negative impact on the legal status of the whole gator.

Concerning the question of the inconsistency of gators regarding the rules of ownership of immovables, the answer can be found in the APRICB. This act, which deals with illegal buildings, could possibly have one inconsistency with the OA—or, more precisely, with the main principles of Croatian property law—and as such could offer certain solutions to the question of the legal status of the gator. The problems can be recognized in the fact that APRICB does not directly exclude the buildings built on the other person's land in the process of legalization. In other words, the party that initiates the process of legalization does not have to be the owner of the immovable (Britvić Vetma, 2013, 132–133). It seems that such a solution could allow the owner of the gator to legalize the whole gator, including the underground part below the neighbouring land. However, this is possible only if the landowner did not start the judicial dispute regarding the question of the ownership or other real right as prescribed in Article 19 of the APRICB. Moreover, we consider that the most important rule set in the APRICB can be found in the chapter named 'Legal consequences of the legalization of the buildings'. Thus, in Article 32 of the APRICB, it is strictly stated that the 'decision on the state of construction', (which makes an illegally constructed building legal) does not have any influence on the ownership and other property rights on the building for which it was issued oron the immovable on which it was built. In conclusion, the whole process of the legalization of gators will not have any consequence on its questionable legal status.

Strictly legally speaking, the fact that the building is not legal should not influence its property rights. Ownership, servitudes, pledges, and other real rights exist on immovables with illegal buildings since the building itself is considered to be part of the land (Gavella et al., 2007, 79–94; Žuvela, 2014, 26–36). This means that the single real property (immovable) with an illegal building can be bought, sold, pledged, or even inherited without any sanction. In this sense, the illegality of the building does not influence its legal status. However, it is questionable as to how banks and other professional creditors assess the value of immovables with illegal buildings. Since creditors could have serious problems in the process of the pledging of immovables with buildings that are not legal and thus not recognized in the land registers, the value assessments of such creditors are usually low (Frljužec, 2006, 60–62). The reason for such low assessments could be found in the fact that they would have uncertain legal status if the debtor does not pay his debt, so the assessments usually contain only the value of the immovable and not the value of the illegal building. Consequently, the described results could have a highly negative impact on the touristic and other potential commercial uses of gators. Therefore, it should not only be in the interest of owners but also in the interest of the whole region of Baranja to do everything possible to hasten the process of legalization.

4. Conclusion

The major goal of this research was to investigate the status of a rare example of Croatian rural architectural heritage—'gators', which, due to the special nature of their construction, extend under surface of multiple separate cadastral parcels belonging to different owners. Since the structures are built under other owners' land, the actual situation of the immovable is not visible in the cadastre or registered in the land registry. Such practice can endanger legal security and cause problems in the economic and legal exploitation of gators.

Given that the cellar is not legally unified with the land plot and all the structures above the surface, with which it should form a single piece of real property, it is in conflict with one of the main principles of Croatian property law—the rule of the legal unity of real property (*superficies solo cedit*). The outcome of building the gator under neighbouring land depends on whether the parties acted in good faith or not. Considering the local customs under which the cellars were constructed, we assume that both parties (the builder and the landowner) are aware that the cellar extends below the adjacent parcel. Nevertheless, they are probably not familiar with the legal effects it has on the gator, for which they cannot be excused even if the landowner did not oppose the construction under his parcel as it did not interfere with the execution of his property rights. Taking into account that the knowing landowner could have prohibited the violation of his ownership but failed to do so, the gator became a part of his land plot and shared its legal status, giving only the builder the right to require restoration to the previous condition. This scenario is highly unlikely for the simple reason that their economic potential is increasingly exploited, and they are being recognized as immovable cultural goods. It is expected that the existing gators will be extended or adapted to suit new, probably touristic, purposes. Before any new construction work, though, the builder should obtain a building permit, which, on the other hand, presupposes some evidence of a legal interest, namely, a land registry extract indicating that he is the owner or the holder of the other property right, which he will not be able to prove because the gator legally belongs to his neighbour. Considering that the exceptions from the principle *superficies solo cedit* do exist and permanent structures can be separated from the immovable that they are built under through special rights, the most appropriate solution for the involved parties would be to establish either the right to build (Art. 280-296 OA) or the right to have parts of one's building and equipment on the servient tenement (Art. 196 OA) in favour of the gator holder, which would authorise him to have his wine cellar below the neighbouring parcel, including the obligatory registration in the land registry.

In order to ensure the protection of trust in legal transactions, it is of utmost importance to eliminate inconsistencies between the actual state of gators on the ground and the entries in the registers as well as to harmonise data from the cadastre with the data in the land registry. Since the main purpose of the cadastre is to provide legal security concerning real estate, we support the proposals based on multiple studies to introduce a three-dimensional cadastre, which would make complex 3D situations under the surface identifiable and their registration more accessible. We are aware that the introduction of the whole three-dimensional concept of property rights would be too ambitious, so from a practical viewpoint, it seems convenient to maintain the existing two-dimensional concept as default and apply the three-dimensional one only in complex spatial situations like the one with gators.

The issues that resulted from breaking the unity of real property in the case of gators are most recognizable in their process of legalization. Although the legalization of gators will not have any consequences based on their questionable legal status and property rights, it can cause problems in assessing the value of illegal buildings for banks and other professional creditors and consequently have a negative impact on their economic potential. Therefore, we consider that gators, as part of the cultural heritage of Baranja County with strong touristic potential, should have their legal status solved and clarified as the legal system and legislators still do not recognize them. Even though it cannot be easily proven that they were built with the permission of the owner of the neighbouring land, we posit that this fact should not be overlooked. It is highly unlikely that they were created with malice aforethought but rather as a cellar that was possible to build thanks to the geological nature of the land. In this sense, gators represent a unique yet typical piece of architecture in Baranja County.

The most important element, and at the same time our biggest concern, is the issue of how to raise awareness of the negative consequences of unresolved legal issues and illegal construction. This requires a break from the passive mentality and a greater degree of responsibility of individuals—in this case, the involved parties, who are responsible for harmonising the land register records with the actual situation of real estate—so that their main function, the legal protection of confidence in the truthfulness and completeness of its content, can be applied.

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MAKE A WISH! PROGRAMME TO PROVIDE JOBS FOR WOMEN IN THE REPUBLIC OF CROATIA – PROJECTS AND RESULTS FOR SLAVONIAN REGION

ABSTRACT

Insufficient employment of women is one of the continuous challenges in many countries of the European Union. One of the priorities of the European Social Fund is to increase the employment rate, with a particular focus on people at the risk of poverty and social exclusion. In the Republic of Croatia, there has been a significant decline in unemployment rate in the period 2016 - 2018. In addition to actual employment, the statistics were also contributed by the high level of emigration, especially among young and educated people, mainly to other EU countries. As part of the social inclusion priorities on the state level, a major social and economic focus is put on providing care to the elderly and disadvantaged, by hiring and educating members of the most sensitive groups, the longest unemployed, with the lowest level of employability in the labour market, namely women over the age of 50, with a lower level of education, more serious health and sociological problems. „Make a Wish!" programme to provide jobs for women in the Republic of Croatia, is a continuous tool aimed to help both vulnerable groups. The programme has been successfully implemented in 2017 and 2018, and its implementation continues in 2019. This paper analyses the data on the on-going distribution of the funds from this program and its projects' employment and education plan for Slavonia region. It presents the results that the program achieved by the end of 2018 and the plans for the future period.

Key words: *European Social Fund, socio-economic development, employment, Make a Wish!, Slavonia*

1. Introduction

Programs and derived projects of the European Union (EU) are launched with the aim of solving the identified social problem or recognizing the needs and / or the opportunities at the EU or individual member states level (PM^2, 2016). When the problem, the need or the opportunity as well as the goals associated with them are well articulated in scope and aspects, the sources to support the solutions are searched and defined. Two problems were recognized in the EU at the end of the first decade of 21st century: high unemployment rate, especialy of some working capable social groups and eldering of population and raising number of elderly and disadvantage persons. The goals and priorities imposed to the decision makers of the EU were to increase the rate of employment, in each of its member states (MS) as well as to raise help to elderly and disadvantaged persons. Special focus is put on the employment and the employability of persons who can be classified as members of the sensitive and disadvantaged groups on the labour market. Different type of programs and projects started all over the EU to reduce identified problems. Main sources for investment in these types of projects was European Social Fund.

The call for proposals named *Make a Wish! programme to provide jobs for women in the Republic of Croatia* (MaW) was launched on 30th June 2017. Its original idea was rooted in one of the European Social Fund's (ESF) basic aims: to increase the social inclusion and integration of members of vulnerable social groups by educating and employing them, while at the same time providing necessary help to elderly and disadvantaged persons.

The situation at the labour market in Croatia has improved substantially since 2016, partly due to the employment increase, but also due to high level of migration, first from small places to bigger towns and then in large numbers from the Republic of Croatia, mainly to other EU countries. With population growing older, high unemployment rate, especially of women of 50 years or more and with no more than a secondary school education, measures and programmes like MaW were necessary.

Since the very beginning of the MaW programme, there has been a great interest for its funds and activities throughout the Republic of Croatia. This paper will analyse the situation in 5 counties of Slavonia and Baranja, situation with their employment and the funds they have received since the beginning of the programme in 2017 till the end of the year 2018 and make an assessment of the effects of the program.

2. OPEHR and the Croatian context

Operational programmes that are planned and financed (or co-financed in a large percentage) by the EU funds under the EU Cohesion policy are set for the seven year period for each MS. Current programming and financing period is for the years 2014 to 2020, with the possibility of using the funds for 3 more extra years, which is until the end of the year 2023. Although the timeframe for all MSs is the same, the allocation of funds for each MS is set in advance, and so are the particular objectives and goals set for the given period. Not all MSs have the same set of neither goals nor the same starting point (e.g. level of employment, education issues, demographic situation etc.).

The Operational Programme Efficient Human Resources 2014-2020[1] (OPEHR) in the Republic of Croatia is one of the programmes that aim to contribute to the smart, sustainable and inclusive growth and to the achievement of economic, social and territorial cohesion of the EU. It is programmed and funded within the ESF. In order to set the long-term plans in the most appropriate and *tailor made* way, the Country Specific Recommendations (CSR) were identified and analysed, and they were a starting point in setting this seven-year programme in the Republic of Croatia.

First two out of four OPEHR priority axes aiming to achieve the set objectives are:

1. Employment and activity rates are amongst the lowest in the EU, and are particularly low for young and older people;

2. High unemployment and low labour market participation have led to a deterioration of the social situation in Croatia. (OPEHR p.1-2)

Managing Authority (MA), the body responsible for the OPEHR funds (the total allocation of EUR 1.849 billion, out of which EUR 1.582 billion are from the EU budget) is the Ministry of Labour and Pension System (MLPS). The management and control system of the OPEHR also include bodies to which certain tasks and functions were delegated: Intermediate Bodies first level (IB1), Intermediate Bodies second level (IB2), Certifying Authority (Ministry of Finance) and Audit Authority (Agency for the Audit of European Union Programmes Implementation System). Although the MLPS is the MA, for this call it also performs the delegated IB1 functions. The relevant IB2 for this call is Croatian Employment Service (CES).

In line with the set priority axes, thematic objectives of the Common Strategic Framework and their specific investment priorities are set. The MaW call is financed under the second priority axis *Social inclusion*. „The focus of the OPEHR is on the improvement of the socio-economic conditions in Croatia, special attention is directed to people at the risk of poverty and social exclusion.“ (OPEHR p. 2) Priority axis 2. Social inclusion therefore puts a special focus on long term unemployed and other vulnerable groups. In that context, the MaW call was planned. To be more precise, in planning, financing, implementation and monitoring, this call is set under:

[1] http://www.esf.hr/wordpress/wp-content/uploads/2015/02/FINAL-OP-EHR.pdf

Thematic objective 9 - Promoting social inclusion, combating poverty and any discrimination

Investment priority 9.i - Active inclusion, including with a view to promoting equal opportunities and active participation, and improving employability

Specific objective 9.i.1 - Combating poverty and social exclusion by promoting labour market and social integration of vulnerable groups, and combating any form of discrimination.

The Republic of Croatia has one of the highest risk rates of poverty and social exclusion[2] in the EU. In the year 2012 it was 32.3% of total population (Table 1). Risk of poverty rate was highest for the unemployed (42.9%), economically inactive (31.9%) and retired (21.8%). The Strategy for combating poverty highlights 4 groups at greatest risk: children and youth, elderly and retired people, unemployed and people with disabilities. (OPEHR, p. 79)

Table 1: *Comparison of the indicators of poverty and social exclusion in the years 2012 and 2017*

KEY INDICATORS OF POVERTY AND SOCIAL EXCLUSION, in %	2012	2017
At-risk-of-poverty rate	20.5	20.0
People at risk of poverty or social exclusion	32.3	26.4
People severely materially deprived (4 or more items)	15.4	10.3
People living in households with very low work intensity	16.1	12.2

Source: (Croatian Bureau of Statistics)

Percentage of people at risk of poverty or social exclusion was 29.1% in 2015, 27.9% in 2016 and 26.4% in the year 2017.[3] Stating separately men and women, it is visible that the percentage is higher for women: 29.6% women were at the risk of poverty in 2015 (men: 28.4%) and 28.6% in 2016 (men: 27.3%).[4] These data show that number of people at the risk of poverty is decreasing in last three years, but the rate is still very high and demanding the continuation of work and measures to further decrease the number of people at the risk of poverty or social exclusion.

The data of Croatian Bureau of Statistics further show that the percentage of people at risk of poverty or social exclusion is even higher for elderly people. According to the listed categories, women of 55 – 64 years were at 31.3% risk of poverty or social exclusion, and the risk was even 36.1% for women of 65 years or more.

[2] The at-risk-of-poverty rate does not show the actual number of poor people, but rather how many of them have an income below the at-risk-of-poverty threshold. The at-risk-of-poverty threshold is determined as 60% of the middle value of the equivalent disposable income of all persons. (Croatian Bureau of Statistics, Statistics on income and living conditions 2017, 22nd October 2018)

[3] https://www.dzs.hr/Hrv_Eng/CroInFig/croinfig_2018.pdf

[4] https://www.dzs.hr/Hrv_Eng/ljetopis/2018/sljh2018.pdf

Table 2: *Age of population in the Republic of Croatia in 2015, 2016 and 2017*

Age groups (years)		0 – 17	6 – 11	12 – 17	18 – 24	25 – 54	55 – 64	65 +
2015								
Total	29.1	28.2	28.9	32.3	27.9	27.0	33.3	31.9
Men	28.5	28.0	29.4	31.8	27.5	28.4	30.1	28.2
Women	29.6	28.3	28.3	32.9	28.3	25.5	36.3	34.4
2016								
Total	27.9	26.6	26.7	30.7	28.3	25.0	31.4	32.8
Men	27.3	25.6	25.4	31.9	27.8	27.0	29.1	28.0
Women	28.6	27.7	28.2	29.4	28.9	23.0	33.5	36.0
2017								
Total	26.4	25.8	25.9	29.0	25.4	22.8	29.1	32.7
Men	25.5	26.3	26.2	31.0	24.6	24.1	26.7	27.7
Women	27.2	25.4	25.5	26.7	26.3	21.5	31.3	36.1

Source: (Croatian Bureau of Statistics)

The same statistics also show that educational level has a huge impact on the risk of poverty rate (Table 3). In the year 2017, 36% of persons from 18 to 64 years with the preschool or basic education were at the risk of poverty, 15.6% with upper secondary school and only 4.1% with tertiary education.

Table 3: *Education level of population and risk of poverty in the Republic of Croatia in 2015, 2016 and 2017*

	2015	2016	2017
Preschool and basic			
Total	36.6	37.0	36.0
Men	38.7	41.2	37.3
Women	35.1	34.1	35.2
Upper secondary			
Total	16.0	15.5	15.6
Men	16.3	15.7	15.7
Women	15.6	15.3	15.5
Tertiary			
Total	5.1	4.5	4.1
Men	4.8	4.6	3.6
Women	5.3	4.4	4.4

Source: (Croatian Bureau of Statistics)

3. MaW call and the tender documentation

The MaW call (ESF.HR, 2017. 04.04),[5] is one of the actions foreseen in order to continue the trend of lowering the percentages of poverty and social exclusion, on national and on regional levels within Croatia. It is an important measure, started in the year 2017 and still on going in 2019, introduced to educate and employ women. Its main objective is to enable the access to employment for the members of vulnerable, targeted groups. MaW targeted groups are unemployed women registered in the CES at the time of applying for the job within the MaW project, with no more than secondary school education, primarily those of 50 years or more, women with disabilities, women victims of trafficking, treated drug addicts, women victims of domestic violence, young women that have lived in children's homes and foster families, Roma women, asylum seekers, homeless women.

Specific objective of the MaW call is to strengthen and improve the working potential of women who are in a disadvantaged position on the labour market and women with a lower level of education (no more than secondary school), their employment in the local community, which will lower the risks of their poverty, encourage and enhance their social inclusion, improve their living conditions and increase the quality of life.

This programme is of high social interest in many areas of the Republic of Croatia. It is an open permanent call for proposals that supports 100% of beneficiaries' eligible costs, with possible advance payment of upto 40% of the contracted grant amount. The lowest value of the support for one grant contract is HRK 900,000.00 and the highest value of the support is HRK 10,000,000.00. Maximum project duration is 30 months, starting from the date of signing the grant contract, and the maximum duration of the employment financed by the MaW is 24 months.

In order to provide the maximum relevant information on the MaW call and to reach all the potential beneficiaries for whom this call is meant, the MLPS published the data on the web page www.esf.hr and has also organised the set of workshops throughout the country where all potential applicants, partners and interested public received information and answers to all relevant questions about the MaW call. Basic document providing all necessary information is Guidelines for applicants, defining the terms of the competition, seting out the general provisions of the Call (legal basis and strategic framework, purpose, indicators, financial allocation), conditions for applicants and partners, terms of application, financial requirements, application procedure and grant award. The application forms and attachments that each applicant must submit with the project application are listed in order to be complete and administratively acceptable.

Acceptable project activities include employment of women who are in a disadvantaged position on the labour market, education and training tailored to target groups aiming to provide care to the elderly and disadvantaged in their households, procurement of hygiene supplies and supplies for the maintenance of beneficiaries' households, procurement of bicycles for the employed women. Foreseen activities of women employed under the MaW programme consist of food and other necessary supplies delivery assistance, meal preparation in final beneficiaries

[5] http://www.esf.hr/natjecaji/socijalno-ukljucivanje/poziv-na-dostavu-projektnih-prijedloga-zazeli-program-zaposljavanja-zena/

households, maintenance of their homes, dressing and undressing assistance, hygiene care, assistance in realization of various rights (drug delivery, bill payment, delivery of supplies), assistance in social integration, support to final beneficiaries through conversations and socializing, inclusion in society, assistance in social activities.

Applicants to the MaW call should also foresee the sustainability of their projects, the long-term employment plan and social inclusion of the educated and employed individuals participating in project activities. Financial plan and program for the post-implementation period is therefore necessary. Women who complete the program of education and specialisation under the MaW call, and spend two years working in the field, should be able to more easily find jobs upon the project finalisation.

In the year 2017, in November and December, the MLPS had published first five Financing decisions, stating 75 succesful applicants with whom the contracts were then signed and who then became the first MaW beneficiaries. In January and February 2018 three more Financing decisions were published by the MLPS, announcing the grant contracts for 27 new successful applicants. Due to very high interest for these funds, the preliminary amount of HRK 400.9 million foreseen for this call was in February 2018 increased to HRK 1 billion. The total allocated amount consists of the EU (ESF) funds (85%) and the national co-financing (15%).

The MaW call was furthermore opened for one additional month and a day (from 14 February to 15 March 2018). Then it had to be suspended again due to the receipt of applications reaching 105% of the total budget of HRK 1 billion. The call was not re-opened till the end of 2018, but in all coming months received applications were being evaluated. By the end of the year 2018 the total 242 contracts were signed with the successful applicants in all regions of the Republic of Croatia. The total amount assigned to all MaW contractors by the end of the year 2008 is HRK 448,498,175.55.[6]

4. MaW Grant contracts

Contracts are signed with successful applicants that receive at least 80 points (out of maximum 110). *First come first serve* method is being used here – applications are evaluated in the order of their receipt. Considering the social component of this call and the aim of the MLPS to provide necessary funds to as many possible applicants that are eligible for the MaW funding, the evaluation of applications is not focused on hierarchy of applicants' points and its gradation. Successful applicants of MaW call sign the contracts with the MLPS (IB1) and the CES (IB2) and thereby become the beneficiaries to the contracts.

Acceptable MaW applicants are units of local and regional self-government and non-profit organizations. Obligatory partners are regional and district CES offices and social welfare centres. Other partners involved in project activities can be associations, units of local and regional self-government, religious communities, institutions registered for activities of providing services to eldery and/or infirm persons. Women who are interested in this program of education and employment in a field of providing care to elderly and disadvantaged persons

[6] The list of the contracts can be found in Prilog 3 at http://www.esf.hr/natjecaji/socijalno-ukljucivanje/poziv-na-dostavu-projektnih-prijedloga-zazeli-program-zaposljavanja-zena/.

do not apply directly to the MaW call – they turn to their regional or district CES office or social welfare centre. That is why CES offices and social welfare centres are obligatory and crucial partners here – their ability to reach the members of the targeted groups, real beneficiaries, is of the utmost importance for the success of MaW projects, implementation of their activities and achievement of results.

Although every applicant plans the needs for funds and the number of potential final beneficiaries based on the data they have for the local community, the real number of final beneficiaries, women who apply and then those who complete the education program and stay in the employment to its completion, is only to be visible at the end of this programme. Costs acceptable for funding, hereby fully covered by the ESF and national co-financing, without the co-financing of beneficiaries, are only the real costs, which claimed upon the realisation.

5. Employment and MaW contracts in 5 Slavonian counties

At the end of December 2018 the Croatian Employment Service registered 148,919 unemployed persons in the Republic of Croatia, which is 38,444 persons (20.5 %) less than in December 2017. In December 2018, there were 65,512 unemployed men (44%) and 83,407 unemployed women (56%) in Croatia. In comparison to December 2017, number of unemployed men decreased by 18.5% and the *number of unemployed women decreased by 22%*. If considering the age, 32.9% of all registered unemployed persons were 50 years or more at the end of 2018. There was a decrease of unemployment in all age groups in a year timeframe. The sharpest decrease was for the group of *persons of 50 to 54 years, 24.8 % decrease of unemployment*. Unemployment decreased in all educational categories, but the sharpest decrease was for the group of *persons with basic school background, 24.4% decrease of unemployment*. (CES, Monthly Statistics Bulletin, 12/2018). Implementation of MaW contracts contributed to these positive trends throughout the country.

Hereby we will analyse the employment trends in 5 Slavonian counties: Brod-Posavina County, Osijek-Baranja County, Požega-Slavonia County, Virovitica-Podravina County and Vukovar-Srijem County. As the MaW call aims to provide education and employment for women with no more than secondary school education, primarily of the age 50+, we will analyse the data at the end of 2017 when the implementation of first MaW contracts started and the data at end of 2018, one year later.

At the end of 2017, there were 31,447 women from 5 Slavonian counties registered in the CES as unemployed. 8,908 of them were aged 50 years or more. At the end of 2018 number of unemployed women of that age was 6,282. Total number of women with the maximum of secondary school education registered in CES as unemployed was 28,046 at the end of 2017. By the end of 2018 it was 20,636 women.

About one third (34.45 %) of the total MaW amount contracted by the end of the year 2018 (HRK 154,496,553.52) is assigned to contractors in Slavonia and Baranja. 115 grant contracts were signed with beneficiaries from 5 Slavonian counties, with the plan and financial resources to educate and employ 2,690 women, with no more than secondary school education and primarily of 50 years or more, for the period of two years to provide care to 12,345 elderly or infirm persons.

5.1. Brod-Posavina County

In Brod-Posavina County there were 8,547 persons unemployed in December 2017. Out of that number 5,208 were women. In December 2018, one year later, 6,468 persons were registered in CES as unemployed. 3,844 were women (CES, Monthly Statistics Bulletin, 12/2018). In one-year period, the unemployment of women in the county has decreased for 1,364 persons (26.19%).

The Table 4 lists the beneficiaries of the MaW programme. 18 contracts were signed by the end of 2018. Total granted funds are foreseen for education and employment of 475 women for the period of two years and for providing the care for 2,202 of elderly and infirm person.

Table 4: *MaW projects in Brod-Posavina County contracted in 2017 and 2018*

Number of projects Project beneficiaries	Partners	Number of women employed	Number of beneficiaries receiving care
18 Association 4 Municipalities 12 Red Cross Branches 2	CES SB 18 Social Welfare Centers 18 (Slavonski Brod 15 Nova Gradiška 3) Municipalities 7 Associations 1	475	2,202

Source: created by authors based on MLPS data

* CES - Croatian Employment Service

5.2. Osijek-Baranja County

In Osijek-Baranja County there were 22,773 persons unemployed in December 2017. Out of that number, 13,646 were women. In December 2018, one year later, 17,740 persons were registered in CES as unemployed. 10,447 were women (CES, Monthly Statistics Bulletin, 12/2018). In one-year period the unemployment of women in the county has decreased for 3,199 persons.

The Table 5 lists the beneficiaries of the MaW programme. 46 contracts were signed by the end of 2018. Total granted funds are foreseen for education and employment of 1,048 women for the period of two years and for providing the care for 4,731 of elderly and infirm persons.

Table 5: *MaW projects in Osijek-Baranja County contracted in 2017 and 2018*

Number of projects Project beneficiaries	Partners	Number of women employed	Number of beneficiaries receiving care
46 Association 9 Municipalities, cities and counties 33 Red Cross Branches 4	CES OS 46 Social Welfare Centers 46 (Beli Manastir 8 Đakovo 13 Našice 6 Osijek 7 Valpovo 8 Donji Miholjac 4) Municipalities, Cities 12 Associations 12	1048	4731

Source: created by authors based on MLPS data

5.3. Požega-Slavonia County

In Požega-Slavonia County there were 3,653 persons unemployed in December 2017. Out of that number, 2,149 were women. In December 2018, one year later, 2,663 persons were registered in CES as unemployed. 1,566 were women (CES, Monthly Statistics Bulletin, 12/2018). In one-year period, the unemployment of women in the county has decreased for 583 persons.

The Table 6 lists the beneficiaries of the MaW programme. 6 contracts were signed by the end of 2018. Total granted funds are foreseen for education and employment of 200 women for the period of two years and for providing the care for 940 of elderly and infirm persons.

Table 6: *MaW projects in Požega-Slavonia County contracted in 2017 and 2018*

Number of projects Project beneficiaries	Partners	Number of women employed	Number of beneficiaries receiving care
6 Association 2 Municipalities, cities and counties 4	CES PŽ 6 Social Welfare Centers 6 Municipalities, Cities 7 Associations 1 Red Cross Branches 1	200	940

Source: created by authors based on MLPS data

5.4. Virovitica-Podravina County

In Virovitica-Podravina County, there were 6,225 persons unemployed in December 2017. Out of that number, 3,579 were women. In December 2018, one year later, 4,964 persons were registered in CES as unemployed. 2,831 were women (CES, Monthly Statistics Bulletin, 12/2018). In one-year period the unemployment of women in the county has decreased for 748 persons.

Table 7 lists the beneficiaries of the MaW programme. 13 contracts were signed by the end of 2018. Total granted funds are foreseen for education and employment of 182 women for the period of two years and for providing the care for 880 of elderly and infirm persons.

Table 7: *MaW projects in Virovitica-Podravina County contracted in 2017 and 2018*

Project beneficiary	Partners	Number of women employed	Number of beneficiaries receiving care
13 Association 4 Municipalities, cities and counties 7 Red Cross Branches 2	CES VT 13 Social Welfare Centers 13 (Virovitica 6 Slatina 6 Municipalities, Cities 7 Associations 4 Red Cross Branches 2	182	880

Source: created by authors based on MLPS data

5.5. Vukovar-Srijem County

In Vukovar-Srijem County there were 11,514 persons unemployed in December 2017. Out of that number 6,865 were women. In December 2018, one year later, 7,860 persons were registered in CES as unemployed. 4,604 were women (CES, Monthly Statistics Bulletin, 12/2018). In one year period the unemployment of women in the county has decreased for 2,261 persons to 67.1% of the previous year's unemployment.

Table 8 lists the beneficiaries of the MaW programme. 32 contracts were signed by the end of 2018. Total granted funds are foreseen for education and employment of 785 women for the period of two years and for providing the care for 3,592 of elderly and infirm persons.

__Table 8:__ MaW projects in Vukovar-Srijem County contracted in 2017 and 2018

Project beneficiary	Partners	Number of women employed	Number of beneficiaries receiving care
32 Association 3 Municipalities, cities and counties 28 Red Cross Branches 1	CES VK 22 CES VU 10 Social Welfare Centers 32 (Vinkovci 13 Vukovar 10 Županja 5 Municipalities, Cities Associations 4 Red Cross Branches 1	785	3.592

Source: created by authors based on MLPS data

The MaW programme aims to strengthen and improve the working potential of women in a disadvantaged position on the labour market and women with a lower level of education and their employment in the local community. Relevant education and employment lower the risks of their poverty, encourage and enhance their social inclusion, improve their living conditions and increase the quality of life. Activities of this call are aimed for unemployed women registered in the CES at the time of applying for the job within the MaW project, with no more than secondary school education, primarily those of 50 years or more, women with disabilities, women victims of trafficking, treated drug addicts, women victims of domestic violence, young women who lived in children's homes and foster families, Roma women, asylum seekers and homeless women.

In 5 Slavonian counties the number of total registered unemployed persons decreased for 13,017 in one year period, from 52,712 persons in December 2017 to 39,695 persons in December 2018. By the end of 2018 beneficiaries from 5 Slavonian counties signed 115 contracts with the MLPS and the CES. With the granted amounts of HRK 154,496,553.52, they are educating and employing 2,690 women for the period of two years, with the aim to provide care to 12,345 elderly or infirm persons. Analysed data show that since the end of 2017 when the implementation of first MaW contracts started until the end of 2018, one year later, number of unemployed women of the age 50+ in Slavonia decreased for 2,626 (for 29.5%) while number of unemployed women with the maximum of secondary school education decreased for 7,410 (26.4%).

MaW projects are currently in the implementation period. Women undergoing the MaW program of education and specialisation, working and being paid with the ESF funds for the period of two years in the field, should be able to more easily find jobs after the project completion. But for the long term results, that are only to be visibile in the next few years, MaW beneficiaries and their project partners should plan and monitor sustainability of their projects, the long term financial plan and program for the post-implementation period. The MLPS will furthermore monitor and evaluate the programme and the level of its sustainability.

6. Conclusion

The *Make a Wish! programme to provide jobs for women in the Republic of Croatia* continues to be one of the important national measures of social integration and employment in all regional and local communities in Slavonia and in the Republic of Croatia. The analysis provided an insight into the social and personal needs of two specific social groups. The analysis showed that the needs of both groups exceeded the ESF funds allocated for the MaW programme in the Republic of Croatia.

Starting from the perception that the relative share of eldery people (capable of working, as well as those who need assistance) is growing, the competent public service must provide systemic social policy with favorable conditions for performing jobs (care for the elderly) described in this paper and durable resources to help eldery people with disabilities. Most of the funds that are usually turned into occasional employment and care for the elderly fall into the gray economy zone. In addition to the social policy measures, it will be necessary to devise other measures that will ensure sustainable sources of funds for each of the social groups as soon as possible. They should be aimed at: a) tax policy when it comes to employment of specific social working capable groups, b) the effective exploitation of eldery people's assets for the assistance of other people.

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A NEW PERSPECTIVE FOR WOMEN IN UNDERDEVELOPED AREAS OF CROATIA

ABSTRACT

Aim of the paper is to describe how in reality the triple-helix model of socio-economic development works through the example of a regional project for women in rural areas of Eastern and Central Slavonia its concept design, unique bottom-up approach, and foreseen outcomes and results.
The main problem indentified is departure of young people and whole families from Croatia into EU countries and passivity of women in rural areas, particularly in the Slavonia region. The concept design desires to stimulate further development of entrepreneurial ventures led by women in specific areas such as agricultural production, agro tourism, handicrafts and souvenirs.
The first challenge was how to attract women to participate in the project covering huge area of seven counties and targeted number of 50 project beneficiaries in total, and get the cooperation with local and regional stakeholders.
Women entrepreneurial profiles were defined of those dealing with agricultural production of fruit and vegetables, cheese, wine, oil, honey, those dealing with agro tourism in any form, and those women entrepreneurs dealing with handicrafts and souvenirs. In a word, women devoted to preserve the cultural, historic, and gastronomic heritage of homeland, but their market is very small and extremely local.
The project goal is to affirm women economic prosperity and increase value added to their products and services. A personal empowering woman contributes to the family and economic recovery of Slavonia and ultimately the entire country.
Methodology used in this paper is a Case Study based on design and concept of the Regional Project „Women Perspective„ being under the implementation in seven Croatian counties by the leading Association for Entrepreneurship development.
Results to be described in the full paper are the socio-economic contribution of 50 women entrepreneurs' beneficiaries from underdeveloped regions to the overall economic development of Croatia.

Key words*: *Women Entrepreneurs, Social Entrepreneurship, Triple-Helix model, Rural Development, Bottom-up approach.

1. Introduction

The personal development of members of the Association for Entrepreneurship development and the need for alignment of the association with the new Association Act (2014), the association changed its focus, goals of action in promoting sustainable development i.e. economic development, environmental protection and social justice. This goal is envisaged in the realization of the social entrepreneurship activities by highlighting positive examples in the community. It is also the same important encouragement of personal development through the acquisition of new knowledge and skills.

The new knowledge and skills acquiring in the field of entrepreneurship, whether it is knowledge and skills in the field of economics like marketing, management, finance, accounting, or social skills like active listening, verbal expression, presentations, teamwork, work with heavy people, creativity, etc. Since entrepreneurship is interdisciplinary and there is no complete formal and informal education that it could provide, it is possible to offer a more personalized personal development program in the field of entrepreneurship.

With this major goal the members of the association as experts make a link between the association for the development of entrepreneurship with needs and opportunities of each individual particularly in rural areas. The overall activities of the NGO are non-commercial, and are limited to the design of development projects to be funded by various donors, and the end users are to be target groups: women entrepreneurs, rural populations, and young people.

With these convictions, a project New Perspective for Women in Underdeveloped Areas of Croatia, or a shortened "Women's Perspective", was created. This project has recognized The Coca Cola Foundation (TCCF) and funded its implementation by grant in their framework of social corporate responsibility. The "Women's Perspective" project is intended to encourage women who have a registered business entity, engaged in agricultural production, agro tourism, craftsmanship and souvenirs, encouraging them to further develop and strengthen their business through introducing new positive examples of developed parts of Croatia, acquiring new knowledge and the ability to secure a new distribution channel for online sales.

1.1. The problem identification

The main problem is the departure of young people from Croatia into EU countries and the passivity of women in the underdeveloped area, especially in the Slavonia region. Slavonia is an extremely agricultural area with a rich cultural heritage. With the accession of the Republic of Croatia to the EU, opportunities for using EU funds have been opened with the aim of developing underdeveloped areas and population retention in rural areas.

1.1.1. Obstacles in front of EU funds for rural development

The greatest interest in using EU funds is provided by the Agricultural Rural Development Fund, where there is part of the Rural Development Program with defined measures for financing the agricultural producers at certain stages of business development in accordance with the economic size of the agricultural holding. Given that there is great potential and interest of women to start entrepreneurial activity and women do not have the initial capital with which to start agricultural production, or to provide tourist services on their family farm business,

crafts and/or commercialize handicraft and turned them into souvenirs in a way that gives them added value through innovation creativity and commercialization of cultural heritage.
However, the rural development measures are not including the unregistered farmers and entrepreneurs who are not enrolled in the Register in the status of a crafts or company. Consequently, the basic precondition for applying on rural development measures he/she should be entered in the register of agricultural producers. Also, in accordance with Croatian legislation the economic size of the economy of minimum EUR 2.000 matters. Economic size is the calculation of future production and is related to land, the type of agricultural crop that is planted and the number of animals to be grown.

2. Project concept design

This project is designed to enable women in rural areas to cross the stage from a potential agricultural producer and agricultural production for their own needs and putting it into function of agro tourism and the commercialization of handicrafts in the function of making souvenirs. Women because of economic reasons are passive and do not have enough market thinking. They also do not have enough entrepreneurial and social skills for successful business and entry into entrepreneurial waters.
Economic existence puts them to leave Croatia, leave the fertile land and leave a rich cultural heritage. The purpose of the project is to enable women as future entrepreneurs, on the one hand, to take advantage of the entrepreneurial potential and resources that women have, and on the other side to lift those burdens to not meet the basic conditions for using rural development measures or other measures of active entrepreneurship development policy.
Realization of the project will enable women to come to the position of using measures from the Rural Development Program. Those who cannot use rural development measures will allow further development of entrepreneurial activities through the continuation of this project and further work on the development of women's businesses.

2.1. Strategy of attracting beneficiaries

The "Pull" and "Push" strategy (National Competitiveness Council, Zagreb, 2003. p.5) of attracting beneficiaries is chosen. The "Pull" because it will get only highly motivated women who will turn the project to the end and continue to successfully implements their entrepreneurial venture. While the "Push" strategy as a spare option in the event that a sufficient number of women entrepreneurs are not available and would be implemented in cooperation with promoters, local and regional support institutions for entrepreneurship development in these seven counties.

3. Social Entrepreneurship and rural development

The territorial action of the Association "PERSPECTIVE" is the territory of the Republic of Croatia, and in particular its underdeveloped areas. It is especially important to note that the headquarters of the association is in city of Lipik as well as the permanent address of the members of the association are the areas of two cities, Pakrac and Lipik, which falls under the war affected and underdeveloped areas of the Republic of Croatia.

In order to target the most needed rural areas the Government decision on the Units of Regional self-government was approached as the national document of classification according to the Index of development.

The first group of units of Regional self-government whose value of development index is less than 75% of the average of the republic of Croatia the top seven counties were chosen for project targets design, and they are: Virovitica-Podravina County, Brod-Posavina County, Vukovar-Srijem County, Bjelovar-Bilogora County, Požega-Slavonia County, Osijek-Baranja County, and Sisak-Moslavina County. At the time of preparing the application for this project, it was a valid index of development in 2013

***Table 1:** Table bellow shows grading and classification of counties on development index*

Ocjenjivanje i razvrstavanje županija prema razvijenosti

	Vrijednosti osnovnih pokazatelja					Vrijednosti standardiziranih pokazatelja u odnosu na nacionalni prosjek					Indeks razvijenosti i skupine		
Ime zupanije	Prosječni dohodak per capita	Prosječni izvorni prihodi per capita	Prosječna stopa nezaposlenosti	Kretanje stanovništva	Udio obrazovanog stanovništva u stanovništvu 16-65 godina	Prosječni dohodak per capita	Prosječni izvorni prihodi per capita	Prosječna stopa nezaposlenosti	Kretanje stanovništva	Udio obrazovanog stanovništva u stanovništvu 16-65 godina	Indeks razvijenosti	Skupine	
	2010.-2012.	2010.-2012.	2010.-2012.	2010.-2001.	2011.	2010.-2012.	2010.-2012.	2010.-2012.	2010.-2001.	2011.			
Virovitičko-podravska	19.600	1.599	25,9%	92,2	63,31%	1,56%	11,93%	0,00%	17,17%	5,36%	5,56%	<75%	I.
Brodsko-posavska	19.455	1.381	25,6%	96,7	69,75%	0,00%	0,70%	2,71%	69,14%	47,64%	18,43%	<75%	I.
Vukovarsko-srijemska	20.368	1.441	25,4%	95,1	69,31%	9,81%	3,76%	4,87%	50,30%	44,68%	18,73%	<75%	I.
Bjelovarsko-bilogorska	21.687	1.689	23,0%	92,4	65,52%	23,99%	16,55%	29,47%	19,91%	19,87%	23,29%	<75%	I.
Požeško-slavonska	20.760	1.368	19,5%	93,9	67,92%	14,02%	0,00%	64,66%	37,06%	35,63%	33,81%	<75%	I.
Sisačko-moslavačka	25.429	2.336	24,1%	90,8	72,31%	64,20%	49,83%	17,81%	1,14%	64,39%	38,70%	<75%	I.
Osječko-baranjska	24.508	2.111	23,4%	95,9	73,08%	54,30%	38,27%	24,71%	59,46%	69,46%	46,07%	<75%	I.
Karlovačka	26.633	2.167	20,1%	91,6	74,26%	77,15%	41,14%	59,09%	10,53%	77,17%	56,34%	<75%	I.
Koprivničko-križevačka	22.887	2.650	15,4%	95,3	62,49%	36,89%	66,01%	106,88%	53,32%	0,00%	59,19%	<75%	I.
Ličko-senjska	24.731	2.702	16,3%	90,7	73,73%	56,70%	68,69%	97,59%	0,00%	73,73%	64,82%	<75%	I.
Međimurska	22.080	1.725	14,0%	99,6	71,20%	28,21%	18,37%	120,22%	101,40%	57,10%	69,65%	<75%	I.
Krapinsko-zagorska	25.432	1.772	12,9%	95,0	69,67%	64,24%	20,81%	131,76%	49,80%	47,05%	73,24%	<75%	I.
Šibensko-kninska	24.562	2.623	17,3%	99,5	78,96%	54,89%	64,64%	87,34%	100,72%	108,00%	80,93%	75-100%	II.
Varaždinska	25.799	2.079	12,5%	97,2	74,46%	68,18%	36,59%	136,20%	74,47%	78,52%	86,34%	75-100%	II.
Splitsko-dalmatinska	26.019	3.090	19,5%	104,2	83,09%	70,54%	88,67%	64,80%	154,04%	135,13%	93,75%	75-100%	II.
Zadarska	24.163	3.174	15,1%	109,1	77,97%	50,60%	93,00%	109,58%	211,23%	101,52%	106,39%	100-125%	III.
Dubrovačko-neretvanska	27.746	3.499	13,3%	104,0	83,74%	89,11%	109,70%	127,80%	152,47%	139,34%	120,84%	100-125%	III.
Zagrebačka	29.558	2.826	11,2%	106,5	76,82%	108,59%	75,08%	148,76%	180,66%	93,98%	124,23%	100-125%	III.
Primorsko-goranska	32.813	4.757	12,7%	99,3	84,97%	143,57%	174,46%	134,29%	98,24%	147,46%	139,21%	>125%	IV.
Istarska	31.997	4.884	7,8%	104,1	80,78%	134,80%	181,01%	183,15%	153,41%	119,98%	156,80%	>125%	IV.
Grad Zagreb	42.175	5.997	10,6%	101,9	86,93%	244,20%	238,28%	154,81%	127,78%	160,27%	186,44%	>125%	IV.
Republika Hrvatska	28.759	3.310	16,0%	99,4	77,7%	100,00%	100,00%	100,00%	100,00%	100,00%			
max	42.175	5.997	25,9%	109	86,9%								
min	19.455	1.368	7,8%	91	62,5%								

Potpomognuta područja

Source: Ministry of Regional Development and EU funds; Counties calculation per 27.12.2013.

The yellow marked twelve counties are those additionally supported by state budget as their value of development index is less than 75% of the average of the country. The first seven were chosen as target of the project for new prospective development for women in the rural areas.

Another barrier to explore in more extended manner are the EU funds for rural development measures which unregistered farmers and entrepreneurs who are not enrolled in the Register in the status of a crafts or company cannot use. Consequently, the basic precondition for applying on rural measures she/he should be registered as agricultural producer. Furthermore, in accordance with Croatian legislation the economic size of the property of minimum EUR 2.000 matters. Economic size is the calculation of future production and is related to land, the type of agricultural crop that is planted and the number of animals to be grown.

This project is designed to enable women to cross the stage from a potential agricultural producer and agricultural production from their own needs putting them into condition of agro tourism and handicrafts final products and services commercialization.

3.1. Main Goal of the Project

The main goal of the project is enabling women to enhance their entrepreneurial activity through the personal development being in agricultural production, agro tourism, make handicrafts and souvenirs in order to preserve cultural, historical, gastronomic heritage in the underdeveloped territory of the Republic of Croatia.

3.2. Specific project goals

The project identified the specific goals to be achieved in two years of project implementation period 2018 and 2019:

- The first and the most challenging one was identification of 50 and over project beneficiaries' potential women entrepreneurs in the seven most underdeveloped counties of the Republic of Croatia according to the development index.
- 50 and over beneficiaries of the project were on a study trip and passed education.
- 50 and over beneficiaries develop her own entrepreneurial venture and has created a mini business plan
- 50 and over beneficiaries will have a mentoring for 6 months on their project
- Website design will be developed, and web shop will be used to sell project beneficiaries' products and services.

3.3. Project Concept design

At a very beginning of the project implementation a project team worked on preparatory actions and project operational implementation organization. Special attention was give to public relations and project visibility through contact with the PR Communication Office that should provide advisory services on project promotions and public relations.

In cooperation with the PR Communication Office, an initial project kick-off conference in Zagreb was held in early May. The reason that all media were responded to that conference, was the deep belief of project leaders that it gets well-deserved publicity and that it provokes interest from potential beneficiaries and competent socio- economic stake-holders and in-line ministries as well. For the purpose of the project, the logo of the project, Women's perspective in traditional colours of Slavonia region and Croatia was created.

3.3.1. Networking activities and peer learning

Three-days Study tour in Istria in visit to Istria women entrepreneurs on peer learning has been arranged in October 2018 with scope to exchange the knowledge and experience of women entrepreneurs in Istria region milieu with women entrepreneurs in those rural and less developed areas of the seven target counties.
The proposed concept of study tour is targeted in partnership with the Istria women entrepreneur association, which is an excellent example of networking Istria women entrepreneurs organized

in the network BPW Pula association. Istria examples can serve as a signpost for other Croatian women entrepreneurs, and learning during a study tour would be mutually beneficial.

The thematic field visits to Istria women entrepreneurs encompassed production and sale of various types of cheeses in combination with their own restaurant and pizzeria; family-run economy that has been producing prosciutto for 30 years as one of the largest production facilities in Istria; traditional cake craft in Umag acts forty years as an independent business under the hands of experienced pastry shop; herbs plant breeding to cosmetics; preserve of the agricultural heritage in Istria for the quality of extra virgin olive oil; handicraft souvenirs of natural materials, like floral arrangements, ornaments, jewellery.

A meeting with media representatives was held who will follow this project Women's Perspective. It is extremely important for project the media support in order to motivate to apply as many beneficiaries to the project as possible and to achieve the project's default goals. For the purpose of the project, websites are also commissioned to promote all project activities, and those websites will apply to potential beneficiaries. Representatives of the media have suggested that instead of one public announcement in the daily newspaper to promote through the local radio stations audio clips. In Croatia, daily newspapers are not bought or read by our target project beneficiaries. So we contacted local radio stations to make us a promotional radio spot where we will invite the users to sign up for our project.

All local self-governments units and entrepreneurship support institutions were invited to actively engage in project promotion and to help potential women entrepreneurs with application. After the initial conference potential project beneficiaries start to apply and collecting of applications was last for about 60 days.

3.3.2. Project activities on business education and training

A part from project promotional activities executed in the first year of its implementation like press conference and presentation of the project, application and identification of potential project beneficiaries also enrolled a number of motivational workshops throughout all seven counties in order to make a public call for applicants and to promote it through daily newspapers and press conferences on the presentation of a public project. Processing of the applications and selection of candidates of 50 and over potential entrepreneurs from the seven underdeveloped counties took a few months comprising aagricultural production, agro tourism, handicrafts and souvenirs.

Education and training of project beneficiaries started in winter period 2018-2019 by modules in the area of: developing a project idea, product formation, marketing and sales, life skills, social and emotional skills, and time management skills, new trends in agriculture (organic food), business plan, and fundamentals of finance. Develop a simple business plan and its presentation.

3.3.3. Initial Conference to the project

Preparations for hosting the initial conference and presentation of the project to the general public were done during the month of April. It was agreed that the emphasis at the conference would be on women entrepreneurs. With their entrepreneurial example, they will give their life stories and give extra credibility to the whole project of Women's Perspective.

The website of the project was also created at www.perspektiva.hr along with a promotional materials, leaflets, and roll-on. Daily newspaper "Večernji list" and web portal "Agrobiz"announced the start of the project and the event of the project's initial conference that took place in the first week of May in Zagreb. The media contributed extraordinarily to the initial conference to promote and affirm project benefits to wide public.

4. Women Entrepreneurs and bottom-up approach

The first challenge was how to attract women to participate in the project covering huge area of seven counties and targeted number of 50 project beneficiaries in total, and get the cooperation with local and regional stakeholders.

Women entrepreneurial profiles were defined of those dealing with agricultural production of fruit and vegetables, cheese, wine, oil, honey, those dealing with agro tourism in any form, and those women entrepreneurs dealing with handicrafts and souvenirs. In a word, women devoted to preserve the cultural, historic, and gastronomic heritage of homeland, but their market is very small and extremely local.

A bottom-up approach was implemented and user segmentation by segments trying to reach public awareness of the potential women candidates to join the project that for the final beneficiaries was free of charge and paid by the project budget.

The project "Women's Perspective - A New Perspective for Women in under developed areas of Croatia – supported a large number of public institutions and activities have been extensively published through the media.

There has been a strong sense of a positive power and motivation that women need to start in these under developed areas in which they, besides their work, also have to take care of the family, children and older, having underline in how traditional environment we are still living.

5. Triple Helix model of socio-economic development

Further to the statement above that the aim of this paper is to describe how in reality the triple-helix model of socio-economic development works, we realized that through the example of the regional project for women in rural areas of Eastern and Central Slavonia its concept design, unique bottom-up approach, and foreseen outcomes and results we are able to describe its functionality in a real life.

Since underpinning theme is the concept of Triple Helix system of innovation (Ranga and Etzkowitz, 2013) recently introduced as an "innovation system" defined according to the system theory as a set of components, relationships and functions in that framework the key stakeholders on local and regional level were involved.

Further, the General Entrepreneurship Monitor - GEM (Singer, 2017, p. 9) gives survey outcomes for Croatia on relevant issues among which highlights the social values that do not support entrepreneurial activity. In a European perspective, Croatia is the first in trimester of the view that being an entrepreneur is a good career choice, but the last of the EU countries involved in GEM research reflecting the attitude on the social status of successful entrepreneurs.

In such social environment strong step forward was done in approaching all relevant socio-economic stake holders' i.e. regional development agencies, business supporting institutions and local action groups, by partnership agreements that were also signed on the organization and promotion of motivational workshops in order to attract local women entrepreneurs as future project beneficiaries.

Such process started with the first motivational workshop held in the City of Otok, Vukovar-Srijem County, in cooperation with the Otok Development Agency-ORA, and LAGs Šumanovci, Bosutski niz and Srijem. Then in a row: workshop in city of Vinkovci with the Regional Development Agency of Vukovar-Srijem County; City of Osijek organized by the Development Agency of Slavonia and Baranja in partnership with Osijek-Baranja County Regional Development Agency, Agency for Sustainable Development of the Municipality of Antunovac -RODA and the Centre for Entrepreneurship Development Osijek; Municipality of Erdut in Osijek-Baranja County in cooperation with University of Josip Juraj Strossmayer in Osijek, Faculty of Economics, and in partnership with winery private enterprise of Erdut and local municipality; City of Ilok, Vukovar-Srijem County, organized by the City of Ilok; Sisak-Moslavina County, respectively in Kutina organized by the LAG Moslavina, in Sisak organized by SIMORA- Development Agency of Sisak-Moslavina County, and in Topusko organized in partnership with the Association of Women Entrepreneurs of Banovina.

In city of Bjelovar workshop took place on July 10th covering Bjelovar-Bilogora County, and on July 11th in city of Virovitica for Virovitica-Podravina County, then followed in municipality of Cerna for Vukovar-Srijem County in cooperation with local partners LAG-Local Action Group „Bosutski niz“, Association of Women Hunters, Association of Model Rural Women. This motivational workshop was held as part of the three-day event of the Harvest Festival and the Cerna Municipality Ceremony. In the city of Slavonski Brod for the Brod-Posavina County in cooperation with Center for Technology Development - Development Agency of the Brod- Posavina County.

The Women's Perspective Project is fully supported by the Ministry of Regional Development and EU Funds, Ministry of Agriculture, Ministry of Tourism, and Ministry of Economy, Entrepreneurship and Crafts.

Also the support were given by all seven counties administration i.e. Bjelovar-Bilogora, County, Požega-Slavonia County, Virovitica-Podravina County, Sisak-Moslavina County, Osijek-Baranja County, Vukovar-Srijem County, and national level associations: Association of Municipalities in the Republic of Croatia, Association of Cities in the Republic of Croatia, Croatian Chamber of Economy.

Support in terms of signed agreement was given by other supporting institutions as follows: Development Agency of Vukovar-Srijem County, Agency for Sustainable Development of the

Municipality of Antunovac - RODA ltd., Development Agency of the City of Daruvar, Otok Development Agency, Regional Development Agency of Požega-Slavonia County, VIDRA-Regional Development Agency of Virovitica-Podravina County, Local Action Groups (LAGs): LAG Srijem, LAG Strossmayer, LAG Moslavina, LAG Slavonska Ravnica, LAG Šumanovci, LAG Zapadna Slavonia, LAG Zeleni trokut.

During the performance of motivation workshops all women showed tremendous interest and willingness to apply for participation in the project.

As part of this empowering workshop, a motivational lecture was held with the theme "Enlightenment and Start-up of Inner Strength" for all 65 women entrepreneur beneficiaries who applied for the project. At this workshop all project's actors met each other for the first time, women beneficiaries presented their products and services, and defined their own expectations.

The author's conceptual framework hypothetic assumption that the businesses are exclusively local-oriented was confirmed and that the most lacking is a market for products and services of women entrepreneurs. The women entrepreneurs who attended were highly motivated for our project and have high expectations.

It was partially tackling the theory building framework (Ardichvili, 2003) that propose a theory of the opportunity identification process which in summary identifies entrepreneur's personality traits, social networks, and prior knowledge as antecedents of entrepreneurial alertness to business opportunities.

The interesting touch of the concept of "alertness" derives from empirical research (Alvarez, Barney, 2007) on systemic differences between entrepreneurs and those who have not yet become, since in this concept, the base finds the observations of the authors of this article. Namely, for entrepreneurs who make autochthonous handicrafts as a hobby, without professional help and support (in this case through a project), women entrepreneurs could hardly translate it into a real business.

Finally, the products and services of women entrepreneurs which products and service have been promoted as part of the project, we should have the consent with all beneficiaries, and consequently we have signed the Framework Agreement on Business Cooperation with a Privacy Supplement that is in line with GDPR.

6. Socio-economic contribution of women entrepreneurs beneficiaries

The project is now underway and all planned activities are implemented according to plan. 65 women entrepreneurs' beneficiaries are active in project. Target to be reached by agreement with grant donor TCCF are:

- Number of women entrepreneurs completing the program
- Total number of new businesses created
- Detailed financial summary of how grant funds were use

6.1. Interim quality project evaluation by project' beneficiaries

Business education and training were conducted through two days of workshops and seminars that ended with survey questionnaires to which the project beneficiaries responded and evaluated their performance. The following criteria for assessing content and lecturers are rated 1 to 5: 1= I am extremely dissatisfied and 5= I am extremely pleased, and there are following criteria: rating training in general; assessment of the working environment; rating of the materials; rating coach; assessment of own achievements; accommodation rating and food; the last question was an open type asking for a user to write their own comment, suggestions and their thoughts. The questionnaire analysis was done systematically and the statistics were presented to project managers, lecturers and beneficiaries of the project in order to improve and better tailor the education to user needs.

6.2. Outcomes and results

The number of registered women entrepreneurs on the project is 75, some of which have given up and there are 65 of them available on the project. Given that we are targeting 50 woman entrepreneurs, and we are running them through the process 65 to make sure that the goal is achieved. With 65 woman entrepreneurs, the agreement is signed and they go through the project activities.

Business education through seminars and workshops on topics of Business Basics, Marketing and Sales, Business Strategy, E-Business, Business Plan, Social Skills, Networking and Connecting are ending by March 2019. Relevant to these is a fact that teachers/trainers are giving tailor-made training based on the project beneficiaries own business developing with them small business management and their personal enterprise skills. It is remarkable the outcomes that we see in real life of these women entrepreneurs in their personal attitude and potential growth of their family business in the most of the cases. The mentoring activities are design and now under implementation by mentors to each project beneficiary on the field in reality of her family running business. A new business 'niche' generated through the project was:

27 women entrepreneurs develop their business in the field of agricultural production;
7 women entrepreneurs develop their business in the field of agro tourism, and
31 women entrepreneurs develop their business in handicrafts and souvenirs

All 65 women entrepreneurs' beneficiaries are the carriers of their own small family business. In the prospect, by the end of the project we have a vision of recruitment the members of their families for which a full support shall be provided during the implementation of the project. That will end as outcome of supporting further development of their products and services within family entrepreneurial business development. The exact number of new employments will be shown in the final outcomes and project implementation results.

7. Conclusion

Ultimately, the project has implemented positive outcomes with its implementation approach and the results that can be presented quantitatively and qualitatively.

From the starting point of the quantitative approach the project managed to include 65 women entrepreneurs from seven underdeveloped Croatian counties of Central and Eastern Slavonia and successfully achieved the initial target of 50 women entrepreneurs. Any woman was not denied to participate because the project leaders wanted to be positive and affirmative and to not aloud any negative connotations. The letter of motivation in women entrepreneurs' application was crucial to join the project activities by her personal high motivation for growth and development. Collecting enough women was at the same time the highest risk of the project.

A significant part of the quantitative indicators is also the number of more than 50 local and regional socio-economic stakeholders who have signed a partnership promotion partnership agreement with project leading association in the project's scope to support women entrepreneurs from their local communities.

The relative support was obtained from four in-line ministries of the Government of the Republic of Croatia, namely the Ministry of Agriculture, the Ministry of Regional Development and Funds of the European Union, the Ministry of Tourism, and the Ministry of Economy, Entrepreneurship and Crafts.
The University Josip Juraj Strossmayer in Osijek, Faculty of Economics, gave contribution in motivating potential women beneficiaries in rural communities of Osijek-Baranja County.

Model by which key stakeholders have been involved reflects the necessary understanding of co-operation between the four key sectors: the public sector, the academic community, the business sector and civil society, which is a right direction to move on a model of socio-economic development that in Croatia still needs much more willing and stronger support.

Based on measurable indicators at the end of the project, additional quantities results will be displayed in public, such as the number of newly established businesses, and number of new generate employments.

Qualitative indicators of project success are primarily: strengthened personal entrepreneurial competences and social skills of women entrepreneurs; smarter branding of herself and her product or service; exit from a highly closed local market; joint appearance and sales on the market: food as a gift - gift basket, joint sale stands at fairs throughout Croatia (Advent fair in Osijek, Advent fair in Coca Cola Zagreb, summer fair in Istria).

Project beneficiaries have specific traditional products and services for the rural areas of Slavonia, Baranja, Srijem, Moslavina, Banovina, Posavina and Podravina region, and through efficient business networking they could create unique Brand for emerging new market in country and abroad.

The project also made huge publicity and presence in the media that was awarded among three national finalists of GRAND PRIX 2019 for Public Relations in category for NGOs project at 12 years tradition contest organized by the Croatian Association for Public Relations.

The authors conclude with their observations that through two years of implementation of the project a new perspective for women in rural areas, project's conceptual approach to tailored business education and training and assisted product sales to the wider market, socio economic transformation takes place in economy and society.

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PROJECT OF INTERNATIONALIZATION OF COOPERATION IN FUNCTION OF MODERNIZATION AND INCREASING OF COMPETITIVENESS OF HIGHER EDUCATION INSTITUTIONS

ABSTRACT

The international co-operation project for the modernization of the higher education institution is a project of strategic partnership meant for the higher education institutions, through which innovative practices are launched and the standard and quality of higher education institutions are increased. The project encompasses the internationalization and modernization of study programmes, through which new knowledge and skills will be acquired, and, as a result of which it will be easier to employ European citizens. The purpose of the project is to modernize and build new improved teaching approaches, by means of which the students can achieve professional working skills at the end of their studies. The design and testing of the concept of the teaching model called 3I are the main tasks of the project. The application of innovative models encompasses e-portfolio, running of the course according to the PBL (Problem Base Learning), WIL (Work Integrated Learning) and IaH (Internationalization at Home) concepts. The role of the project is to initiate the development of an international strategic partnership of the higher education institution of the contracting entity of the project, which contributes to the integration of the higher education institution into the European Educational Area and thus provides the basis for deepening international cooperation. The results of the project will be applied primarily through the courses by teaching, which is the primary activity of the project contracting entity, thus ensuring their sustainability, i.e. exploitation after the project has been completed. The aim of this paper is to present the process of preparation of the previously mentioned development project for modernization and increasing of competitiveness of a higher education institution. The most important elements of this kind of project development are presented in this paper, using the methodology of the project starting study.

Key words: *project management, competitiveness, innovative approach to teaching, projects of internationalization and modernization of higher education institutions*

1. Introduction

Education as one of the important impact on economic growth, following the trends of globalization strive to find a response of a dynamic changes that are occurring in the labour market in the sense of constantly monitoring the needs arising from these changes. The answer on issue previously mentioned is reflected in the adaptation of study programs through the modernization of curricula and implementation of innovative teaching methods by higher education institutions (HEI) in order to provide learning outcomes and competences that will meet the demands of employers. European development trends in the education area followed by the European Commission's strategies and policies Such as Europe 2020 (European Commission, 2010), Education Training 2020 (European Commision, 2009), EESC-Polices Education and Training, New Skills Agenda (European Economic and Social Committee, 2016). In the same way national plans through the Croatian system of education focused on the educational process "should be better adapted to acquire the necessary competencies in order to meet social needs and organized in a way that provides a motivating environment for learning and teaching" (The Ministry of Science and Education, 2015) are HEIs starting points for directing their development. Following these trends, it is recognized that the modernization of education in today's global, and especially the local environment without internationalization, the use of ICT technology and inter-sectoral cooperation is unthinkable. Consequently HEIs as labour suppliers, seeks to achieve their contemporaryity, currentity and in the end the competitiveness of the market through projects aimed at innovation and internationalization. Definition of internationalization of higher education started with Knight's (1994,7) “the process of integrating an international and intercultural dimension into the teaching, research and service functions of the institution“ and as Hawawini claims “The internationalization of higher education institutions is the process of integrating the institution and its key stakeholders – its students, faculty, and staff – into a globalizing world. It calls for a change in existing structures, operating modes, and mind-sets in order for the institution to join and contribute to the shaping of the emerging global knowledge and learning network (Hawawini, 2011, 6). In order to accomplish these processes most of the HEIs establishes development strategies aimed at internationalization, which soon becomes one of the priority goals of their development.

Along with the education as primary activity of HEIs, they encourage the development of additional activities through international cooperation projects, which by internationalization they contribute to the overall quality improvement of education, thereby ensuring HEI long-term performance (Mattos et al., 2018). The impact of education to economic development through international dimension is associated with the statement by Knight and Dewitt (1997, 6) who consider that „Internationalization of higher education is one of the ways a country responds to the impact of globalization yet, at the same time respects the individuality of the nation. From this we can understand that each HEI in accordance with its own and regional individualities can establish its own academic programs that will be implemented through international cooperation projects and such initiatives will achieve market competitiveness. If cross-sectoral cooperation is embedded in such projects (especially by involving local collaborators primarily from the labour sector), it enables the acquisition of the so-called "transversal skills” (SEECEL, 2014) which are delivered conscious, educated people capable of judging, acting and contributing to their community development by actively involving them.According to the latest trends and results of the Erasmus Impact Study, these skills are increasingly popular and demanded by employers (European Commision, 2014).

The international cooperation project, which is the subject of this paper, is planned as a measure of HEI investment of the project's in human capital and cross-sectoral cooperation. The project is shown through the example of the initiative of the College of Applied Sciences in Vukovar, as the only higher education institution in the Vukovar-Srijem County, in order to show more realistic vision of the possible contribution of education to economic development in that region through the business activities of HEI. Using the metodology of project start-up (Hauc, 2007) the most important elements of the preparation of this type of development project are presented, which can be used to establish the connection with the overall strategic development of the HEI and the economic development of the easternmost county in Croatia. The purpose of this paper is on the one hand emphasize the need to follow trends in education and highlight the importance of the introduction of internationalization and cross-sectoral cooperation in the field of education in order to raise its quality at the international levels. The intention is also to point out the opportunities offered to HEIs through international cooperation projects, whose effects can serve as starting points for the creation of new specific knowledge and skills identified as future needs for human capital. On the other hand, the objective of the project start up study elements presented is to indicate the importance of good initial preparation at project launch stage for the overall success of the project implementation and the effects of the realized project.

2. Project owner and project entry strategy

Start-up study of the Project of internationalization of cooperation in function of modernization and increasing of competitiveness of higher education institutions is made according to the College of Applied Sciences Lavoslav Ružička in Vukovar (hereinafter VEVU) needs, as the project client. Established by the Decree of the Government of the Republic of Croatia since 2005 VEVU acts as the only public higher education institution in the area of Vukovar-Srijem County, which creating and implementing professional study programs based on practice and on contemporary theoretical and applied achievements. The primary mission of the College is to educate professionals who will have the necessary knowledge and professional skills to meet the needs of the labour market. VEVU is established according to the principle of the departments that perform undergraduate and specialist graduate professional studies while at the same time developing high professional and scientific-research work (College of Applied Sciences "Lavoslav Ružička" in Vukovar, 2014:7). VEVU as an important part of creation and education of competent personnel in this region has a significant contribution to economic and social development of the region. VEVU as such institution bears the responsibility of encouraging the students to be engaged in society, develop critical thinking, and assumes their democratic rights of responsibility and initiative in order to enhance their lives and the quality of life in their communities. The key factor for successful achievement of these tasks is the constant development, improvement and raising the quality of its services, while constantly following the trends and current topics in the area of higher education on local, national and international level. This project is initiated as one of the measure that the VEVU seeks to enable activities needed for achieving its mission and vision "VEVU to the Pride of the City" established by the Development Strategy of the College of Applied Sciences ”Lavoslav Ružička” in Vukovar for the period 2014-2020. This Strategy is a leading document and starting point for preparing a project.

The entry strategy of the project encompasses the connection of the project to the strategic documents, or view of strategies that will be achieved through the implementation of the project. By reviewing the strategies relevant for the commissioner of the project that can be connected to the project and their priorities, at the project start decides whether to start the project or not. The mention VEVU development strategy is the only strategic document on which the VEVU bases on its development. That document identifies the advantages and disadvantages that VEVU meets in education as its main activity. Guided by analyses, issues and recognized areas for further action, mission and vision, the main strategic development objective of VEVU is to become more productive and efficient HEI oriented to users' needs, ensuring business success and contribution to the community, which is the aim of this project. Besides the aforementioned document, as a starting point for the preparation of project is also the fact that HEI in its development strives to align with national strategies, especially because of accreditation and evaluation of institutions. It is important to emphasize that the project is also in line with the national strategy of the Republic of Croatia with regard to the objectives related to higher education (MZOS, 2015). If we take in account the need for changes in study programs in the region of VEVU (AZVO, 2019) there is a visible connection with the project pan and strategic development at the regional level. Improved quality of education and delivered the necessary educational resources that VEVU develops through its work and expected project outputs contributes to the regional strategic goal 2. Developed human resources and high quality of life, and measure 2.1.3. Fostering the development of higher education (Vukovar-Srijem Country, 2018:11). The source of financial resources is very important starting information during planning the project and its executing. Considering of intention to provide the financial support for project implementation from grants like Erasmus+ or the Operational Programme Efficient Human Resources (ESF), it is important to emphasize that the project is also in line with the above-mentioned Strategy Europe 2020 and Strategic framework Education Training 2020. After careful review of strategic documents that are associated with the project as well as the basic strategic document of VEVU, it has been ascertained defined contribution not only to the institutional and regional but also to the wider international level. The initial analysis found that the project would affect the recognized client's problems thus contributing to the direct and indirect realization of the following VEVU strategies: S1 - Revision of existing study programs – by refreshing courses in accordance to the needs of the profession and the labour market within the allowed change in 20% content of study programs. S2 - Improvement of the quality and study e with 3I model and the introduction of e-tools in the teaching. S3 - Institutional linkage between HEI and the economic and public sector entities from the local community. S4 - The establishment and active implementation of cooperation with other related higher education institutions abroad and S5- Development and improvement of human, material and financial resources for effective and quality education processes.

3. Project content

The content of the project encompasses all the essential elements that determine the relevance for the project implementation and for easier decision-making in the start-up phase of the project, whereby the VEVU wishes to achieve intellectual results whose effects will be realized upon completion of the project or in the phase of its exploitation.

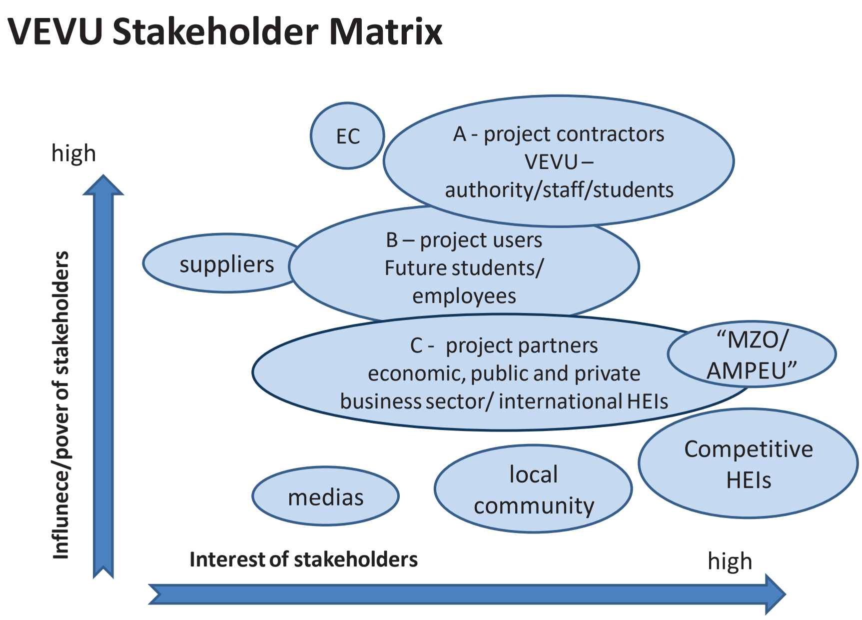
3.1. Project Purpose

The fact that internationalization and quality of education are in the focus of HEI as a means of alignment with international documents within the European Higher Education Area (EHEA), as well as their compliance with the strategies outlined in the previous chapter, are the main reasons for the realization of this project according to the VEVU order. The project will respond to the requirements of the academic community of the project contracting authority, its strategic partners, staff and students, employer representatives or those both public and private sector and their local communities, who have been recognized as key participants of the project. HEI´s relevance and recognisability is achieved through modernization, internationalization, and integration of learning outcomes and teaching results with real needs of the regions encompassed by the project. By enabling modernity in the education area and raising quality strives to achieve the study programs attractiveness and active study approach by students. Such methods should increase student mobility and the number of new students enrolled at VEVU that is of critical importance for VEVU since it has been faced with experiencing a tendency of falling numbers of students, as well as the fact of the negative emigration trends of young people in the region (Croatian Bureau of Statistics, 2018).Implementation of this project will enable modernization and internationalization of VEVU, as well as integration with local and regional, public and business sectors, which are also the goals of the project. The project outputs should affect the development elevation of institutions involved in the project by creating the conditions needed to elevate the quality of educational services as the main activities of VEVU and its project partners. Implementation of the activities proposed in the project, as well as international cooperation and exchange of experiences with partnering institutions, will enhance the human resources and technological facilities of those institutions thereby creating the planned modernization and internationalization. The aims of the project is to enhance the quality and development of education in general and its expected outcome is to achieve better learning outcomes and prerequisites for creation of future profiles needed in the labour markets of the community. The project is looking to create the necessary conditions to integrate the educational system so it can more easily recognize educational results and provide opportunities for studying at European educational institutions without problems with equalization of valuation. It is evident that the realization of this determined project will achieve primary and secondary effects mentioned in the strategic documents for Europe 2020 and ET 2020.

3.2. Environment Analysis

An environmental analysis was made with the purpose of identifying strategic factors with the aim of ascertaining their effects on conducting business in connection with the economic development. In order to attain relevant information, in accordance to the data needed to ascertain relevance, several analyses were conducted. First were done PESTLE and SWOT analyses for the project contracting authority that have established the current state at VEVU and helped to identify issues that need to be solved or improved. A PESTL analysis of VEVU was made as a starting point to encompass all factors important for the environment of the VEVU as authority. It has been noted that the environment of the VEVU greatly affects its business whereby is concluded that it is necessary to take account of established environmental factors in making decision and defining the business strategies. Those recognized environmental factors were further analyzed through a SWOT analysis which encompassed the most important internal and external factors shaping the future growth of VEVU in order to minimize the threats and weaknesses while maximizing the strengths and opportunities of VEVU determined by the mentioned SWOT analysis. Through the years, in its environment VEVU has reached a satisfying level of quality. Which is, in order to been the trends and sustain competitiveness, and all in accordance to the established state and the development strategies of VEVU, needs to be raised to a higher level of the quality. Based on the current occasion in the higher education area, an opportunity to create better business relations with local and international partners through the projects has been recognized as well as the opportunity to obtain non-repayable funds intended for increase the quality of HEIs services in education as a way to improve the conditions in educational facilities. Increasing the quality of education increases the competitiveness and the number of new students at VEVU as well as creating conditions for easier employment in the region which ultimately leads to business success of VEVU and its contribution to the economy development of the region. Competitions are always a threat that needs to be controlled by the management in way to find new business opportunities and invest additional effort into quality of project application in order to obtain non-refundable grants. Considering the opportunities and threats created by the environment, it has been determined that VEVU can successfully respond to them by utilizing its resources to maximize its chances and minimize the threats taken into account while conducting the project. A careful analysis of all elements shows that the project has a very high potential for successful realization. The conducted SWOT analysis has recognized the weaknesses that need to be addressed in time by determinate strategies and risk management methods that have been chosen in order to provide the answer to treats and opportunities occurring in the environment. In order to achieve successful effects desired by the project, a Stakeholder analysis was made to analyze more detailed the subjects of the project who might be relevant for accomplishing those goals. That analysis has identified the groups with significant interest in the project and its performance. The roles, importance, and capacities of that subject were also analyzed, as well as the possible levels of cooperation or possible conflicts between them and respond to them. It has been determined that through establishing an equilibrium between the interests of VEVU and other participants, a successful cooperation can be achieved. That why a Stakeholder Matrix was made in order to position them according to their interests and influence, as well as their belonging to internal or external environments, as shown in the picture.

Picture 1: *VEVU Stakeholder Matrix for international cooperation project*



Source: authors

The level of stakeholders is presented in three groups. Group A are stakeholders that belong to the internal environment of VEVU, who are also the primary participants, or direct users of the project comprised of VEVU itself, staff and students. We can say the interest for the project in this group is high and, as the authority on the project, VEVU has a great power of the success of the project. Secondary stakeholders belong to the external environment and are indirect users of the project. They are designated as group B and are comprised of potential new students or outside employees, project partners – representatives of economic, public and private sectors, as well as international institutions for higher education, which are also users of the project and as such have a vested interested in the project. Tertiary stakeholders are member of group C and they are potential business partners, as well as the rest of the external environment shown in the diagram according to the level of interest in the project. From all of the above, it can be concluded that key participants with large influence on the realization of the project that need special attention while analyzing risks are representatives of the potential providers of non-repayable funds as well as local partners. Competitive institutions cannot be ignored, because they lower the possibility of getting the grant by applying to the same tenders that VEVU will apply to in order to receive funding. Influences of project partners should not be ignored when assessing risk. With suppliers, it is important to pay attention to timely delivery of functional ICT tools and services in order to make sure the realization of the project is done in the allocated time frame. Mobility users, as project members, are also an important interest group because their motivation to participate in the project affects the project's effectiveness. Problem tree analysis was made too, according to which are defined two main problems of the VEVU as a HEI. The first one is unrecognizable VEVU as institution by local community even as HEI enhances the development and life of the local community also not recognized enough to potential international partners. The other identified problematic is the need for study program change and education quality rising to attract new students but also achieve active inclusion from its students and staff. Analyses have also recognized chances and opportunities to solve those problems. In accordance to those opportunities and possibilities, as already stated, VEVU is starting this project as one of the ways that will contribute to solve recognized problems.

4. Project Description

With the project of internationalization of cooperation in function of modernization and increasing of competitiveness of higher institutions is expected to develop innovative methods, implement and apply ICT tolls in education, as well as integrate international theoretical and practical knowledge, and gain new experiences. These results will enable enhancing the existing curriculums of institutions of higher education, recognizing the possibilities for introduction of new programs that will be a basis for sustainability of the project through continuing business after the end of the project laid out in this study. The activities of the project are aimed at institutional and international development of mechanisms for enhancement of education, managerial capabilities, and relevance on the labour market and in the field of education in HEI involved in project. The project proposal encompasses three components. The first is enhancing the relevance of education through adjusting the educational system with the local needs of the market. The second component is aimed at enhancing the capacities of educational facilities through introduction of ICT tools and educating staff for its application. The third and final component is enhancement of the environment of the institution through the introduction of innovative methods and interactions between studying and working practice.

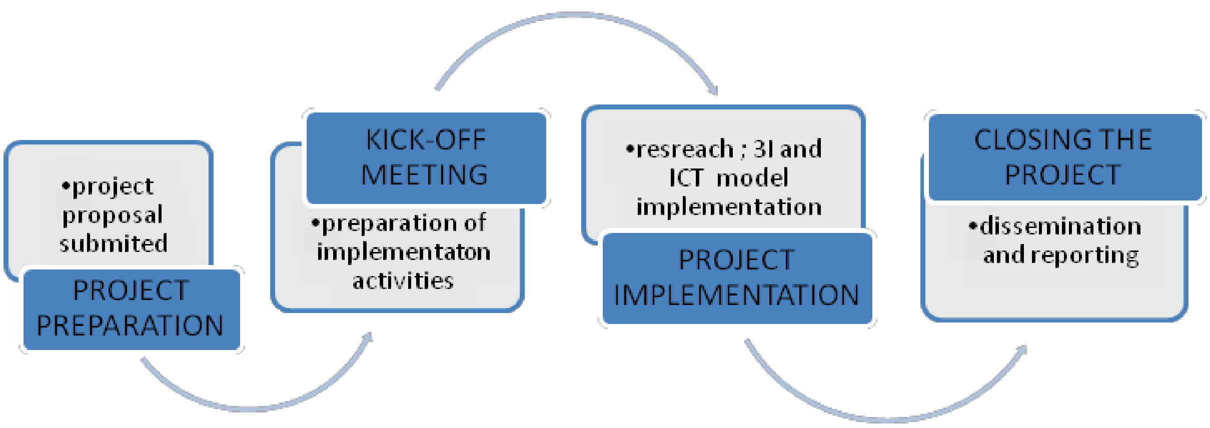
4.1. Project partners

HEIs build their partnerships in order to improve their development and their work, by adjusting and developing activities of common interest, from improving the teaching performance and learning outcomes evaluation to the scientific and professional and research activities, promoting of development, Knowledge Alliances implementation and transfer and exchange of experiences at the European level. In order to achieve high quality implementation of this determined project, it is necessary to establish the assignments and responsibilities of all partners and to develop the project implementation plan according to the established project objectives. The responsibilities and obligations will be regulated by signing the bilateral cooperation agreement for the project. VEVU is the project contracting authority and project coordinator. It will have three different HEIs from three different EU member states, which have been recognized by VEVU as strategic partners and partners on the project. The common interest of these partners is motivated by the desire to achieve a long-term cooperation aimed at opening The Joint Study Programmes. In the project implementation, besides the aforementioned partners it is planned to include HEIs business associates too, made up of representatives of the economic and public sector in the local areas that are included in project.

4.2. Operational implementation processes

Projects of this type are developed in several phases shown through the entire process of the project life cycle. The project cycle shown in the picture has been modified to the project authority.

Picture 2: *The life cycle of the internationalization of cooperation HEI project*



Source: authors

The project preparation phase is the first phase of the project life which encompasses planning and preparation of the project, as well as the idea of the project and its activities preparation. After approval given by the VEVU authority, the idea is turned into a project proposition, After that, VEVU management gives a green light to start the project, followed by VEVU approval for the project initiating, then follow with finding partners and preparing a project proposal for applying to acquire non-repayable EU funds. The phase of preparation for project implementation is the second phase of project life cycle. In this phase the project is accepted by the EU Commission or the national agency in charge for implementing the funding program. If the project application passes valuation criteria and the project is chosen to be granted, a Grant Agreement is signed between the governing body and VEVU, the main authority on the project responsible for the project's realization. After that, VEVU signs a bilateral agreement with its partners (a project consortium agreement). The project implementation phase is the most important phase for project management and project contractors. The project is conducted in accordance with the prepared description of work packages encompassed by the project, which are listed in the project's implementation plan. The final meeting is the main activity of the last phase of the project's implementation in which are carried out the final evaluation and dissemination of the project impacts, outcomes and outputs, revise the possibilities for improvement and corrective measures based of the experiences exchange and information feedback. The final project cycle phase the last phase of the project in which final descriptive and financial reports are made by all project team members. After receiving the report and the remaining non-repayable funds, the project can be completely closed and all of its documentation is archived in an appropriate way. After this phase, the dissemination of project impacts continues to be implemented.

4.3. Target Groups

The target groups of this project primarily are students and staff (both teaching and non-teaching) of HEIs as well as potential employers in local communities implied by the project. They are also the users of the services and results of the project. The target groups have been analyzed earlier as a part of the analysis of the participants and have been expanded upon through the effects and indicators of success produced by the project.

4.4. Impact and project outcomes

In decision making whether initiates the project or not, the projected outcomes of the project are of crucial importance for it to be approved, especially on projects like this. The expected project impacts are an advanced profile of HEIs, an education improved and creation of international availability of knowledge and interdisciplinary skills in the region, modernization and internationalization of teaching plans and programs, and enhanced preparedness of graduated students for the labour market. This project is focused on development, transfer, and implementation of innovative practices from institutional to European levels through which long-term effects on VEVU and its partner organizations within the project will be made. The project is focused primarily on the growth and development of HEIs and it does not plan for a direct financial return through its implementation. This is a project with indirect economic effects which need to be strictly defined in the planning phases of the project. The impact and outcomes set in project will be evident partially in the project's implementation phase, but most of the impacts will become evident after the end of the project, or by implementing the project outputs through future work of the institutions included in the project. Indirect economic effects that can be expected after the end of the project are the ones made by the enhanced quality of services provided by HEIs (European Commission, 2018). The expected consequence of improved HEI's quality will create references which will result with an increased number of enrolled students, who pay tuition fees that will also provide an economic benefit in the long run. What cannot be excluded s an important additional effect of the project, even though it cannot be measured, is the personal satisfaction of students and staff as realized intellectual individuals enriched with specific skills they have gained while being a part of this project activities or similar projects. Creating a great number of such users elevates the reputation of VEVU as a desirable HEI and Vukovar as a student city with the desired synonym for professional, quality and comfortable study. This immeasurable impact is expected to produce different effects in the local community. The set objectives of the project are best explained by the different levels on which they are realized with respect to the project target groups. Direct impact expected on individual student levels, who are also the primary target group as well as the main users of the project's activities, are enhanced relevant skills and competences (basic, transversal, and "soft") of individuals by which they will become more competitive in the labour market. On individual levels of teaching and non-teaching staff as a targeted group, will realize the expected effects through improved task performance, better understanding of practices, policies, and systems in education, accompanied by more convenient performance of the lectures and easier progress monitoring, as well as interaction with students. The expected impact on stakeholder employers as a targeted group is easier finding of competent employees as well as a reduction in expenses of educating and training now employees, which has been determined to be a problem in the labour market. These effects are available for employers through an intersectional cooperation with the HEI. These outcomes are available for employers through an intersectional cooperation with the HEI. As a target group HEI through this project achieve higher capacities, more contemporary, dynamic, expert, and dedicated atmosphere in their education which contributes to achieving the strategic objectives and profiling of HEIs included in the project. Wider effects of the project are expected to affect both narrow and wide local communities as targeted groups in the segment of employment of young people, general development of the region, and better life with open and wide perspectives. Indirect expected impacts are also connected to national bodies and agencies as systematic levels because individual effects of HEIs are a collective benefit to policies, objectives, and strategies on the national level. In that same way, those effects grow to higher levels such as international developmental institutions as target groups which are indirectly affected through total contributions made by achieving objectives of common interest as determined by European strategic documents. The most concrete benefit is towards achieving the horizontal priorities and priorities in the higher education area set by the European Commission (European Commission, 2018).

5. Project goals

Increasing the quality of education and competitiveness of the HEIs on the international level are the main goals of the project. By connecting international HEIs and intersectoral cooperation in the fields of economy, law, biomedicine, and employment sectors, new and innovative education methods will be constructed, and new study programs that will benefit the development of general education will be started. This project will also produce intellectual results which will be available for use and further improvement according to future needs which will ensure the sustainability of project results. The analyses shown in the previous chapters have reviewed all aspects needed to determine the most competitive purposeful and objective goals that are of great importance for the project management to be able to ensure the achievement of the strategic goals set by the main project authority (Hauc, 2007).

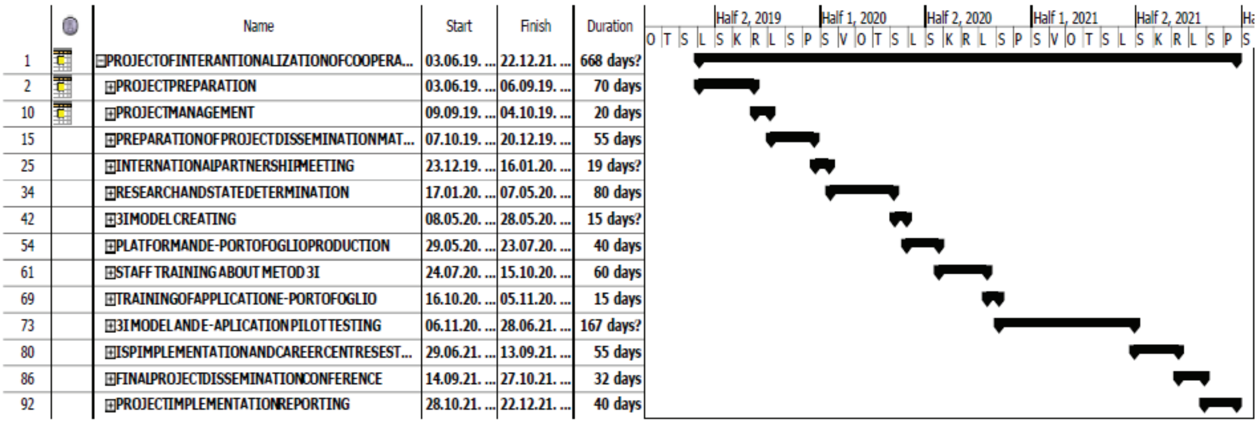
The project purpose was determined by VEVU such order, and since education activities are achieving a goal, the impact that directly affect the implementation of the established development strategies of the VEVU will be realized, as it is reflected in the project's entry strategy. The shown goals can, aside from monitoring the outcomes, can be used as a connection to the economic development of the region. The purpose goals of the project are: N1– Quality improvement of education provided by the HEI through a developed and adopted model "3I" by the end of 20201. N2 – An improvement of competitiveness of the HEI by active cooperation between the HEI and local private and public sectors and networking with other international HEIs by the end of 2021. N3 – Aligning the Learning outcomes (knowledge, skills, abilities) with contemporary needs of private and public sectors and the strategies "Europe 2020", and revision of current study programs by the end of 2021. N4 – Enabling conditions for an active approach to studying through modernization and internationalization of the institution of higher education – increasing the studying flow to 25% and completion of studies in the regular time frame to more than 35% by the end of 2021. N5 – Increase in the quality of human resources through professional development and an increase in the number of experts (guest lecturers or visiting professors) involved in the educational process by the end of 2021. Some of the goals will be achieved in the project implementation phase, or, more precisely, at the end of implementing activities. Other effects will be accomplished after the end of the project through continued activities of the HEI as well as other project partners.

Object goals are focused on successful implementation of the project. Achieving the object goals of this project will enable achieving the aforementioned purpose project goals. Seeing as how this is a specific type of cooperative project whose purpose is invention and international cooperation, some of the expected results are intellectual results, or intellectual services, models, methodical solutions, materials, manuals, IT solutions and tools, platforms, audio-visual materials which will be used by numerous users after the end of the project through an assortment of services and activities. With its complexity, the project will create results intended primarily for direct users of the target group which includes staff and students, while the effects of these results will be reflect in the wider target group, as previously stated. The results actually derive from the following project objective: Co1 Project proposal application submitted, Co2 Established project management, Co3 The project dissemination materials prepared, Co4 Transnational Kick-off meeting held, Co5 The studies carried out by the regions involved institution partners, Co6 study model 3I created and ready for use, Co7 Established the project platform and e-portfolios, Co8 Trained staff for use of innovative models, Co9 Staff trained for use of e-tools and e-portfolio interfaces, Co10 The Pilot 3I Model 3I and the use of the e-Portfolio has been implemented, Co11 Established Models of Career Centres within HEIs, Co12 Final Project Dissemination Conference held and Co13 Delivered narrative and financial final report and project documentation archived.

6. Project plan, risks and economics

Plan of the project of internationalization of cooperation and modernization of HEIs is made with the purpose of efficient project management and it includes tracking of resources, expenses, and application deadlines in order to achieve all project goals as well as other relevant elements needed for successful project implementation. Plan of the project is shown through a Gantt diagram on the level of working packages built in the MS-project program.

__Picture 3:__ A Gantt diagram of the of the internationalization of cooperation HEI project



	Name	Start	Finish	Duration
1	PROJECTOFINTERANTIONALIZATIONOFCOOPERA...	03.06.19. ...	22.12.21. ...	668 days?
2	PROJECTPREPARATION	03.06.19. ...	06.09.19. ...	70 days
10	PROJECTMANAGEMENT	09.09.19. ...	04.10.19. ...	20 days
15	PREPARATIONOFPROJECTDISSEMINATIONMAT...	07.10.19. ...	20.12.19. ...	55 days
25	INTERNATIONALPARTNERSHIPMEETING	23.12.19. ...	16.01.20. ...	19 days?
34	RESEARCHANDSTATEDETERMINATION	17.01.20. ...	07.05.20. ...	80 days
42	3IMODELCREATING	08.05.20. ...	28.05.20. ...	15 days?
54	PLATFORMANDE-PORTOFOGLIOPRODUCTION	29.05.20. ...	23.07.20. ...	40 days
61	STAFF TRAINING ABOUT METOD 3I	24.07.20. ...	15.10.20. ...	60 days
69	TRAININGOFAPPLICATIONE-PORTOFOGLIO	16.10.20. ...	05.11.20. ...	15 days
73	3IMODELANDE-APLICATIONPILOTTESTING	06.11.20. ...	28.06.21. ...	167 days?
80	ISPIMPLEMENTATIONANDCAREERCENTRESEST...	29.06.21. ...	13.09.21. ...	55 days
86	FINALPROJECTDISSEMINATIONCONFERENCE	14.09.21. ...	27.10.21. ...	32 days
92	PROJECTIMPLEMENTATIONREPORTING	28.10.21. ...	22.12.21. ...	40 days

Sources: authors

During the project planning after the objectives, tactics and plan of activities are made, the possible obstacles to successful implementation of the project are considered. The starting point for prediction of the risks was to set the preconditions, that is, all that needs to be met for the project to start. The potential project risks related to project activities were identified first, and then risk assessments and finding a response to the potential risk or the best solution to deal with risk were identified next. The risk identification is made by the RBS, the risk breakdown structure of the internationalization cooperation project, which presents the categories of risk as shown in the picture.

__Picture 4:__ Identified risks of the HEI Project according to their categories

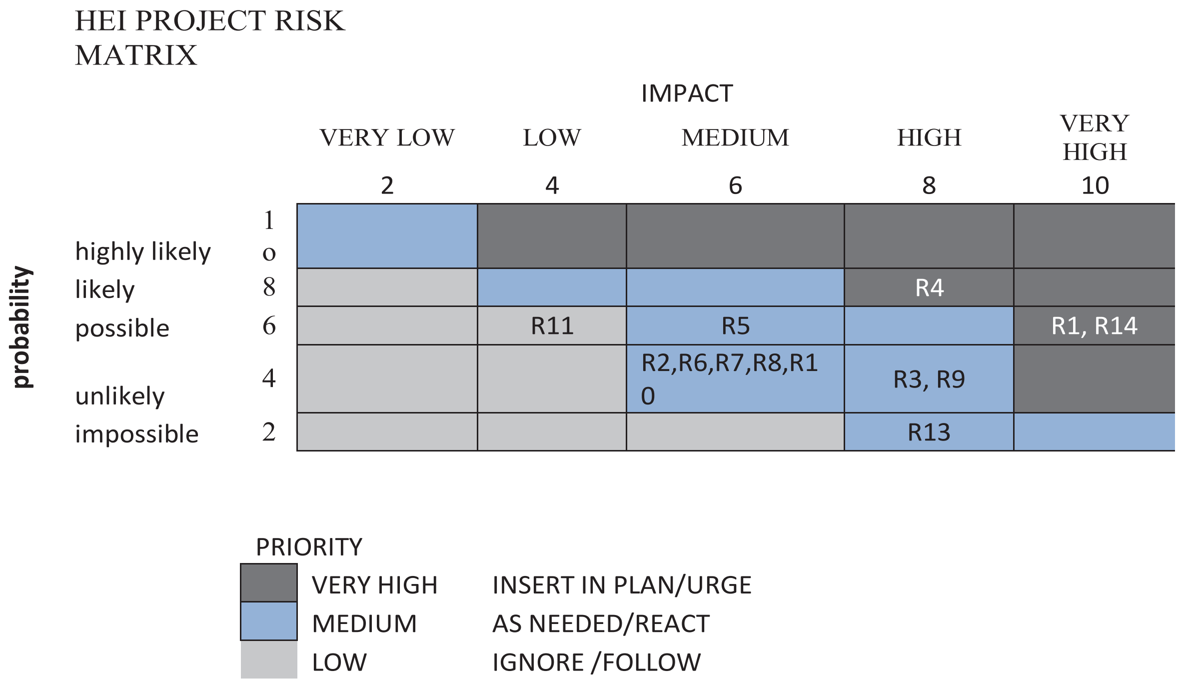
HEI INTERNATIONAL COOPERATION PROJECT RISKS

project management	**external**	**technical**	**organizational**
Implementation time assessment	disapproval of funds	an inadequate design of e-tools	dependence on partners
Plan deviation	low interest by project associates	difficulties in using ICT tools	project staff leaving
Inadequate / insufficient communication	unforeseen political or economic situation		change of leading structure/project priority
Control neglect	lack of interest for the project by users		team members' disagreements

Source: authors

After identifying the risks, risk assessment was done by establishing priority of risks with respect to their project influence and its successful completion. Risk assessment is shown in the Risk matrix (PMI, 2013, 331) adapted to the needs of the VEVU as project authority.

***Picture 5:** Risk matrix for the HEI project*



Source: authors

The response to the threats depends on the quality and the relevance of risk prediction. When assessing the possible risks it is important to establish priorities on the basis of which the response will be determined. A high risk is risk that poses a serious threat to project realization and a high probability of seriously harming it. Such risks need to be analyzed in project initiation and taken into account together with medium risks in project implementation phase. Indentified possible high risks in project implementation are: the first and most significant risk is R1 – Not accepting the project proposal submitted for granting of non-repayable funds whose expected consequence is the project realization suspension, the planned preventive activity for that risk is a high-quality preparation of the application in accordance with the prerequisites for granting funding and priorities of that process, and the planned curative activity is application on other funding programs. Other expected high risk is R4 – Lack of communication between members of the implementation team and not controlling communication, whose expected consequences are difficulties with realization of the project, a lack of information about the progress of the project and timely reaction to possible problems. The planned preventive activity for this risk is to secure a mailing list and enable simple communication by encouraging feedback information. The planned curative measure is adequate subsequent information of partners on important matters and phases of progress (effects) together with increased oversight of future communications. The last possible risk evaluated as high is R14 – Deviation from the established project realization plan and program whose consequences can include a delay in project activities and bring to question the realization of the project as well as the approval of its funds. The preventive measure chosen for this risk is the creation of a high-quality plan of activities which needs to be regularly updated and followed, as well as any other risk management. The chosen curative measure for this risk is a reorganization of activities with the lowest possible damage in order to successfully finish the project. A detailed plan for risk management will be set in the planning phase of the project in one of the software solutions appropriate to such risks.

Finances, sources of investment, are an inevitable part of the project. That is why investment analyses need to be created, properties and profitability of investments need to be assessed, and all expenses of the project need to be accounted for. Financial indicators are not required in the application of this project considering the already mentioned source of financing and indirect effects of this project. This part will focus on needed expenses and careful monitoring of the project's budget in order to carry out the project in the financial scope set for it. With projects such as this one, a key element of the project is the project budget. It is made according to the instructions of the funding program. What is important to emphasize, is that, when creating the budget, the expense plan is very precisely made in order to be efficiently applied. In accordance with that, an exact budget of the project will be made in the second phase of preparation of the project application for the Tender.

7. Conclusion

It can be said that projects are instruments with which one can encourage regional development, especially with regards to economy. Therefore, the project of international cooperation for the purpose of raising the level of quality and competitiveness of a higher education institution is taken as a concrete example as one form of investment in education as a contribution to the regional economic development. The elements presented through this start-up project study example highlight the importance of following the trends and opportunities for investment in human capital as an important segment in economic development. The presented analyzes through this work on the example of a specific project, may be withdrawn link in creating a vision for future investments in the strategic development of the region of Eastern Croatian. This shows that even small initiatives undertaken by the HEI can, as shown by the example, contribute to the development of the economy of the region and beyond.

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INDUSTRY 4.0 – EXPECTED TECHNOLOGICAL IMPACTS ON COMPANIES

ABSTRACT

Due to digitalization, we can see numerous business territories where the companies have to face up to new digital challenges. One of the most significant changes is going through in the manufacturing sector. This already ongoing phenomenon is usually called Industry 4.0.

The ***purpose*** *of this paper is to analyze and understand the main challenges resulting from Industry 4.0. in Central European countries, including Hungary. We can see that significant technological and labor challenges that companies have to face up to due to new solutions based on robotization and artificial intelligence solutions. The main aim to define in the transformation process how a company has to change its business activities with respect to the main technological challenges. The labor market aspects have already been elaborated in a previous paper. We also have to take into consideration and analyze that companies can only reply to the challenges if they also transform their business operations. The changes will not only influence the operations of one company, but also the way how markets will operate.*

The ***object*** *of the research is to define and analyze the scope and size of the main groups of technology-driven challenges that companies have to face up to due to the Industry 4.0 phenomenon.*

Tasks *of the research is to define key technological elements of Industry 4.0 phenomenon. I also summarize how companies in Hungary are preparing to meet these challenges. I also hint at Hungarian governmental initiatives to assist companies gain capabilities to introduce Industry 4.0 processes.*

The paper is based on analyzing corporate reports, interviews with company managers and literature survey as ***research method****. The results of a questionnaire survey among Hungarian manufacturing companies to assess the prevalence and the use of IoT devices, and assess uncertainty towards them are also incorporated. Nearly 500 production and logistics companies were involved. In addition, economic institutions and the major advisory firms provide economic reports on these expected changes are also summarized. As mentioned above, not only impacts on the business process, but the expected changes in the labor market should also be reviewed.*

Keywords*: Industry 4.0, regional development, artificial intelligence, robotization, digital twin, smart factory*

1. Introduction

Industry 4.0. is a new phenomenon in the economic world that comprises most of new data-driven and robotized solutions in the manufacturing sector. This set of new solutions has been generated as an answer to meet new requirements set by the fierce global competition in the manufacturing industry. The faster and faster competition in the manufacturing industry has led to a much higher level of speed for adapting new production solutions than ever before. Based on my research, most of the companies will have to adopt radical technological solutions in order to meet these new requirements (Barkovits, 2016, 1). Furthermore, Industry 4.0 may not only be seen as a new approach which is only based on manufacturing processes, but as a part of the digital transformation process. Digital transformation process is a broadly interpreted challenge for companies in any economic field due to new technological solutions such as new IT platforms, social media, mobile and cloud technologies. As a result, business processes will also need to be refurbished in case of Industry 4.0. initiatives. The broadly interpreted digital transformation process has a significant and major impact on all participants in a company's value chain (e.g. suppliers and customers) (Almada-Lobo, 2015, 17). Therefore, the manufacturing companies will also have to address these expected changes in their value chain.

Industry 4.0 is important for companies to identify their opportunities based on new technological developments. Connected machines collect such an enormous volume of data that can inform maintenance, performance and other corporate functions issues. In addition, data will also be analyzed in order to identify typical patterns that may not be possible for a human to do in a reasonable timeframe (McKinsey Digital 2015, 1). Industry 4.0 phenomenon also offers the opportunity for manufacturers to optimize their operations quickly and efficiently by knowing which part of production needs additional attention. By applying sensors in the machines and collecting the data from them, an African gold mine company has identified a critical issue with respect to oxygen levels during leaching. The company has developed new operational solutions to diminish oxygen levels. As a result, the company was able to increase its yield by 3.7%, which saved them $20 million annually. The Industry 4.0 is a set of smart solutions that directly fosters efficiency and profitability.

If we define the key groups of technological challenges, we may determine (Barkovits, 2016, 1):

- availability and use of internet, focusing on Internet of Things (IoT) and Industrial Internet of Things (IIoT),
- integrated approach to refurbish business processes based on technological demands,
- digital mapping, digital ideation and application of digital twin technology are key solutions to replan production methods,
- Smart factory: highest level of integration between technological and business processes, smart manufacturing and smart products.

The main features and characteristics of these areas will be elaborated in detail below.

2. Key factors - Technological developments

2.1. Full-time internet connectivity and cloud technology are inevitable

A tremendous development has been carried with respect to broadband connectivity in the developed countries. In addition, cloud technology has also made companies able to store and manage their data without physical borders (Kemp, 2018, 1). Cloud technology solutions let companies carry out interaction with customers already in the planning phase. Previously, companies could only contact customers after launching production (Scmich, 2016, 2). Most of the data are collected from the manufacturing processes and different corporate processes, as well as from the machines themselves. Numerous sets of data are collected from products, especially in the after-sale period. The enormous amount of data may can only produce gains for corporate purposes if these sets of data are properly analyzed at all (Kemp, 2018, 2). Based on detailed data analysis, companies can create profiles for customers on an individual level. Based on these very specific information, companies will be able to provide very unique, and even personalized solutions. The optimization of processes at different corporate value chain stages will be much faster than ever before.

2.2. Internet of Things (IoT) and Industrial Internet of Things (IIoT)

Industrial Internet is more focused on IT infrastructure (software and hardware), while Internet of Things only defines trends that have a major impact on the daily life of people (Bernardini, 2015, 2). Communication will only be based on smart devices, smartphones, smart cars. Industrial Internet also provides infrastructural framework for interconnectivity among machines within the Internet of Things.

2.3. Big data technologies have become trendsetters

Companies discover the role of data science technologies and start to collect all available data as mentioned above. Companies have started to launch big data systems. These systems may focus on analytical applications and machine learning functions. For example, several companies have already implemented sensors into their products to collect continuous feedback on their products (Samuels, 2018, 1). This data collection method enables companies to create and develop a data collection method for the entire product life cycle.

3. Integration of technological and business operations within a company – MES, ERP, PLM

Digital transformation will be successful should corporate processes are integrated and are managed jointly. High level of business process and technological integration is required. The three main areas have to be managed jointly to integrate technological and business processes:
- enterprise resource planning (ERP),
- product lifecycle management (PLM) and
- manufacturing execution systems (MES).

Companies can plan the joint management of ERP, PLM and MES systems and the integration will create additional value in their business processes (Ismael, 2017, 2-4). A joint technical and engineering focus for planning phase has to be set up. The newly developed product, so-called digital product will be defined considering main business goals. The connection and interactive communication among these three major systems will force changes to initiate in manufacturing processes as well. The integration will result in (Ismael, 2017, 3-5):

- value creation and a much quicker market entry,
- significantly lower level of costs, and
- better quality of products.

3.1. Extended Product Lifecycle Management

In general, Product Lifecycle Management (PLM) is defined on the basis on engineering and on processes that happen within a company (Witkowski, 2017, 766-768). The focus is on the product-related processes. The PLM will also focus on processes before the product is planned and even after the products is sold. The new, digitized PLM incorporates the entire product lifecycle. Shortly, PLM will start by making an idea about a product based on the customers' needs.

PLM will become a decision support system besides just implementing the results of decisions. PLM changes will influence all participants in the value chain. The manufacturers, suppliers, several partners and customers will be incorporated into this new lifecycle (Witkowski, 2017, 766-768).

PLM solutions have to be industry-specific and they will often have to focus on company-specific application (Kemp, 2018, 1). PLM solutions should be based on a new, technology-driven strategic concept.

3.2. Redefined Enterprise Resource Planning systems

ERP systems are limited to managing data in the engineering and planning phases. ERP systems usually manages numerous corporate processes (Witkowski, 2017, 766-768). Basically, ERP systems manages data and information flows relating to data and engineering phases.

The main advantage of an ERP application is that the intra-company communication can become more effective than before. The numerous corporate functions and the responsible departments will be able to change information in an easier way (Witkowski, 2017, 766-768). This system supports the collection of information in each division of the company. The main goal is to collect and share information within the company. Furthermore, it is aimed at making company decisions in a more effective way.

The application of Enterprise Resource Planning (ERP) systems will have to be mentioned and analyzed with respect to Industry 4.0 phenomenon. An ERP is an IT-based system that companies apply to oversee and manage their main business flows and decisions (Scmich, 2016, 2). Most of ERP software applications are designed to integrate the significant business processes of a company. This integration is carried out in a single IT framework system. As a result, a well-defined ERP system will be able to manage and integrate several corporate functions.

The most important corporate functions that an ERP system has to integrate are (Scmich, 2016, 2):

- planning,
- purchasing inventory,
- sales activities,
- marketing,
- financial activities, and
- human resource functions.

Integrated digital corporate platforms are necessary to be built within companies in order to extend the range of product offers and product attributes. PLM systems support product planning phases from an engineering perspective. ERP systems support optimizing operational aspects of assembly lines. ERP systems manage product planning and configurations from a sales perspective (Scmich, 2016, 3).

3.3. MES system – the bridge between PLM and ERP systems

Manufacturing Execution System (MES) is an IT system that creates a continuous connection among monitors and controls in order to manage properly the manufacturing systems. This system is built to guarantee that manufacturing processes are fulfilled in a proper way (Kemp, 2018, 2). The application of these systems is expected to generate new solutions related to manufacturing processes. The advantage is that an enormous set of real time data may be collected during the whole manufacturing process. Data collection may refer to all kinds of activities carried out in a factory or in a shop. The main aim is to collect data in the fields of customer orders, material requirements, planning activities (Ismael, 2017, 2). Following functions may be seen as common MES functions (Almada-Lobo, 2015, 16-19):

- Data collection and acquisition
- Scheduling
- Staff and resource management
- Process management
- Performance analysis
- Document management

MES system can technically create operational link between a PLM and an ERP systems. MES has a key role in the integration of business and technological processes (Almada-Lobo, 2015, 17-20). MES can create a real-time data processing in manufacturing environments. MES system makes connectivity possible among machines and any physical devices. This system can transmit information and data to both ERP and PLM systems (Witkowski, 2017, 766-768). These both systems will apply this data to develop knowledge base for planning phases and product configurations.

PLM system is the core element among these three systems. The manufacturing facility investments will be affected by the outcome of this system (Almada-Lobo, 2015, 18-19). The integration of a MES system and a PLM system will make a company able to track all product configurations and plans. The ERP system will be responsible for main financial, logistic and business processes. The new digital platform will be the main area where tests and predictions are carried out before introducing a new physical prototype.

4. Digital mapping, digital ideation and application of virtualization with respect to the real world

4.1. Virtual servers and virtual networks as the starting point for virtualization

Digital mapping and virtualization allow a physical computer to run multiple instances of an operating system or multiple operating systems on the same physical computer. The main concept of virtualization was designed to maximize the use of expensive hardware and software infrastructure (Scmich, 2016, 2). Companies want to reach the maximum level of the mainframe processing capacity. In addition, the servers have to be secured and more virtual machines have to be designed to extend capacity.

Virtualization is defined as an abstract or virtual tool to simulate physical resources. This type of virtualization will create a significant challenge for IT infrastructure (Almada-Lobo, 2015, 16-19). Redesigning of data centers is required. The main advantage of virtualization is that underutilized physical infrastructure components can be consolidated into a smaller number of better utilized devices, contributing to significant cost savings.

4.2. Digital twin technology

Digital twin technology is a virtual copy of a physical device that data scientists and IT professionals use to run all kinds of simulations before any actual device is built (Shaw Fruhlinger, 2019, 1). Some studies predict that nearly half of large industrial companies will implement digital twin technology by 2021 (Shaw Fruhlinger, 2019, 1). Such twins will give manufacturing firms the opportunity to access rich new sources of data. They will help companies to move beyond product life cycle management and into consumer experiences, where they will be able to analyze how something is operating and how it can be modified to improve performance.

By retrieving data from external sources like social media and sentiment analysis, manufacturing companies can develop deeper insights. This knowledge is a digital thread across product and customer life cycles (Shaw Fruhlinger, 2019, 1). Instead of information gaps between design, use, and experience, a new set of data is created. As a result, products can be monitored and analyzed throughout their entire life cycle.

5. Smart factory – M2M, V2V and AI technologies

Smart factory is described as the highest level of solution in the field of Industry 4.0 phenomenon. Industry 4.0 is often defined as a digital improvement of Industry 3.0 processes. The Industry 3.0 processes were production, logistics, quality management and maintenance (Coresytems, 2018, 1-3). Industry 4.0 delivers these processes as well, however, in an optimized and digitized way based on a real time IT solution.

5.1. Smart devices and machines

The main part of a smart factory is a physical network of connected smart devices. The smart factory also implements collaborative and industrial robots, and all kind of objects that are able to collect data. These sets of data will be applied for collaboration. As mentioned above, in a smart factory the highest level of Industrial Internet of Things, the Internet of Things technological solutions will be applied. The IoT tools and devices are embedded with remote sensors in the entire manufacturing infrastructure (Porter, Heppelmann 2015, 1). The implementation of sensor technology and IT-based systems makes machines able to communicate and change information with each other and with the physical world (Coresytems, 2018, 1-3). As a result, manufacturing companies will develop the efficiency of their processes and the quality of their products based on a thorough analysis of the data flow retrieved from these IT systems and based on the continuous communication among machines. These smart machines and devices are the key elements of a smart factory.

As mentioned above, continuous development will be a striking feature in case of Industry 4.0 phenomenon. The enormous amount of data will be analyzed and this will also lead to continuous optimization requirements (Shaw Fruhlinger, 2019, 1). Therefore, companies will have to employ data experts as well as lean management professionals. Special IT knowledge and high-level management skills will be necessary to run such sophisticated systems.

5.2. Self-learning devices - Artificial Intelligence solutions

The application of internet-based communication among machines and the implementation of smart devices opens new technological horizons for companies. Nowadays, companies tend to prepare and install Artificial Intelligence solutions for various corporate functions such as customer service or managing production activities (Shaw Fruhlinger, 2019, 1). The application of AI seems to fancy trend in the future, however, nowadays, the fields of implementation seem to be limited, since numerous questions are continuously arising regarding its application.

It is easy to understand the advantages of AI technology if we just take an example from the world of internet (Witkowski, 2017, 766-769). If people look for a new product or supplier, then most of them search homepages of companies or make a search with Google or Facebook (Porter, Heppelmann 2015, 1). This takes a lot of time to see, filter and to choose. However, an AI based advertising system may carry out this task in a much shorter period of time. It is also easy to understand if we consider the sets of data mobile phones collect every day with applications. These data may refer to daily routines, traffic routines, travel habits, games or personal health. These applications „produce" a vast amount of data every day that has to be analyzed to use it for business purposes.

5.3. Smart products

Regarding Industry 4.0., important elements of the Industry 4.0 concept are interoperability and connectivity (Shaw Fruhlinger, 2019, 1). Looking at the expected technological changes, we assume that "smart factories will produce with smart technology and smart devices smart products". Companies may also apply sensor technology with respect to smart products similarly to smart machines. The application of this technology will provide data about the smart products with respect to their localization, to product state or to its close environment conditions. Smart products will be similar to smart machines in a sense that autonomous activities will also be carried out by them. Smart products will also be able to control themselves or connected smart devices. This function can be very important throughout the entire manufacturing process (Ismael, 2017, 1). In addition, these products may also possess processing capabilities to produce special sets of data and information. Furthermore, smart products will also be traceable even throughout the whole product lifecycle based on the embedded smart functions and parts. Smart products can even continuously disseminate information about their condition. These technological features will also have an impact on maintenance activities and costs as well as on and after-sale activities.

The permanent data flow within the system among devices and machines is also a key element. We have already mentioned that M2M and V2V technologies are relevant in machine and vehicle communication. We also have to highlight that human beings and machines may also be connected for special functions and can even communicate with each other. This type of connection is usually described as Human-To-Machine (H2M) cooperation (Witkowski, 2017, 764-769) (Samuels, 2018, 1). The main fields for these activities are the areas where products may not be standardized or processes cannot be ordered in clear structures. We see today that this territory still belongs to the R&D phase. Most of these tasks were carried out manually before. Nowadays, some part of these activities are broken down into smaller elements and the clarified parts may be fulfilled by robots.

6. Hungarian governmental initiatives and survey on introduction of Industry 4.0 in Hungary

6.1. Hungarian Governmental Initiatives relating to Industry 4.0

The Industry 4.0 National Technology Platform in Hungary was established May 2016. The main participants are the Institute for Computer Science and Control, Hungarian Academy of Sciences, as well as research institutions, companies, universities having premises in Hungary (Haidegger, Paniti 2016, 1). This initiative has gained a legal form of an association in the meantime. This association is managed by the Ministry of Innovation and Technology. Work groups were set up by experts in order to work on a complex strategy with the governmental partner that should be implemented in the coming years. The Platform has 6 Work Groups today, which are:

- Strategic Planning
- Employment, Education and Training
- Production, Logistics and Cyber-physical Pilot systems
- ICT technologies (safety, reference architectures, standards)
- Innovation and Business Model
- Legal and Regulatory.

The work groups are presenting their papers to the government that has already introduced several legal modifications in this context to make companies fit for Industry 4.0. Nevertheless, the work has not been finished yet, therefore, we may define that the preparation phase is under way in many aspects. The key project of this platform is the Industry 4.0 Model Factory program (Haidegger, Paniti 2016, 1). This initiative is supported by major German companies. For example, Bosch Hungary and Continental Automotive Hungary have joined the national supplier program as well (Sass, Szalavetz 2013, 3). Due to this program, Hungarian small and medium size companies will be able to learn directly from large companies. This creates a real knowledge transfer between small and medium size companies and major international ones. Continental has also set up a training workshop for its own staff and high school students, where, in addition to basic technical know-how, Industry 4.0 is also taught. (Sass, Szalavetz 2013, 3). Education and training are kay elements of this program in order to face up to labor shortages of skilled labor in Hungary. Besides the governmental initiative, I also focus on how companies are actually prepared for Industry 4.0.

6.2. Survey on application of IoT tools and Industry 4.0 solutions in Hungary

A questionnaire survey was carried out in 2017 among Hungarian manufacturing companies to assess the use of IoT devices and the corporate sentiment with respect to these solutions. The questionnaire was filled in by member companies of the Hungarian Association of Logistics, Purchasing and Inventory Management and the Hungarian Association of Packaging and Materials Handling (Nagy J., Oláh J., Erdei E., Máté D., Popp J. 2018). The survey reached nearly 500 production and logistics companies. Nevertheless, the sampling may not be considered as representative. However, the aim was to understand how companies approach Industry 4.0 and digital transformation (Nagy J., Oláh J., Erdei E., Máté D., Popp J. 2018). The IoT tools mentioned in the questionnaire were sensors, cyber-physicals systems (CPS), RFID chips, cloud storage solutions, major data analytical solutions, robotic arms, automatic guided vehicle(s), and smart products and smart devices.

56 % of participants were big companies (more than 250 employees, turnover of at least €32 million) (Nagy J., Oláh J., Erdei E., Máté D., Popp J. 2018). 28 % of the companies belong to medium-sized enterprises (employees: 50–249 persons, turnover: 9.5–31.9 M €), while the accounted for 16%. Most responding companies are in foreign private ownership (58%), with the proportion of Hungarian privately owned enterprises standing at 40%, and with one company having the Hungarian state as majority owner.

Regarding the use of the tools, the CPS has become the most widely applied tool with more 67%. Nevertheless, sensors and RFIDs were rarely applied by companies. From an industrial perspective, CPS, sensors, and cloud storage are usually applied in the mechanical engineering industry.

It has also been determined that most of the companies participating in the survey have just started to introduce Industry 4.0 solutions. Companies belonging to an international manufacturing group clearly have an advantage, since their parent company usually has already started a pilot project (Nagy J., Oláh J., Erdei E., Máté D., Popp J. 2018). Most of the companies already have an Industry 4.0 team, who is looking for opportunities and selecting projects for which it is worth starting a pilot. However, we still see that these projects are still separated within a company and are not able to involve the entire enterprise yet. The first step is to install sensors in the production lines to collect data. Smart products have not been introduced yet at all.

It was also stated that the main IT systems are developed individually at each company, therefore, several number of systems are developed simultaneously. This may lead to some conflicts later on when the companies want to involve suppliers and customers into their digital ecosystem (McKinsey Digital 2015, 1). The common standard platforms and interfaces will not be prepared this way. In addition, the changes in technology also lead to changes in organizational culture. Most companies try to introduce common involvement, and even workers may create and explore ideas relating to digitization.

Besides positive aspects, the possible drawbacks were also mentioned by companies in the survey. Significant part of the companies have data security as a crucial risk factor. In addition, the labor force without adequate skills has also been considered as a barrier. It was also mentioned that no common standards, norms and certificates are available yet in this process. 14% of companies have expressed its fear regarding losing control of the company's intellectual property. Several companies mentioned organizational resistance a serious challenge for its company. Nevertheless, this process has been identified as a very costly and expensive process, even this could hinder the development of a company in terms of its IoT tools. Companies also understood that their task to convince the workers to understand the necessity of change, because the employees have to be involved in this process to be more creative and provide higher added value (McKinsey Digital 2015,1).

7. Conclusions

Industry 4.0 is a significant challenge for manufacturing companies in CEE region. This transition is extremely important for manufacturing companies in countries, such as Hungary, where the international manufacturing subsidiaries play a major role in GDP creation. These economies are often described as a „factory economy" (Kagermann H., Helbig J., Hellinger A., & Wahlster W. 2013).

The implementation of advanced manufacturing technologies have two main segments companies have to cope with: technological and labor challenges. Labor challenges are not country specific, since skilled labor on high demand in many countries for different industries (Kagermann H., Helbig J., Hellinger A., & Wahlster W. 2013). The technological challenges also lead to major changes in business and operational processes, since several phases of the value chain have to be reviewed and redesigned due to digital transformation.

Industry 4.0 may only be dealt with if numerous aspects of changes are considered. A good is example is the Hungarian example where companies, professionals and governmental officials think and plan together which areas need to be redesigned even at governmental level. Major infrastructural and IT framework developments also have to be planned at national level. However, the participants may prepare only on the basis of international experiences that they gather from subsidiaries of international manufacturing company groups such as Bosch in Hungary. The small and medium size companies will probably more capable to meet these challenges if they receive knowledge transfer from major international companies.

Based on the survey, we may predict that labor shortage will be more pressing for local companies and subsidiaries of international company groups in the manufacturing industry. Therefore, immediate action is necessary to initiate new measures to the education system in a factory economy. Vocational training has to be supported in order to educate future workers to use modern technologies and to possess basic programming skills (McKinsey Digital 2015, 1).

In the survey, we found that digital transformation and the use of technologies have begun in Hungary, but there is a significant lag compared to more developed countries. The main obstacle to the implement Industry 4.0 is the lack of a clear digital strategy in value-creating (production and logistics) processes (Kagermann H., Helbig J., Hellinger A., & Wahlster W. 2013). Many companies are afraid of high costs of digital investments and data security difficulties.

All in all, industrial digital transformation does not only require the rethinking of technology, but also major skills and processes throughout the entire value chain. Companies will have to see what capabilities they can develop and how they can create a common platform with partners in the value chain.

Hungarian companies need to be aware of how industrial digitization affects their industry, and whether their customers or suppliers are already working with technologies that will sooner or later present challenges for them, as well. Businesses need to develop a number of capabilities that they may not have been necessary before (large amounts of data storage, analysis, development of relevant software), but which in the future will remain a basic requirement for staying competitive.

One of the most important features of the Industry 4.0 phenomenon is continuous research and adaptation. The application of new systems have opened new horizons for companies and these have led to the application of new inventions. In many cases, companies have also just reinvented and adopted already existing technologies under these new technological and market circumstances (Kagermann H., Helbig J., Hellinger A., & Wahlster W. 2013). Besides the continuous new permanent data flow among machines and devices, interoperability and permanent connectivity are also very important to elaborate this new phenomenon. This complex structure has led to introduction of self-learning machines, smart products. Newer and newer market and technological horizons are opening up continuously for companies due to this permanent development. Based on the latest expectations, the Artificial Intelligence solutions will also enforce this development in the near future.

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CULTURALLY-TRADITIONAL EVENTS AS A FOUNDATION OF RURAL AREA DEVELOPMENT OF EASTERN CROATIA

ABSTRACT

Tourism represents one of the fastest growing global industries that has a major impact on the social, but also on the economic sector and as such, contributes greatly to the development of a country. Because tourism represents a dynamic concept which is subject of a change, there is a also change in the structure od touris consumers. Namely, changes in tourist preferences and motives directly affect the development od selective forms of tourism that covers a wide range of tourist products. The resoult of this is the diversity of offer in the coultural tourism that have a strong influence on the development of tourist destinations. Events, especially those of traditional characher, are one of the most attractive elements in today's tourist offer. Therefore, in this paper, a summarized analysis of cultural tourism will be presented based on sientific methods. At the empirical level, through conducted in-deep intervew, the importance of traditional events in the rural area will be investigated and obtained results will be comapred. The aim of empirical research is to define importance and issues of the culturally-traditional event Mladost i ljepota Slavonije based on the acquired knowlege and also to analyze and compare the results obtained in the research in order to see potential changes in the organization of the event, program, financing, importance and the such. All that with the goal of getting acquainted with the real problems of the event itself which can be manifested in other events in rural area as well, but also with the goal of promoting cultural tourism of rural areas.

Keywords: *cultural tourism, cultural tourist, cultural events, Mladost i ljepota Slavonije*

1. Generally about specific forms of tourism

Tourism has been developing more and more in recent years. Accordingly, specific forms of tourism are being developed which, with their tourist offer, are increasingly emphasized on the tourist market. That offer consists of a diverse range of products and activities for which the tourism demand is increasingly growing. Tourism demand can be characterized as more demanding, selective and refined (Boškovič, 1999). Therefore, the preferences, motives and wishes of tourists greatly influence the definition and design of tourist offer today. Therefore, the development of specific forms of tourism is crucially encouraged in order to achieve differentiation in an increasingly competitive market (Zaninović, 2003.). However, the development of specific forms of tourism is also needed due to the economic, social and cultural development of a particular destination, which can be reflected in the further development of the local and regional tourism. Therefore, Tureac and Turtureanu (2008.) consider that it is necessary to develop specific forms of tourism according to the season, ie the season according to the potentials of a particular destination, which ultimately manifests itself in important tourist progress. In order to understand the possibilities for tourism development in the line with its potential, it is necessary to expose the classification of tourism according to Ružić (2009) which states that tourism is divided into the following forms:

- rural tourism;
- local (nostalgic) tourism;
- sports and recreational tourism;
- adventure tourism;
- religious tourism;
- health tourism;
- hunting and fishing tourism;
- gastronomic and wine tourism;
- ecotourism;
- education tourism;
- camping tourism;
- transit tourism;
- nautical tourism.

Apart from the aforementioned forms of tourism, there are other forms of tourism that enable diversified tourism development, especially in the territory of the Republic of Croatia. It should be stressed that every form of tourism is growing and attracts a particular market segment. However, for the paper purposes, the focus will be on cultural tourism in the rural area, which in today's tourist market has great predispositions for further development.

1.1. Rural tourism

Rural tourism is one of the many specific forms of tourism. The concept of rural tourism has been evolving for years, and today its tourism development is based on the natural landscape and the rural environment, which enables diverse activities. Due to the modern way of life, rural tourism is attracting more and more tourists. Therefore, it is considered that the tourist offer in the rural area will always be of interest to tourists because of the natural and cultural resources that define the rural area and constitute the basis for tourism development and progress (Bartoluci et al., 2018.). That is why rural tourism can be characterized as a social structure that is defined by different stakeholders and at the same time shows the diversity between localities, cultures and tourism practices (Dashper, 2014.). Tubić (2015.) describes the definition of rural tourism in the OECD (1994.), which it considers to be fundamental, since it only follows the rural area definition methodology and is, as such, the most comprehensive in the content sense, as repeatedly repeated in Tubić et al. (2017.). The definition of OECD (1994: 34-35.): states that: "Rural tourism fundamentally takes place in rural areas and is primarily in the function of agriculture. It is based firmly on the agricultural world with special features of the open space, the contact with nature, the rural heritage and the society. Rural tourism must be in an agreement with the environment and the social community in which it takes place. The community includes less than 10,000 people and it includes the farms inside that area of work. The focus of rural tourism is oriented towards a whole line of sustainable business subjects and the community inside the rural area. The goal of rural tourism is insuring a long-time sustainability of the life in the region where it takes place; it must be a force for the preservation of the rurality and not a force of urbanization". Goeldner and Ritchie (2003) point out that the rural space attracts visitors with features that are primarily motivated by physical, cultural, interpersonal features, but also prestige. It is therefore important to emphasize that rural tourism includes many forms of tourism and is also a platform for the development of other types of rural tourism. All this depends on the specifics of a space and resource base which is based on the abundance and richness of tangible and intangible heritage, natural beauties, cultural and traditional sights and many other characteristics. There is a need for classification of rural tourism by Kušen (2006) and it states that the following forms of tourism can take place in rural areas:

- agrotourism;
- rural tourism;
- hunting and fishing tourism;
- gastronomic tourism;
- ecotourism;
- camping tourism;
- adventure tourism;
- residential tourism;
- cultural tourism;
- other types of tourism.

From this division stands out cultural tourism, which represents an important tourist segment in tourist offer but also in rural demand. This is confirmed by the fact that culture can be the foundation for the development of tourism and distinguishes one rural place from another (Grgić et al., 2017.). Therefore, rural-cultural tourism is based on the authentic experience of tourists who learn about tradition and folklore from hosts, while the very concept of this type of tourism is based on the local community's economic development with emphasis on resource conservation (MacDonald and Jolliffer, 2003). It can be concluded that tradition and culture play a major role in the development and design of the tourist offer in the rural area.

1.2. Cultural tourism

As one of the specific forms of tourism, cultural tourism can, due to its characteristics, take place within rural areas. Cultural tourism is a phenomenon that has developed over the last few years as a product of demographic, social and cultural trends and has been highlighted as a lucrative tourism sector (Lord, 2002.). According to Richard's definition (1999.: 16), which is also one of the most talked about, "cultural tourism means the movement of people caused by cultural attractions outside their usual place of residence with the intent of gathering new information and experiences to meet their cultural needs" (Tubić, 2015.: 97). The definition of Richard is faced with a lack of, in other words, omits the kind of tourism where culture is a secondary rather than a primary motive for a tourist trip, as confirmed by Tubić (2015.: 97) according to Jelinčić (2006.) and Geić (2011.). For the quality development of the cultural and tourist offer, cooperation of the cultural and tourism sector is needed, which is also reflected in the knowledge of the characteristics of this type of tourism, the nature of its demand and the characteristics of the offer and the way of adapting the cultural resources to the needs of the tourists themselves (Tomljenović, 2006.). It is worth pointing out that culture is always interesting, but it needs to know how to revive and activate its tourism potential to make it more accessible, attractive and more attractive to tourists (Demonja, 2011.). Cultural tourists are the ones that influence the development and improvement of cultural-tourist offerings. Namely, cultural tourists represent a highly educated market segment that is well-paid and are experienced travelers seeking individual travels that are well-informed by Richards (2001.), Vritiprah (2006.) and Geić (2011.). It also emphasizes the acquisition of new knowledge and experience on the travels they want to meet their needs. Vitriprah (2006.) points out that the most important characteristics of cultural tourists are the dynamism, curiosity, spontaneity, unpredictability and the desire to meet new environments and the desire for attractive events. The tourist offer of cultural tourism is complemented by various types of tourism that meet the specific needs of cultural tourists. Therefore it is important to emphasize that cultural tourism has several subtypes mentioned by Geić (2011.), Pančić Kombol (2006.) and Rabotić (2013.), according to which cultural tourism can be divided into:

- heritage tourism;
- historical tourism;
- tourism of art;
- creative tourism;
- native or ethnic tourism.

Determining an individual sub-forms of cultural tourism is important for the development, improvement of specialized and personalized cultural tourism offerings. As a part of the tourist offer, a cultural heritage is also distinguished, which greatly influences the creation of cultural offer and activities of a particular destination. Demonja and Bačac (2012.) point out that numerous rural heritage resources can be used as an integral part of rural tourism offer. There are many facilities and contents that are put into the function of tourism, and are related to material and immaterial cultural heritage. The very notion of cultural heritage is wide and can be interpreted in various ways that it is concluded that it is a dynamic concept based on cultural goods that represent value for a wider social community (Šošić, 2014.). The variety of contents and attractions that are being placed for tourism purposes is increasing, and quality is a key element that increases the value of the tourist offer (Vritiprah, 2006.). The events, as a form of cultural tourism offer over time, gain importance on the tourist market.

2. Cultural events

The events are considered one of the most important drivers of tourism and become a key element for achieving competitive advantage on the tourist market. Smith (2003) points out that the events are considered unique because of the interaction and experience gained through these design elements and programs that they include. Therefore their primary objective is to increase the tourist attraction of the destination they are taking. Tourists visit such events for an authentic experience and interest in particular products, events, culture, heritage, tradition and so on. The main feature of the event is interaction, so the emphasis is on the interaction between the local population and tourists so that tourists can gain insight into the culture, tradition and history of the destination they are visiting. Namely, the cultural events that make up a significant segment of the tourist offer are highlighted. They are also one of the fast-growing niche that is marked by significant growth and development within the tourist industry, according to Milohnić (2012.). Cultural events are important because they contribute to the economic and socio-cultural development of the destination. Cultural significance is manifested through the preservation and promotion of tradition and cultural heritage, and social significance is linked to the improvement of socialization of the local community and attraction of foreign and domestic tourists (Jovanović and Delić, 2010.). Also, the transfer of cultural heritage includes the unique, natural, historical and cultural achievements of a particular area and the people who live on it, which are remembered or kept so that present and future generations can experience it (Jelinčić, 2008.). That confirms the fact that it is necessary to work on the preservation of culture, tradition and customs, as well as their presentation to tourists through cultural events, so that others can also gain insight into the beauty, wealth and tradition of the place they visit.

3. Empirical research

Empirical research is based on the culturally-traditional event Mladost i ljepota Slavonije, which was designed in 1967. and founded in 1968. in Stari Mikanovci. This event is designed to preserve tradition, culture, traditional costumes and customs from oblivion. Every year, the event is organized by the local KUD Šokadija. The backdrop of the show itself is the programme and the selection of the most beautiful girl, women and men in folk costumes by the expert jury who chooses the best participants from each category based on exactly prescribed criteria. During the 52 years of organizing this event, numerous participants attended the event and educated visitors with their performances and folk costumes about the importance of preserving the Slavonian cultural heritage. Mladost i ljepota Slavonije today is a event of regional character that has inspired many places to launch similar events that have become an attractive factor of rural areas.

3.1. Methodology

The empirical research of the culturally-traditional event Mladost i ljepota Slavonije was carried out through a in-depth interview in 2016.[1] and again in 2018.[2] An in-depth interview is a qualitative type of research that is based on a conversation with one respondent in order to get an insight into the problem being explored (Juspović, 2006). The results obtained by in-depth interviews can be analyzed, but also compared. Therefore it is important to note that the interviews were conducted with the former secretary of the organizational committee and the long-time secretary of KUD Šokadija (*respondent a*), who is also one of the founders of the event itself and with the curator of ethnologist and museum advisor in the Vinkovci City Museum (*respondent b*) who is a longtime collaborator of the event. While on the other hand, an in-depth interviews were conducted in 2018. with the current president of KUD Šokadija (*respondent c*) and with the current secretary of KUD Šokadija (*respondent d*). By comparing the results, the emphasis will be placed on contact and different points between the

[1] In-depth interview conducted for the purpose of writing the final work, Škrget, D. (2016): Improving cultural tourism through cultural-traditional manifestations. Virovitica: Virovitica College. Work published on September 15,2016. Mentor: Dejan Tubić ph.D.

[2] In-Depth interview conducted for the purpose of writing graduate thesis, Škrget, D. (2018): Traditional manifestations as a basis for the development of cultural tourism in rural areas. Virovitica: Virovitica College. Work published on September 27, 2018. Mentor:. Dejan Tubić, ph.D.

interviewees in order to get their views on the subject itself. They also learn about basic research questions:

1. What are the reasons for the event and what is its impact?
2. Who is involved in the organization of event and how is the program of the event itself developed?
3. Why is it important to insist on the further organization of the Mladost i ljepota Slavonije?
4. What are the future plans for the event itself?

Based on the research questions and the issues and themes of this culturally-traditional event Mladost i ljepota Slavonije, the results of the interview were analyzed. The analyzed results give answers to the research questions that have been asked.

3.2. Research results

Culturally-traditional event Mladost i ljepota Slavonije is one of the first events in the Vukovar-Srijem County and along with Vinkovačke jeseni has one of the longest traditions. Its importance is reflected in the preservation of tradition, culture and customs. Therefore, all interviewees agree that this event through the show and the selection of the most beautiful girl, woman and men has an educative character for the guests as well as for the participants. Respondents a and c stressed that the girls and women first participated in the event, while the boys were later involved, and because of the popularity the scope of the event is expanding rapidly and taking on a regional character. For that is responsible KUD Šokadija as the organizer and municipalities, counties, ZAKUD, sponsors and sponsors, and the local population who supported the event from the beginning. From the beginning, the event has set high advertising standards, as well as organizations. Numerous expert associates are responsible for that, including the respondent b, curator of the Vinkovci City Museum, who stressed the importance of the criteria set for selecting the participants in the event. Namely, professional associates as part of the jury are required to adhere strictly prescribed criteria that have been set up since the beginning and have been exchanged and supplemented over the years. Respondents b and d state that the age criterion, social and status criterion are the most important. It is also important to emphasize that participants are individually represented in Slavonian and Sriyem type of traditonal costumes that they need to know well and present, and it is desirable to have a more original representation of the dialect of the place they come from. All respondents agree that the presentation, the style of the original traditional costume, the quality of performance, the general and the complete impression is very important. They point out that up to 1300 participants - girls, women and men from all over Slavonia participated in the event so far.

The backbone of the program itself is a show of girls, women and men. However, every year, the program seeks to include new participants, performers, tambura groups and transfer different stage views and plays, and all this in order to improve the program and introduce new content. The event also includes an ethnical corner where old crafts, chants and immaterial heritage are represented every year. In order for this event to include quality content each year, for that are responsible experts who also participate in raising the quality of events, educating visitors and promoting events across Slavonia which respondents a, b and d point out. They emphasize that financial sponsorship has recently been difficult to reach. Part of the costs are borne by the municipality of Stari Mikanovci and the Vukovar-Srijem County, and recently a part of the finance comes from the Ministry of Culture, points out the respondent c. Media sponsors who are in charge of promoting the event also play a very important role. Also, KUD Šokadija promotes this event through its performances in some why, which is emphasizes especially by the respondents c and d.

There are various reasons why visitors come to the event Mladost i ljepota Slavonije. Examiner c points out that this event has a great value, and through it every year they want to add a new element to the program. While the respondent d states that love for traditional dress, tradition and costume is a very important attraction factor. On the other hand, the respondent a believes that this event has a variety of attractive factors, and every visitor can find something he likes at the event, and one of most important attraction factor is the wealth of folk costumes. In addition, it should be noted that this event contributed to the development of various events and initiated the revitalization of carousel customs and carousel riding.

This year was held the 52nd culturally-traditional event Mladost i ljepota Slavonije, where the main part of the program is the inevitable and that is the show itself and the selection of the most beautiful girls, women and men, and the performance of KUD Šokadija and the performance of the tamburitca band. As far as future plans are concerned, respondents c and d are pointing out that the future of the event is set out through the competitive form and the preservation of the traditional values. While the respondent a points out that there is a desire for this manifestation to come closer to young people in the future as they are the ones who will be the carriers and organizers of all activities related to this event in the future. At the same time, there is a desire for this manifestation to be an example for others to pursue this path in preserving the tradition, culture and customs of their region. It can be concluded that young generations are responsible for the future of this very important culturally-traditional event Mladost i ljepota Slavonije and they are the ones who will have to work on the development and linking of the tourist offer of this region.

4. Conclusion

Due to its characteristics, specific forms of tourism are imposing on contemporary tourist offerings. Namely, specific forms of tourism are increasingly developing and adapting to the needs of the market. Tourists are those who dictate such changes, so tourist products are becoming more diverse, better quality and more developed. However, it is necessary to draw attention to rural tourism and the rural area itself, and the tourist development of rural Slavonia versus other regions. Rural area have numerous resources which have to put in for tourist purposes, because they are just important factors for the growth and development of tourist offer of rural space. Namely, a variety of forms of tourism can be developed in the rural area, including cultural tourism, which recently covers a large part of tourism demand. At the same time, cultural tourism, with its offer and activities, participates in the creation of a diverse tourist offer. The events are attracted by a large number of tourists, including cultural events. Cultural events become more attractive because of their features and characteristics that attract certain groups of tourists. An example of a culturally-traditional event is the event of Mladost i ljepota Slavonije. Namely, this event is not sufficiently recognized by tourists because of its character and characteristics, but it seeks quality and originality on a competitive tourism market. This event is just a proof that the development of various forms of tourism can and should be encouraged in rural areas. It is necessary to recognize the opportunity for development, but also to develop products that contribute on the economic and socio-cultural area of the destination. Based on the above it can be concluded that there is a large number of unused tourist resources in Eastern Croatia which potentially represent a good base for tourism development, all with the raising of tourist awareness and education of the local population for the purpose of tourism development.

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RISK MANAGEMENT IN PHARMACEUTICAL INDUSTRY IN CROATIA

ABSTRACT

The pharmaceutical industry is one of the most profitable industries in the world and undoubtedly one of the most significant industries in Croatia. In the "Industrial Strategy of Republic of Croatia 2014-2020" the pharmaceutical industry has been evaluated as one of the key Croatian industries due to its notable export orientation, continuous positive operating results and the employment of a significant number of people. This paper seeks to identify which business risks occur within the pharmaceutical industry in Croatia, investigates whether and in which proportion pharmaceutical company in Croatia adopted risk management system and seeks to identify where the greatest risks come from. Inadequate risk management can cause enormous losses for the enterprise and can even be related to company downfall. Therefore, it is extremely important to understand potential risks companies are facing in order to develop adequate methods for their management. Authors conducted primary and secondary research. Secondary research was aimed at analysis of key financial indicators of the pharmaceutical industry in Croatia, while primary research was carried out in order to reflect upon researched topic and get insights for directions of further research. The research was conducted using a structured online questionnaire on a sample of 28 pharmaceutical companies licensed for the production and distribution of pharmaceuticals in Croatia. Research results revealed that pharmaceutical companies in Croatia have incorporated risk management guidelines, but do not use specialized risk management services. Most companies do not plan to increase expenditures to improve the risk management process over the next twelve months, because of the high costs of implementation along with the perceived complexity of such systems and lack of knowledge within the company. Research identified that within the pharmaceutical industry the greatest risks are perceived to be the risks of competition, followed by credit risk and regulatory and political risks.

Key words: *risk, risk management, pharmaceutical industry, Croatia*

1. Introduction

Risk management became not just an optional activity reserved for a few individuals, but a key set of processes and management tools that provide increased safety for surviving in the market and give a company a chance to enhance its competitive advantage. Ever since business subjects realized that risks are incorporated in everyday activities, it became necessary to know how to identify and manage them.

This paper seeks to determine in what way pharmaceutical companies in Croatia implemented risk management systems by studying the pharmaceutical industry as a whole and the risks that that companies working within mentioned industry face.

The pharmaceutical industry is immensely important on a global level. Not only that it is a great generator of jobs, innovation, investments, international trade and added value, but also pharmaceutical industry can directly improve lives of individuals by affecting their health condition and subsequently, quality of life. On a national (Croatian) level, importance of pharmaceutical industry is perhaps even greater, taking into account overall situation in the economy as well as levels of development of other industries.

That is why authors of this paper consider it was important to investigate more thoroughly risk management practices in Croatian pharmaceutical companies. Risk management that is timely and adequate protects the company against losses at the same time increasing the value of the company. In same regard, inadequate risk management can cause enormous financial losses for the company and bring its survival into question.

For the purposes of this paper, primary as well as secondary research had been conducted. Aim of the secondary research was to gain deeper insights into performance of pharmaceutical industry in general. Aim of the primary research was to gain insights into which business risks occur within the pharmaceutical industry in Croatia and to investigate whether and in which proportion pharmaceutical company in Croatia adopted risk management system. In addition, it also sought to identify where the greatest risks for companies operating within that industry come from.

2. Overview of pharmaceutical industry in Croatia

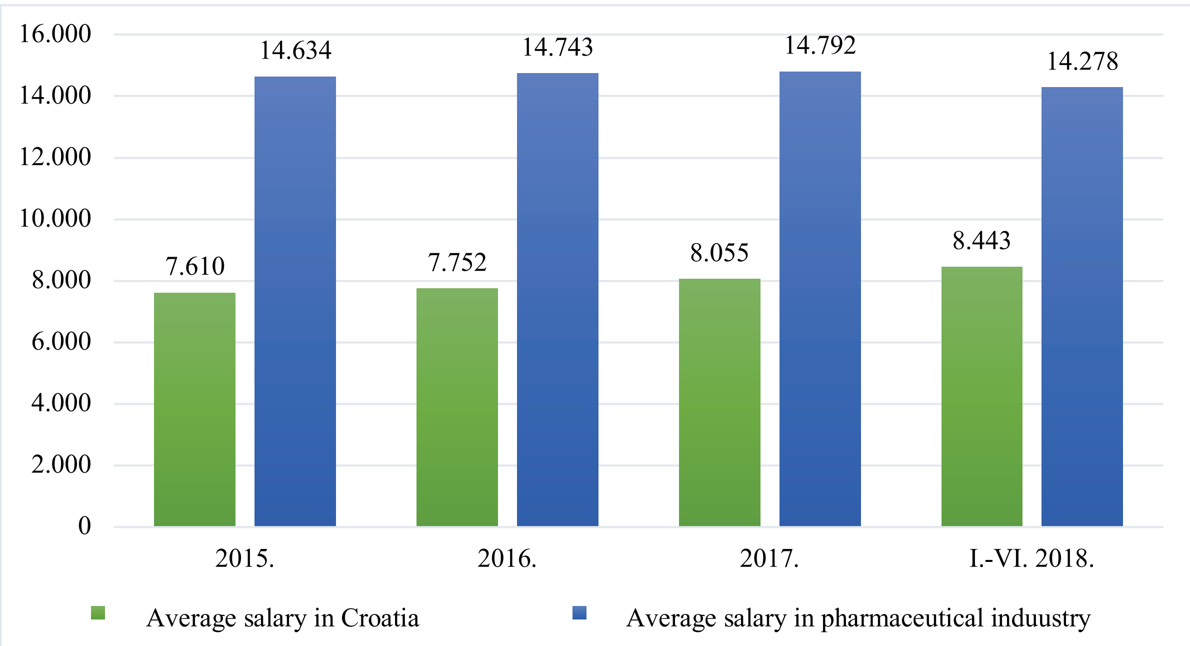
Due to the medical advancement caused by the research, development and introduction of new medicines that improve the health and quality of life of patients worldwide, the pharmaceutical industry has become one of the key industries of modern economies and also one of the highest-performing high-tech sectors.

The pharmaceutical industry is one of the most profitable industries in the world. According to the report published by The Business Research Company (2018), the value of the global pharmaceutical market in 2017 was USD 934.8 billion. Moreover, with an annual growth of 5.8 percent, it is expected that its value will reach USD 1.170 billion in 2021.

The manufacturing of the basic pharmaceutical products and pharmaceutical preparations in Croatia is characterized by high growth potential, strict legislation, high demand for investments and ongoing improvement of research and development (Ministarstvo gospodarstva Republike Hrvatske, 2014, p. 196)). Although it is in arrears compared to European Union, Croatian pharmaceuticals are one of the sectors of the Croatian economy that invest heavily in research and development activities. However, according to European Federation of Pharmaceutical Industries and Associations (EFPIA, 2018) in 2016 the Republic of Croatia has invested EUR 40 million in research and development, hence falling to the last place in the EU right after Greece. Of the total of nearly EUR 34 billion invested in EU in research and development, Croatia contributes with 0.12 percent of its total investment in research and development activities.
According to data from the European Federation of Pharmaceutical Industries and Associations, the value of the Croatian pharmaceutical market in 2016 was EUR 710 million. The Croatian pharmaceutical industry is strongly export-oriented and participates with 7 percent in the total exports of the Republic of Croatia (EFPIA, 2018). In 2016, the Croatian pharmaceutical industry exported pharmaceutical products and preparations totaling EUR 891 million, which contributed to total exports of EU pharmaceutical industry with of 0.24 percent.

Given the importance and efficacy of the pharmaceutical industry for the Croatian economy, the salaries of employees in this industry exceed the Croatian average. According to Croatian Bureau of Statistics data (Croatian Bureau of Statistics, 2018), the average annual gross salary paid in the pharmaceutical industry in the Republic of Croatia in the year 2017 amounted to HRK 14,792, which is nearly 84 percent more than the average annual salary in the economy. It is thus no surprise that pharmaceutical industry has been evaluated as one of the key Croatian industries in the official "Industrial Strategy of Republic of Croatia 2014-2020" (Ministarstvo gospodarstva Republike Hrvatske, 2014).

Figure 1: *Average monthly gross salary per employee in Croatia compared to the average monthly gross salary in pharmaceutical industry (HRK).*



Source: Croatian Bureau of Statistics, 2018

Restricting factors for operations and development of industrial activities are the result of strict regulations and quality control and production, drug registration process etc. which represent significant cost source for involved companies. Particularly sensitive area is timely briefing on adopted laws, i.e. to new legislation and adaptation to the law.

In the domestic pharmaceutical industry, the activity is based on the sale of finished products or semi-products, while the raw materials are mainly imported. According to Agency for medicinal products and medical devices of Croatia (HALMED, 2018), there are around 30 companies that are actively doing business within the industry, while 28 of them have production permits. According to data obtained in the Drug Consumption Report (HALMED; 2018) in the Republic of Croatia in 2016, total drug consumption amounted to HRK 1,045.88 per person per day, or in total HRK 5.8 billion per year. Overview of some major industrial indicators is given in table 1.

Table 1: *Major industrial indicators of pharmaceutical industry in Croatia*

	2015.	**2016.**	**I.-VI. 2017.**
Production activity (u %)	-0,1	12	4,7
Average number of employees	4.268	4.354	4.429
Average gross salary (HRK)	14.634	13.553	13.905
Consumer prices (%)	1,9	2,2	3,4
Export (HRK mn)	4.358,7	4.845,9	2.596,3
Import (HRK mn)	6.367,1	9.379,0	3.927,4
Foreign trade balance (HRK mn)	-2.008,4	-4.533,1	-1.331,1

Source: Barbić (2017), Sektorske analize: Farmaceutska industrija., p. 5.

Out of the total number of Croatian pharmaceutical product manufacturers, the top 10 in 2015 accounted for more than 90 percent, and in 2016 it was slightly less than 90 percent of the total sector revenue and employs more than 90 percent of the total sector employees in both years. All ten companies are classified in the activities of manufacturers, of which Pliva, Jadran Galenski Laboratory (JGL) and Belupo are ranked as the first three enterprises by the amount of revenues made.

In 2016, Pliva made HRK 4.6 billion in revenues, and participated with 69 percent among top ten largest pharmaceutical companies, while in 2015 revenues amounted to HRK 3.97 billion which accounted for 60 percent of total revenue within the leading ten manufacturers. In 2016, JGL occupied second position among top ten with a 10 percent in total revenues, while Belupo was third. While, according to all indicators of profitability, JGL is dominant compared to the two other competitors, according to the indicators of activity, they are most liable to the risk of collecting receivables, given that from sales to payment it takes about 10 months on average. However, activity indicators only confirm the well-known problem of domestic pharmaceutical industry with payment deadlines, as in 2016 the average billing time for the leading 10 companies was 215 days. For comparison, a year earlier the average for 10 leading companies was 153 days. Average time for Belupo for collection of claims was around 6 months. Belupo has also proved to be more effective than competitors in inventory management. According to the indebtedness indicators, compared to the observed competitors, JGL is the most indebted company with the most unfavorable debt to equity ratio, which is due to new investments in the expansion of production capacities and the downturn of the Russian market, which in 2016 accounted for one third of its exports. Selected business performance indicators for top three Croatian pharmaceutical companies can be seen in table 2.

Table 2: *Selected business indicators of the ten largest pharmaceutical manufacturers in Croatia (2016)*

	Pliva	**JGL**	**Belupo**	**Average (ten largest)**
Total revenues (HRK mn)	4.601,80	661,1	653,7	666,7
Annual revenue growth rate (%)	15,9	5,9	8,7	-8,6
Net profit (HRK mn)	554,8	91,3	60,3	79,1
Net profit margin (%)	12,1	13,8	9,2	8,3
Profitability of assests (%)	8,7	9,6	4,8	10,4
Profitability of capital (%)	15,1	20,3	7,7	3,8
Current ratio	1,1	2,9	1,7	2,4
Av. time of inventory turnover (days)	134	139	83	99
Av. sales to payment (days)	106	317	184	215
Debt to equity ratio	0,6	1,6	0,9	0,8
Number of employees	2.095	615	1.062	442
Productivity (HRK thousands)	583,9	312,9	247,8	491,5

Source: Barbić (2017), Sektorske analize: Farmaceutska industrija., p. 22.

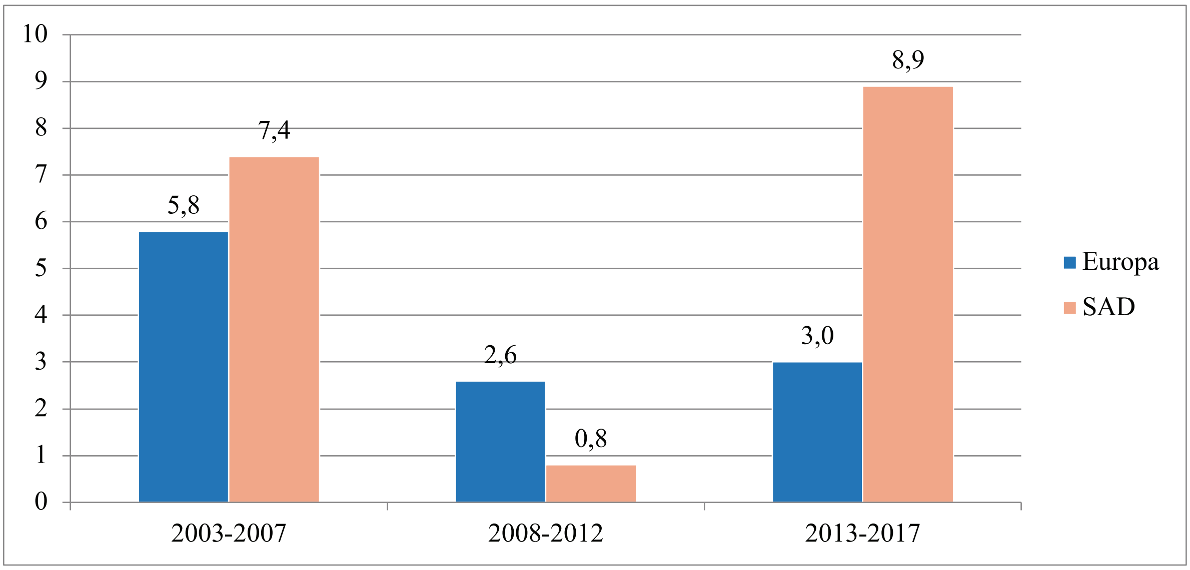
3. Overview of pharmaceutical industry in the European Union

The level of production of pharmaceutical industries manufacturing in the European Union in 2017 was estimated at nearly EUR 260 billion and has a tendency of growth. In the same year, this industry directly employed 750.000 people, of whom 115.000 had been highly qualified employees employed in research and development departments. Indirectly, the pharmaceutical industry creates up to four times more working places.

Investments in research and development in the pharmaceutical industry in European Union in 2017 exceeded EUR 35 billion, showing a slight growth compared to the previous year and, also, a continuation of an upward trend. According to European Federation of Pharmaceutical Industries and Associations data (EFPIA, 2018), more than two-thirds of investment in research and development in 2017 pertains to pharmaceutical companies of Switzerland, Germany, the United Kingdom and France. Of the other countries in Europe, only Belgium, Denmark, Italy, Sweden and Spain invest over one billion euros a year in research and development.

According to the data published in the “EU R & D Investment ScoreBoard” (European Commission, 2016), the largest growth in activities of research and development (13.2 percent) in the European Union was achieved by the pharmaceutical and biotechnology sector, although the annual growth rate of the biotechnology industry is considerably larger than the pharmaceutical industry. These sectors are followed by the IT sector with the growth rate of 12.2 percent.

Figure 2: *R&D expenditure in Europe and the US, annual growth rates (%).*



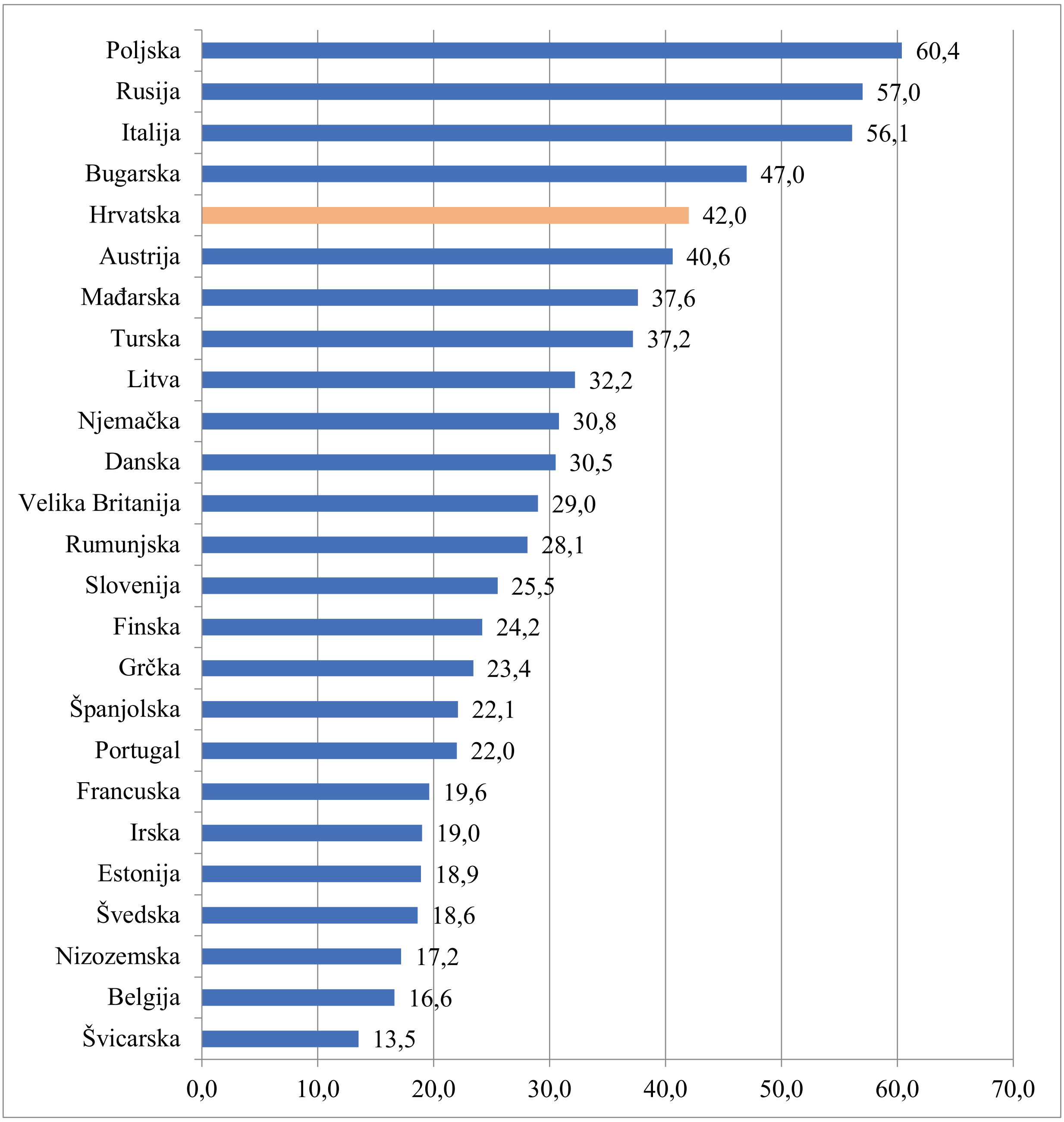
Source: EFPIA, (2018), The Pharmaceutical Industry in Figures

In the period of 2003-2007 research and development expenditure grew at an average annual rate of 5.8 percent in Europe, while in the period from 2008 to 2012, the growth of the same market slowed down and grew by 2.6 percent. In the period from 2013 to 2017, research and development spending in Europe grew at a 3.0 percent rate. Apart from 2008-2012 period, which was a time of financial crisis, it can be observed that United states of America have considerably higher annual growth rates of R&D investments.

The growth in R&D investment in the European Union after 2010 has significantly slowed down due to fiscal reform and the introduction of various savings’ measures and regulatory constraints. The total private and public investment in the health sector in the EU countries is considerably lower than in the US (figure 2). High health costs, both in the US and in the EU, together with slow growth in R&D and investments in the health sector, have led to an increase in the generic drug segment (Barbić, 2017, p.9).

Switzerland is the most innovative pharmaceutical industry in Europe with a share of generic drugs of 13.5 percent in total sales in 2016. With 42% share of generic drugs in total sales, Croatia is ranked as the fourth least innovative country in the European Union, in front of only Poland with 60.4%, Italy (56,1%) and Bulgaria (47%) (figure 3).

Figure 3: *Share of sales of generic drugs in total revenues in 2015 in selected countries (%).*



Source: EFPIA, (2018), The Pharmaceutical Industry in Figures

4. Risk management in pharmaceutical industry

Value chain of pharmaceutical industry is in essence quite similar regardless of the market which it serves. However, unique factors pertaining to each international market seem to critically influence the nature and types of risks companies will face and subsequently have to deal with. It is thus not surprising different research analyzing risks in pharmaceutical companies in various countries points to different risks companies face or consider the most important.

Numerous pharmaceutical companies that, for the sake of gaining competitive advantage, previously focused on business innovations, have now been turning to new business activities, such as risk management activities (Rogachev, 2008). The management's goal has become to better understand and anticipate risks that can affect the company and alleviate the strength and impact of their consequences.

As the need for risk management increased in the last few years as a result of globalization and a more dynamic business environment, the traditional approach to risk management that insulates the risk management system from operational business processes had proved unsuccessful and the need for development of an integrated risk management system emerged.

Bezanson and Riley (2015) in their research identify the four most commonly encountered risks that pharmaceutical companies face: cybersecurity, global corruption, false marketing, and anti-competitive behavior that violates antitrust laws. They also conclude that by identifying key risks and by proactively developing policies and procedures for mitigating them, companies can reduce their legal and financial exposure. On the other hand, the failure to achieve this can expose the company to regulatory penalties and private civil disputes.

Research of Delloite (2018) pointed out that alignment of business processes with regulatory requirements becomes increasingly important as new regulations are widespread in the US and globally alike. It is vitally important for companies to understand the impact of prescribed regulations on their operations and to develop the ability to carry out the processes that are necessary for that kind of alignment. In addition, Delloite (2018) recognizes operational risks as the type of risk that has the most significant impact on business operations and operational management of pharmaceutical companies. It identifies five operational activities they consider to be the greatest source of operational risk, namely product/service diversification, increased regulation, consolidation, change of the R&D department's business model, and change of the sales model.

Research carried out by Deselnicu et al. (2018) explored the risks faced by the pharmaceutical company in Romania and tried to determine methods that are most appropriate for their management. Out of the 12 identified risks, the largest impact on the company and the highest likelihood of occurrence was the rejection of customer orders and storage of cold medicines outside the refrigerator, which are again categorized as operative risks according to the distribution chain risk catalog (Jereb and Cvehte, 2013).

According to research of Braka, Asante and Akosaha (2016), the main risks that occur in the pharmaceutical industry pertain to the lack of inventory, theft, and expiration of the product. Attention is drawn to the fact that pharmaceutical companies face the problem of inventory management within the distribution chain, as confirmed by the research conducted by Kamath J.K., Kamath K.K., Azaruddin, Subrahmanyam & Shabharaya (2012), who have examined risk assessment in pharmaceutical companies in India. According to their research, there are four key risk categories within pharmaceutical industry: 1) inventory management, 2) regulatory risks, 3) risk of counterfeit medicines, and 4) financial risks.

The research carried out by Bucalo and Jereb (2017) within the pharmaceutical industry in Slovenia, confirmed research results by Braka, Asante and Akosaha (2016). In their research, they identified 54 risks occurring in the distribution chain, of which most commonly reported had been: delays in deliveries, loss of merchandise value, long delivery time, single supplier dependency, problems with the air conditioning system, slow flow of material through the distribution chain, disturbed delivery of goods to the buyer, and problems with payments. Also, 30 out of the 54 identified risks were in fact o risks, of which 24 were operational risks. Jaberidoos, Nikfar, Abdollahiahiasla and Dinarvand (2013) in their research also identified operational risks (business processes, employees, bad management etc.) as key risks in pharmaceutical industry.

It can be observed that in different market setting, various researches pointed to dissimilar results, which in turn has different implications and calls for a different managerial and regulatory approach. Thus, through primary research we wanted to gain more insights about specificities of risks and risk management processes within pharmaceutical industry in Croatian setting.

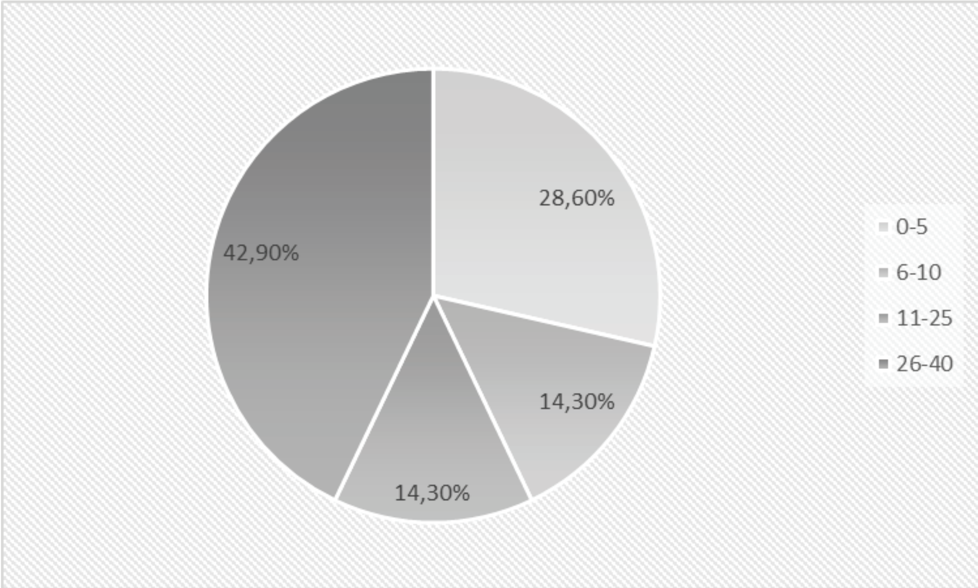
5. Research findings

In order to establish research sample, authors benefited from data-base of the agency for medicinal products and medical devices of Croatia (HALMED). According to data available, there have been 1521 company operating within Croatian pharmaceutical industry. However, most of these companies deals only with distribution of pharmaceutical products (retail or wholesale (including international trade) of pharmaceutical products or active substances) without engaging any further in production activities. Thus, complete list of pharmaceutical companies was filtered to contain only those that deal with production of pharmaceuticals (in contrast to companies that only deal with distribution of those products). Total number of pharmaceutical companies in possession of production permit amounted to 28 and all of them had been included in our research, which ensured the representativeness of the research sample. Questionnaire was sent via e-mail to members of the survey sample in mid August 2018. After two-weeks period, reminder was also sent. Sample consisted of 28 companies and return rate was 25%. Unfortunately, relatively small population of pharmaceutical companies operating within Croatia poses significant limitation of the research and affects robustness of obtained results.

The aim of this study was to gain insights into how the surveyed companies are dealing with risks, and to investigate which risks they perceive to pose the greatest threat.

In the following figure we can see the international orientation of sample companies (figure 4). Most of the companies operates on more than 25 different markets, which is related to strong export orientation of pharmaceutical industry. This is very important because it proves that companies operating within pharmaceutical industry have to operate in more complex (international) environment which signifies they are exposed and have to cope with relatively greater sources of risks.

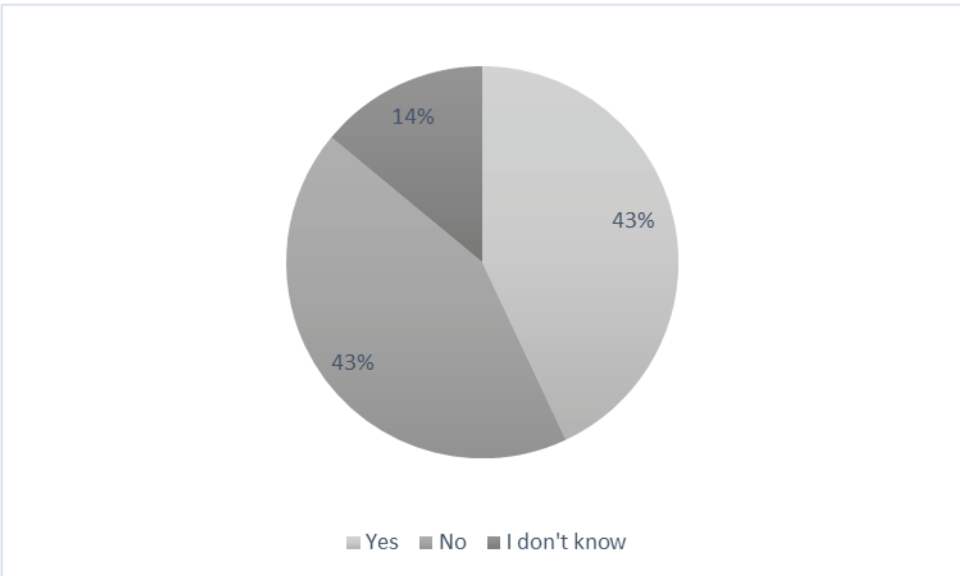
Figure 4: *Number of foreign markets in which Croatian pharmaceutical companies operate.*



Source – authors' own research based on collected data

The pharmaceutical industry is one of the most regulated industries in the world with regard to the nature of the businesses, which is why the industry has prescribed obligations to the standards that it must adhere to. The latter was also confirmed by our research. Namely, all the pharmaceutical companies involved in the research have indicated that there are guidelines and/or policies within the company pertaining to risk management activities.

Figure 5: *Within the company there is a department in charge of risk management.*

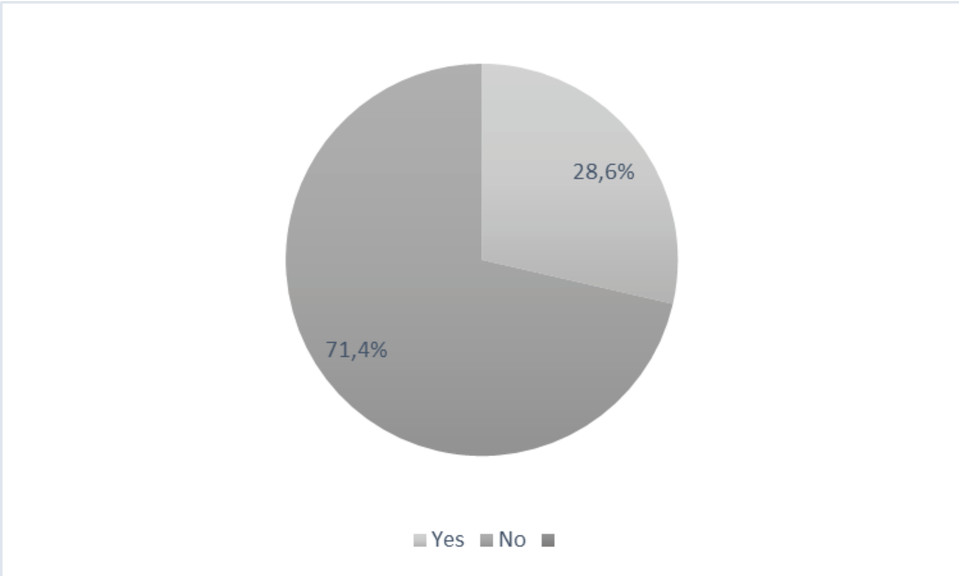


Source – authors' own research based on collected data

Although there are clear guidelines and/or risk management policies in all surveyed companies, only 43 percent of companies responded there is actual department in charge of risk management within the organization. The remaining 43 percent of the sample indicated that there is no department in charge of risk management within the company, as shown in figure 5.

Despite the fact that 43% of companies stated that there is a department in charge of risk management, more than 70% of surveyed companies acknowledged that designated risk manager does not exist within the company, as can be seen in figure 6.

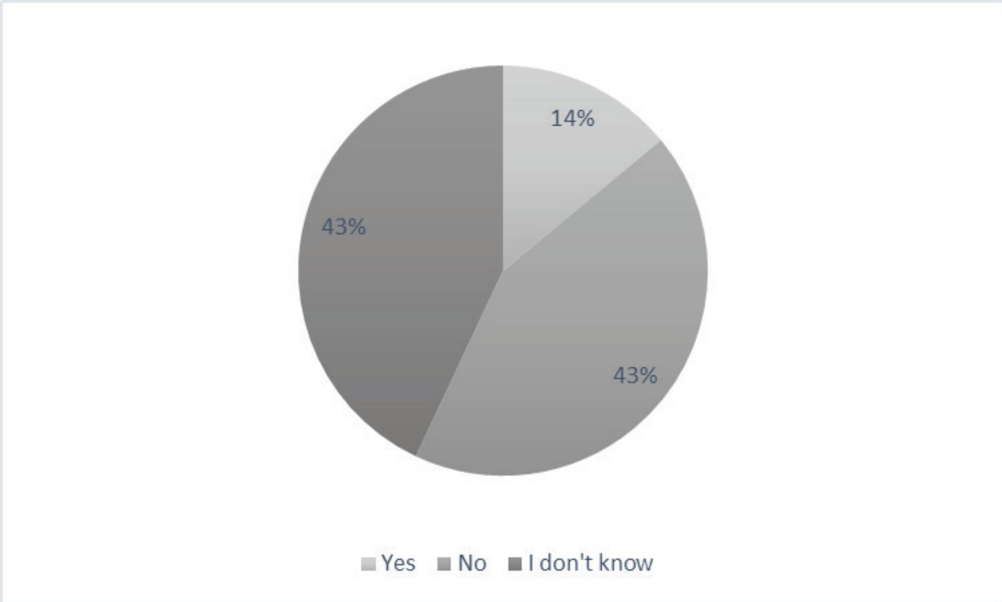
Figure 6: *Within the company there is a "risk manager" function in charge of risk management.*



Source – authors' own research based on collected data

The research has shown that pharmaceutical companies in Croatia do not, in large part, use the services of specialized external companies that provide services pertaining to risk management. Namely, 86 percent respondents answered that they did not use such services, while rest of the companies couldn't provide answer to that question. None of the companies surveyed responded to using the services of external risk management companies. This was accompanied by additional proof where 86% of respondents stated that their company receives enough information from internal sources that would enable systematic risk management processes to be conducted within the company. In addition, 71% of respondents believes that company management in charge knows which are the key sources from which key risks come from.

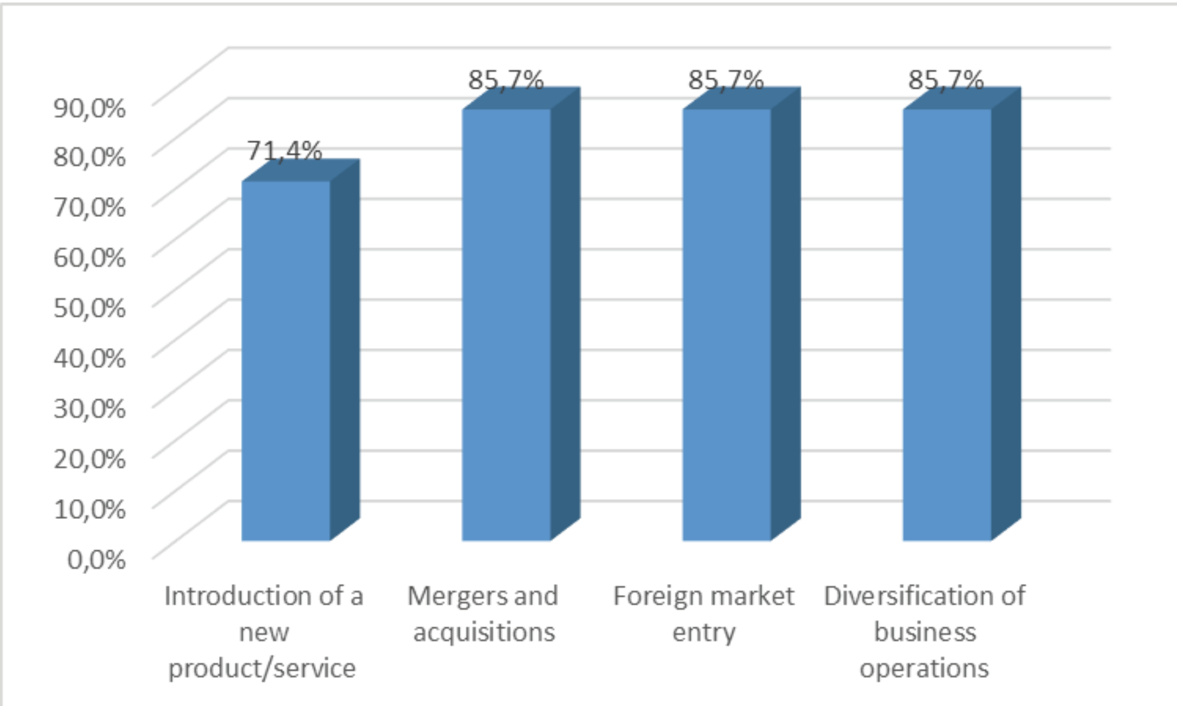
Figure 7: *Does a company plan to increase risk management costs over the next twelve months?*



Source – authors' own research based on collected data

Based on information presented on previous charts, we can conclude that half of the examined pharmaceutical companies in Croatia believe that the prescribed risk management policies are sufficient and that the company does not need additional risk management tools or lack sufficient financial resources funds.

Figure 8: *When is it important to use risk management tools.*

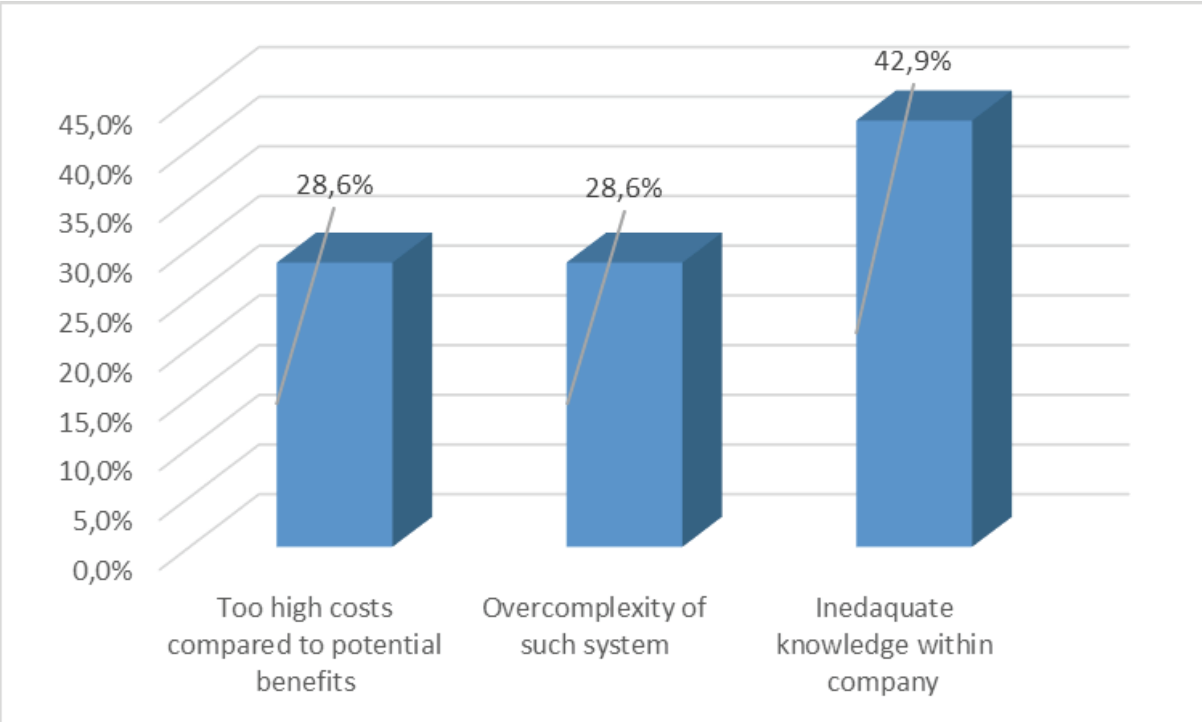


Source – authors' own research based on collected data

Figure 8 shows respondents' answers when they consider important to use risk management tools. Almost all respondents replied risk management tools are important when mergers and acquisitions, foreign market entry or diversification of business activities is about to take place. Somewhat smaller portion of respondents (71,4%) considered introduction of a new product/service into the market an activity where usage of risk management tools is important. All of the above leads us to a conclusion that responsible people within pharmaceutical companies in Croatia believe that it is necessary to use the risk management tools only in uncommon and extraordinary situations.

The following figure provides insights into the main reasons why Croatian pharmaceutical companies do not actively use risk management tools. 28,6% replied that using such tools requires costs that may outweigh potential benefits. Furthermore, over-complexity of such systems is also one of the key reasons (28.6 percent). The main reason why companies involved in the research did not manage business risks revealed to be a lack of adequate knowledge within the company (42.9 percent), although none of the respondents considered that the good quality data is unavailable.

Figure 9: *The main reasons why companies do not actively manage business risks.*



Source – authors' own research based on collected data

When it comes to revealing what types of risk respondents deemed as most significant, results have revealed that all of the companies considered risks of competition to be of utmost importance. Those are followed by regulatory and political and regulatory risks (86%) (which makes great sense having in mind that pharmaceutical industry is one of the most regulated industries in the world in general) and credit risks.

Reputational, liquidity risks and price risks are next in line with 72% of respondents deeming those risks as significant for the business. 43% of respondents consider foreign exchange risk to be of great importance for the company. It would be logical to assume these were responses of managers working within companies that are greatly exposed on international markets. Macroeconomic risks were pondered equally. Macroeconomic downturn affects purchasing power of buyers and impacts buying behavior, although demand for many pharmaceutical products is not elastic.

6. Conclusion

The Croatian pharmaceutical industry has a small share in the pharmaceutical industry both in the European Union and in the world, but this industry is of the utmost importance for the Republic of Croatia.

Research results on risk management in the pharmaceutical industry in Croatia may lead to a general conclusion that the Croatian pharmaceutical companies recognize the importance of risk management. In contradiction, a small number of respondents actually have a separate organizational unit as well as designated risk manager as executive function. Pharmaceutical companies in Croatia mostly have incorporated policy or risk management guidelines, but do not use specialized any kind of external risk management services. Moreover, most pharmaceutical companies do not plan to increase expenditures to improve the risk management process over the next twelve months, which is reflected in the high costs of implementation, along with the complexity of such systems. Examinees argue that implementation costs would outweigh the benefits of such a system. However, despite the high cost, the lack of adequate knowledge within the company was declared as the main reason for such a decision.

Research results also pointed to potential risks within the industry that examinees deemed to pose the greatest threats. On top of all are risks of competition, followed by credit risk. The companies surveyed also reported regulatory and political risks as one of the most serious threats. Operational risks pose a risk to a lesser extent, as well as liquidity risks. This altogether brings us to a conclusion that most of the key risks in pharmaceutical industry are perceived to stem from the external environment of the company.

Object of this paper was to gain brief overview of the risk management practices in pharmaceutical industry in Croatia. To gain deeper insights further research should be conducted. Cross country research comparing practices of Croatian companies to practices of companies operating within more developed (Western) economies would be extremely valuable since it would enable industry regulators as well as company managers to understand which of their standardized business activities lag behind or could still be improved regarding best risk management practices. In addition, more focused intra-industry research should be carried out in order to better understand (company and management) characteristics that separate companies with good risk management practices from countries with poor risk management practices.

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14 In Closing

In closing

Altogether 104 scientific and professional papers have been accepted and presented at 8th Scientific Symposium „Economy of eastern Croatia – vision and growth". Different perspectives on the major topic have, as in previous years, shown that a conference of this type is attractive, not only to local and regional scientists with base in economics, but also from different countries and different fields of expertize.

The most interest this year was found in the conference track on tourism, where number of papers deal with tourism sustainability on one hand, and with culture as an important segment of tourism product development. Another area is speciality tourism, dealing with sports, religious tourism, and customer/tourist motivation and satisfaction.

The other track that raised participants interest in research is Financial infrastructure and economic development with a variety of topics and issues researched and presented: financial literacy, risk management, banks' concentration, fiscal and monetary policy, auditin and controling. All these are in one way or another analyzed from development perspective and give an interesting insight.

The track on Macro issues in regional develoment was mostly concentrated on eastern Croatia, covering areas like structural problems of economic development, regional growth, regional competitiveness, budget outcomes and political accountability and regional foreign trade.

Global economy and sustainable development track is the one dealing with international trade, international temporal solvency, EU issues and quite a few papers of the „hot" topic of emigration and its impact on economic development.

The track on education and human resources in regional development is constantly present during past few years. Most of the papers presented this year concentrate on the role of science in development, digitalization and internationaziation as key issues in this area.

Sectoral, urban and gender issues track has appeared this year since quite a few papers accepted were dealing with specifics and competitiveness of certain sectors in Croatian economy (mining, construction sector, agriculture), urban development issues and gender issues related to development.

A small, but constantly present track on legal issues in regional developmet this year is dealing with adjudication, GMO legal issues and legal inconsintencies.

This year we see a growth of scientific interest for micro aspects related to regional development and papers regarding this approach are distributed over three tracks: Managerial challenges and competitiveness, Branding, social entreprenuership and social responsibility and Non-profit sector and economic development.

All the papers presented, although wide in area and scope, provide insights into economic development from variuos perspectives. We are convinced that reading of GIH symposium proceedings will be useful for better understanding of this complex phenomena. And finally, we'd like to thank all the participants for their great efort and contribution to this years' symposium.

Mirna Leko Šimić

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