

Mirko Cobović, Ph. D. Student

College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +385914928017
E-mail address: mirko.cobovic@vusb.hr

Andreja Katolik Kovačević, Ph. D. Student

College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +385914928032
E-mail address: andreja.katolik@vusb.hr

Ivona Blažević, BSc

College of Slavonski Brod
Dr. Mile Budaka 1, 35000 Slavonski Brod
Phone: +385914928041
E-mail address: ivona.blazevic@vusb.hr

**COMPARISON OF ECONOMIC FACTORS FOR SUCCESS IN BUSINESS,
FOCUS ON INFRASTRUCTURE**

**KOMPARACIJA GOSPODARSTVENIH ČINITELJA ISTOKA HRVATSKE
KA VEĆOJ KONKURENTNOSTI**

ABSTRACT

In this paper, authors analyse several factors that are affecting economic development of the Eastern Croatia: fiscal burdens, areas of special state concern, the size of the analyzed town and geographical location. In addition, authors analyse the unemployment rate in counties in which these cities are. In this paper, authors analyse five cities of Eastern Croatian: Slavonski Brod, Osijek, Vinkovci, Vukovar, Đakovo and Orahovica. Eastern Croatia lies between the river Drava in the north (border with Republic of Hungary), river Sava the south (border with Bosnia and Herzegovina (BiH)) and the river Dunav in the east (border with Republic of Serbia). The region is the main granary and agricultural most developed part of Terepublic of Croatian.

The paper shows an example of how information, communication and transport infrastructure can effects on the development of Eastern Croatia.

Business infrastructure leads to optimization of operations and opportunities for faster and better decision-making. However, the growing need for new types of information and communication infrastructure, which effects the conclusive increase in operating costs and an important factor in competitiveness.

The objective of the paper is comparison of economic factors for success in business, focus on infrastructure. Authors use a range of scientific research methods (methods of analysis, comparison, induction, deduction, description and classification, etc.) as well as individual mathematical-statistical methods used for the analysis and ranking of certain parameters.

Key words: *Infrastructure, Development, Competitiveness, Eastern Croatia*

SAŽETAK

U radu su analizirani čimbenici koji utječu na gospodarski razvoj istočne Hrvatske: fiskalna opterećenja, područja od posebne državne skrbi, veličinu odabranih gradova i geografski položaj. Osim toga analizirana je stopa nezaposlenosti u županijama u kojoj se odabrani gradovi nalaze. U ovom radu autori su analizirali pet gradova istočne Hrvatske: Slavonski Brod, Osijek, Vinkovci, Vukovar, Đakovo i Orahovica. Istočna Hrvatska nalazi se između rijeke Drave na sjeveru (granica s Republikom Mađarskom), rijeke Save sa juga (granica s Bosnom i Hercegovinom (BiH)) i rijeke Dunav na istoku (granice sa Republikom Srbijom). Regija je glavna žitnica i poljoprivredno najrazvijeniji dio Hrvatske.

Rad pokazuje primjer kako informacijska i komunikacijska te prometna infrastruktura utječe na razvoj istočne Hrvatske.

Poslovna infrastruktura dovodi do optimizacije poslovanja i mogućnosti za brže i bolje odlučivanje. Međutim, raste potreba za novim vrstama informacijske i komunikacijske infrastrukture koje utječu na povećanje obujma poslovanja i važan je faktor u ostvarenju konkurentnosti.

Cilj ovog rada je usporedba ekonomskih čimbenika za uspjeh u poslu, fokus je se na infrastrukturi. Autori koriste niz znanstvenih metoda istraživanja (metode analize, usporedbe, indukcije, dedukcije, opis i klasifikacija, i tako dalje), kao i pojedine matematičko-statističkim metode koje se koriste za analizu i rangiranja određenih parametara.

Ključne riječi: *Infrastruktura, Razvoj, Konkurentnost, Istočna Hrvatska*

1. Introduction

Economic development is defined as a long-term process of increasing production and revenue followed by the structural improvements in their creation and distribution which aims to increase the long-term ability to satisfy the general needs of the community or the state, and a steady rise in living standards, financial independence and political freedom of people. "Each generation unit needs specific infrastructure to be able to function effectively. Infrastructure signifies certain services and equipment that is available for the efficient production or services. Infrastructure does not give a direct contribution to the production process, but without her production unit would not be able to correctly perform their functions." (Barković, 2011, 57)

Further chapters are going to show eastern Croatian counties through the population and the unemployment rate in relation to the available infrastructure in major cities of counties. The assumption is that the population is in direct relation with the available infrastructure. It can also be assumed that larger cities have more favorable conditions for the opening or maintenance of existing firms which implies a predisposition to business competitiveness. The data were collected by methods of analysis from primary sources of agencies and institutes on the Croatian territory. Generalizing data and comparing the key factors of business has led to results.

2. Population of eastern Croatia

Table 1 indicates the counties of eastern Croatian with a population and unemployment rate.

Table 1 *Overview of the counties of eastern Croatia by the population and employment*

County	Population	Employed	Unemployed	Unemployment
Brodsko-posavska	158.575	34.080	15.937	31,86%
Osječko-baranjska	305.032	80.570	36.632	31,26%
Požeško-slavonska	78.034	17.542	6.375	26,65%
Virovitičko-podravsko	84.836	19.010	10.216	34,96%
Vukovarsko-srijemska	179.521	38.642	20.189	34,32%
Total	805.998	189.844	89.349	32,00%

County	Population	Employed	Unemployed	Unemployment
Republic of Croatia	4.284.889	1.315.535	328.187	19,97%

Source: Bureau of Statistics, Croatian Employment Service, Croatian Pension Insurance Institute

In the area of eastern Croatia according to the census from 2011 in five counties lives about 20% of the Croatian population. Unfortunately, the unemployment rate in eastern Croatia is higher than the unemployment rate in the Republic of Croatia. The highest unemployment rates were recorded in the Vukovar-Sirmium County (34.7%), Virovitica-Podravina (34.3%), Sisak-(34.0%) and the Brod-posavina County (33.9%).

After independence, Croatia inherited unequal regional development, and the Homeland War has only increased the disproportion of certain areas. (Blagojević, 2008, 1177) Despite the significant concentration of population in urban areas, Eastern Croatia is, according to the number and proportion of the rural population, however, retained more rural characteristics in relation to Croatia in general, as well as in relation to other Croatian macro-regional areas. (Živić, 2003, 79)

Cities of counties with the census are presented in Table 2 while Figure 1 shows the geographical position. Cities taken in the analysis were selected by the size and their importance for the observed counties in the eastern region.

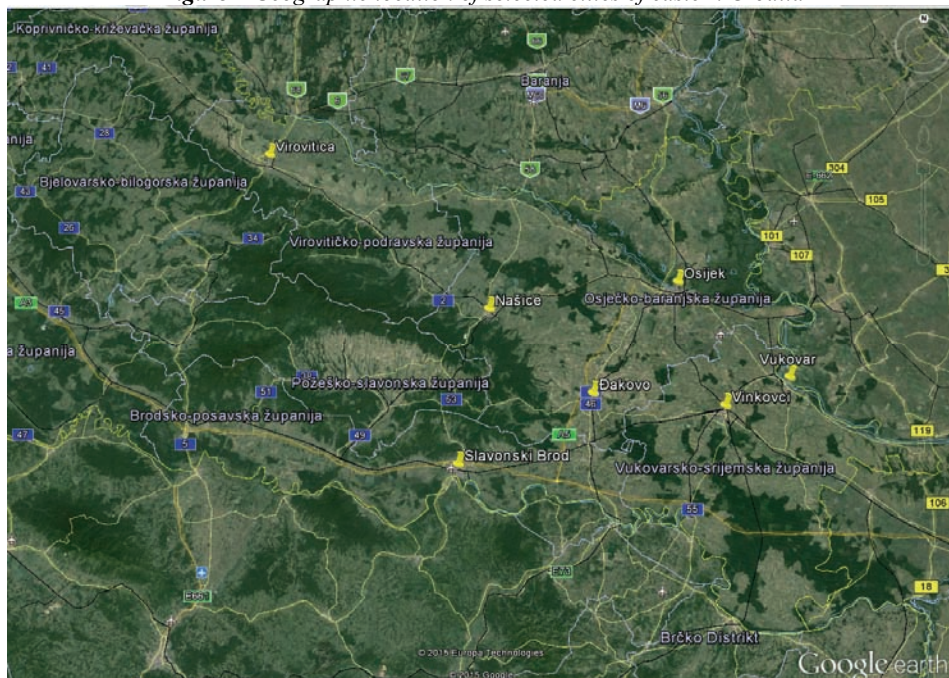
Table 2 The cities of eastern Croatian according to geographic location and population

City	County	North latitude	Eastern longitude	Population
Đakovo	Požeško-slavonska	45.310076°	18.410464°	27.745
Našice	Osječko-baranjska	45.490724°	18.094881°	16.224
Osijek	Osječko-baranjska	45.558583°	18.675793°	108.048
Slavonski Brod	Brodsko-posavska	45.155992°	18.012967°	59.141
Vinkovci	Vukovarsko-srijemska	45.288270°	18.805557°	35.312
Virovitica	Virovitičko-podravska	45.832654°	17.383007°	21.291
Vukovar	Vukovarsko-srijemska	45.350608°	19.002856°	27.683
Total				295.444

Source: Bureau of Statistics, Google Earth

Comparing Tables 1 and 2 it can be noticed that almost 37% of the population of eastern Croatia lives in seven major cities. This indicator confirms and states that the population majority is located in urban areas of the region. Therefore in the text below are provided analysis for these cities.

Figure 1 Geographic location of selected cities of eastern Croatia



Source: Google Earth

3. Analysis fiscal burdens of the business entities

According to the definition a company in the Republic of Croatia represents the name under which business operates.

This section will analyze the Taxes and additional tax in selected cities of eastern Croatia. County and municipal taxes are different according to the rates and monthly or annual amounts of tax burdens. The city taxes include additional taxes, income tax, consumption tax, houses for rent, tax on company name and tax on use of public areas.

Table 3 shows the most common tax burden on enterprises in the cities of the region.

Taxpayers are legal or physical persons who are obliged to pay income tax and are registered for the activity. Tax on use of public areas is paid by legal and physical persons for the use of public land.

The public areas are considered sidewalks, streets, squares, parks, green areas and other areas.

Table 3 *Fiscal burdens of the business entities*

City	Fiscal burdens of the business entities		
	Surtax	Company tax	Use of public land tax
Đakovo	10%	Legal entities (500,00 – 1.000,00 kn) Physical persons (800,00 – 1.000,00 kn)	10% on the amount of compensation which is paid for the use of public land
Našice	8%	Physical persons (50,00 – 2.000,00 kn) Legal entities (50,00 – 2.000,00 kn)	-
Osijek	13%	Physical persons (200,00 – 500,00 kn) Legal entities (500,00 – 1.000,0 kn) Independent caterers (600,00 kn)	10% on the amount of compensation which is paid for the use of public land
Slavonski Brod	12%	Physical persons (400,00 – 1.000,00 kn) Legal entities (600,00 – 2.000,00 kn)	-
Vinkovci	13%	Physical persons (200,00 – 2.000,00 kn) Legal entities (600,00 – 2.100,00 kn)	10% on the amount of compensation which is paid for the use of public land
Virovitica	10%	Physical persons (200,00 – 400,00 kn) Legal entities (500,00 – 1.800,00 kn)	-
Vukovar	0%	Physical persons (200,00 – 2.000,00 kn) Legal entities (500,00 – 2.000,00 kn) Independent caterers (400,00 – 1.200,00 kn)	5% of the amount of rent

Source: Ministry of Finance, <http://www.porezna-uprava.hr/> (25.03.2015.)

Developed areas of the region as well as those with more inhabitants have a higher tax burden in relation to the smaller cities. Amounts of surtax rates are ranked from 8% to 13%, and the exception is the city of Vukovar with 0% surtax.

The amount of tax on the company name in every city is different for physical and legal persons and the smallest in Našice (for physical and legal persons).

Tax on the use of public land is mostly equally in all cities, except in Vukovar, where the rate of this tax is lower compared to other cities in the region, while Virovitica, Slavonski Brod, and Našice does not have this kind tax.

4. Analysis of transport infrastructure

The transport system is one of the most important economic systems of each area. Economic and social activities cannot be developed without organized transport infrastructure. Development of transport infrastructure depends on the degree of development of technique, technology, economic and social factors. This paper analyzes the types currently available transport infrastructure for selected cities.

Table 4 shows the four types of infrastructure which implies connection with the highway, rail, river and air. All of the mentioned towns are additionally connected with state roads.

Table 4 *Traffic connections of cities*

City	Exit on the highway	Railway station	The river port	Airport
Đakovo	Yes	Yes	No	No
Našice	No	Yes	No	No
Osijek	Yes	Yes	Yes	Yes
Slavonski Brod	Yes	Yes	Yes	Yes
Vinkovci	No	Yes	No	No
Virovitica	No	Yes	No	No
Vukovar	No	Yes	Yes	No

Source: Authors

Table 4 shows that all cities are connected by rail and have the transfer station. Only the largest cities (Osijek and Slavonski Brod) have all other types of infrastructure.

5. Information and communication infrastructure

Systems supported by information and communication technologies are extremely important for a successful business companies. Today it is almost inconceivable to operate without the use of computers. The demand for high speed data transmission has become more evident in today's business, and in the communication market.

In order companies today to achieve competitiveness in the market and set aside from the rest of the competition it is necessary to invest in ICT infrastructure.

Table 5 presents the information and communication infrastructure for selected cities. tablici 5 prikazana je informacijsko komunikacijska infrastruktura za odabrane gradove.

Table 5 *Information and communication infrastructure for selected cities*

City	Fixed broadband Internet			Number of operators of wireless communication with its own infrastructure	
	Percentage of users	Maximum speed	Number of operators with its own infrastructure	Speed up to 30 mbs	Speed greater than 30 mbs
Đakovo	42,97%	to 20 mbs	1	more than	partly 1
Našice	37,90%	to 20 mbs	1	more than	1
Osijek	70,34%	more than 100 mbs	more than 1	more than	partly
Slavonski Brod	41,12%	more than 100 mbs	1	more than	partly
Vinkovci	46,24%	more than 100 mbs	1	more than	partly 1
Virovitica	41,14%	to 20 mbs	1	more than	partly 1
Vukovar	38,87%	to 20 mbs	1	more than	1

Source: Croatian Regulatory Authority for Network Industries

In Table 5 can be noticed that all of the cities are covered with the information and communications infrastructure, but only the largest cities have available speed wired communications over 100 mbs or wireless over 30 mbs.

The table shows that the provision of infrastructure use in most cases gives only one operator. Therefore it can be concluded that there are not enough healthy competition that would improved type and type of service or allow lower prices.

It is necessary to state that the number of operators are related to the possible number of users, so for example in the city of Zagreb information and communication infrastructure offers directly and indirectly more than 200 operators.

Given the extensiveness of business, the need for constant connection of all company locations and stable and fast access to the Internet and the market demands in the area of the Croatian complete ICT solutions are offered.

So for all sizes of companies Voice Over Internet Protocol services are provided including devices, Web hosting with 500 MB of space, the possibilities of receive e-mail and symmetrical Internet speeds depending on the size of the company.

Also, an increasing solutions in the form of reallocation of their own infrastructure, ie rental of complete services in the form of cloud computing.

For that it is necessary to ensure a stable and fast connection to the Internet, and about the same price offered to the city of Zagreb.

6. Comparative analysis of fiscal burdens and available infrastructure

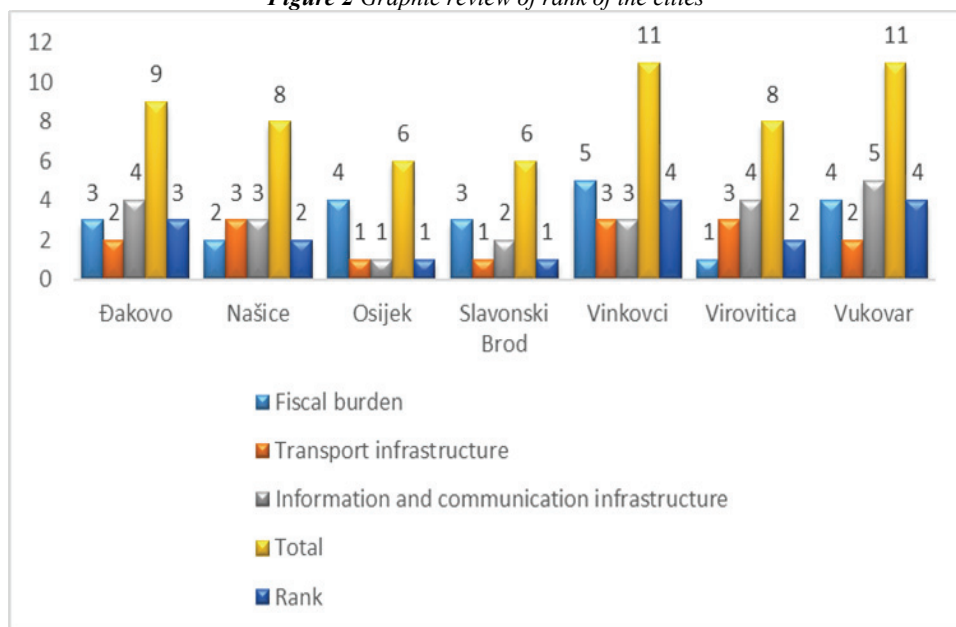
Based on the previous analysis Table 6 indicates the ranking of cities in relation to fiscal burdens and available infrastructure. A special rank for fiscal burdens; available transport and information and communication infrastructure is assigned to each city. Also, the overall ranking is given in the last column.

Table 6 Rank of the cities

City	Fiscal burden	Transport infrastructure	Information and communication infrastructure	Total	Rank
Đakovo	3	2	4	9	3
Našice	2	3	3	8	2
Osijek	4	1	1	6	1
Slavonski Brod	3	1	2	6	1
Vinkovci	5	3	3	11	4
Virovitica	1	3	4	8	2
Vukovar	4	2	5	11	4

Source: Authors

Figure 2 Graphic review of rank of the cities



Source: Authors

Table 6 and Figure 2 shows, according to finally obtained rank, that the most favorable conditions according to currently available infrastructure and fiscal burdens are in the largest cities (Osijek and Slavonski Brod) while other cities are in less favorable position despite the efforts of local government and self-government through reducing fiscal levies. Reducing disparities and increasing the competitiveness of small communities is trying to resolve by the legal regulations in defining that every citizen has the right to high-speed, broad band internet.

7. Conclusion

This paper presents a comparison of economic and infrastructural factors. It is evident that the largest cities have the most developed infrastructure. Also, the assumption is proven, according to Table 5 (rank 1) that the larger cities have more favorable conditions for the opening the companies or maintaining the existing ones. Despite the reduced fiscal levies, smaller cities are not competitive with the larger cities. Information and communication operators rely on existing infrastructure and only on the basis of the larger number of applications provide additional capacities. Absence of healthy competition leaves no room for choice of favorable operator. Economists do not have a choice and thus ensure the rationalization of costs. The solution can be in the selection of operators of mobile technology, where most of the cities are represented with several operators. Mobile telephony is unfortunately not the solution also for larger economic entities that require higher available speed.

In order to increase the competitiveness of small communities, and the entire eastern Croatia, it is necessary to enable higher speeds of mobile operators as well as increase the number of fixed operators with its own infrastructure. Since the operators decide themselves for a particular location according to the cost-effectiveness of investments, additional ways of financing have to be found.

REFERENCES

- Barković, D. (2011): *Uvod u operacijski menadžment*, Ekonomski fakultet u Osijeku
- Blagojević, A. (2008): *Zemljopisno, povijesno, upravno i pravno određenje istočne Hrvatske* Zbornik Pravnog fakulteta Sveučilišta Rijeka
- Živić, D (2003): *Neka obilježja diferenciranog demografskog razvoja, Migracijske i etničke teme*, Vol. 19, No. 1, pp. 70-79
- <http://www.hzz.hr/default.aspx?id=10055> (accessed 30 March 2015.)
- <http://www.mirovinsko.hr/> (accessed 30 March 2015.)
- <http://www.dzs.hr/> (accessed 30 March 2015.)
- <http://www.isplate.info/prirez.aspx> (accessed 19. March 2015.)
- http://www.porezna-uprava.hr/HR_porezni_sustav/Stranice/prirez_porezu_na_dohodak.aspx (accessed 26. March 2015.)
- <http://www.mfin.hr/hr/izjava-o-fiskalnoj-odgovornosti> (accessed 26. March 2015.)
- <http://www.hakom.hr/> (accessed 23. March 2015.)