

# **Evaluation of achieved investments within the Danube Region in the metropolitan area of Vojvodina province**

**PhD Jonel SUBIĆ**

*Institute of Agricultural Economics*

*email: jonel\_subic@yahoo.com, 11060 Belgrade, Volgina Str. 15, pob 93, Serbia*

**PhD Marko JELOČNIK**

*Institute of Agricultural Economics*

*11060 Belgrade, Volgina Str. 15, pob 93, Serbia*

**PhD Marijana JOVANOVIĆ**

*Institute of Agricultural Economics*

*11060 Belgrade, Volgina Str. 15, pob 93, Serbia*

## **ABSTRACT**

Since second half of last decade Republic of Serbia is in phase of transition, which represents milestone towards its future development. Significant role in its orientation, except economy and its stakeholders, has the agriculture as well. Therefore, the process of investing in new business entities, recapitalization of existing business entities and consolidation of financial system are among the measures that can speed up the development of the market economy. At many economic entities exists unfavourable business performances, which can be seen through decrease of market share and total profitability? It has to be systematically focused on the reduction of high investment risks, mostly caused by political instability and problematic business ambient, which would increase the attractiveness of investment and stimulate domestic and foreign investors (they usually evaluate different combinations of risks and profits). In paper will be presented former level of realized investments within the economy, with special attention to the evaluation of realized investments in agriculture on the administrative area of Danube Region in Metropolitan area of Vojvodina province.

**Keywords:** *investments, economy, agriculture, Danube region, Vojvodina province, Serbia.*

## **INTRODUCTION**

Territory of Danube region in Vojvodina is characterized with many factor advantages that enable the development of multifunctional agriculture, as well as development of intra-urban, peri-urban and rural agriculture. Natural characteristics of Danube region (soil, climate), gravitation towards Danube river, geostrategic position, presence of educational and research institutions, level of market development, accessibility of labour force, etc., are just some of the characteristics by which we can expect future development of municipalities within mentioned area.

For research purposes, the administrative area of Danube region within the Metropolitan area of Vojvodina province, territorially includes: city of Novi Sad (municipalities Novi Sad and Petrovaradin), city of Pančevo and municipalities Sremski Karlovci, Beočin, Irig, Indija, Ruma, Pećinci, Stara Pazova, which are interconnected by infrastructure and as such have an certain advantages for future sustainable development.

Orientation of Serbia towards European integration requires a new defining of the role and importance of the agricultural sector, as well as establishment of highly accurate conceptual framework and Strategy that will answer to key questions from the field of sustainable development.

In accession process to the EU is expected to pass a many newly established reform regulations. For investors the most important will be laws concerning land and construction, as well legislative that regulates functioning of industrial and technological parks (Subić, 2012).

Investments represent the basic corporeal factor of economic and social development. From volume, structure and efficiency of investments, largely depends how and to what level will be resolved main issues of economic and social development of any country, region or local community (economic growth, balance of economic development, employment, level of standard of living, etc.), (Subić, 2010).

One of the adopted classifications in literature divides all investments on *economic* and *non-economic*. Main function of economic investments is that it assures continuity of the production process at the same level, i.e. simple reproduction. Accordingly, their role is to by providing of replacement of deteriorated fixed assets allow the simple reproduction of production process. Also, economic investments serve to enable the reproduction of the social process of production at higher level, i.e. expanded reproduction. Investment activity is necessary element of reproduction process and main precondition for efficient material production in long-term period (Subić, 2007).

Significance of establishment of favourable business environment for all economic entities lies in dynamic investment, or in investment in new legal entities, recapitalization of existing legal entities and consolidation of financial system as one of the measures that can be used for reinforcement of the market economy development (Subic et al., 2011).

In order to create a more realistic picture of the previous course of the totally realized investments in fixed assets, in table are shown investments on the territory of the Republic of Serbia, Vojvodina province and the Danube region. Analysis covers period of ten years (2002-2011) for all mentioned regions (*Table 1*).

*Table 1. Realized investments in the economy\* (in 000 RSD)*

Year	Serbia**	Vojvodina Province		Danube Region	
	RSD	RSD	% of total investments in Serbia	RSD	% of total investments in Serbia
2002	102.860.663	23.302.691	22,65	9.934.998	9,66
2003	115.662.223	25.682.814	22,21	8.765.018	7,58
2004	152.929.464	29.484.398	19,28	12.169.686	7,95
2005	163.549.507	29.773.399	12,20	14.058.357	8,59
2006	340.795.050	94.317.316	27,68	36.023.621	10,57
2007	482.340.888	115.475.861	23,94	40.932.479	8,49
2008	472.746.680	112.428.685	23,78	52.357.819	11,08
2009	369.438.089	88.495.250	23,95	43.239.065	11,70
2010	425.400.001	100.024.608	23,51	46.804.147	11,00
2011	493.100.031	124.208.129	25,19	76.248.636	15,46

\* Investments in fixed assets; \*\* Without data for Kosovo and Metohia (with the exception for 2010).

Source: *Municipalities in Serbia 2003-2011; Municipalities and regions in the Republic of Serbia 2012*, Statistical Office of the Republic of Serbia, Belgrade.

On the territory of the Republic of Serbia and Vojvodina province, within the observed period, from 2002 to 2007 has been achieved increscent trend of investment, while in 2008 was recorded the decline compared to 2007. Decrement of investment was the result of the global economic crisis (in 2009 it has been reached the lowest level within the period 2007-2011), while the last two years of observed period were characterized by more pronounced increase of investment within the economy in compare to 2008 and 2009. Process of the legislative reforms harmonized with the European Union (EU) legislation has led to the simplification of business operations and safeness of investment (i.e. to regrowth of investments in 2010).

On the territory of Danube Region, realized investments in fixed assets were recorded a slight decrease in 2003 (in compare to 2002), since then they have been in constant increase until 2009 when was come to decline in investment, what could be interpreted as consequence of global economic crisis (as like on national and province level). Decrease of investment was continued in 2010, while in the last researched year was recorded the most intensive investment within the economy, which can be also presented by average growth rate of investment of 25,41% (mentioned rate for Serbia was 19,02% and for Vojvodina was 20,43%).

Having in mind the EU enlargement process, it can be said that in the future development of agricultural husbandries in Serbia significant place will belong to investments in fixed assets. They have an important role in realization of the goals and priorities of the agricultural and rural development, as they are primarily initiating instrument of quantitative and qualitative growth of all agricultural production factors and production (plant and livestock production), as well as of creation of conditions for better life in rural areas. Increase of investments in agriculture is the condition of its technical and technological modernization, but also an important factor of economic and social stability of Serbia (Subić, 2010).

Without adequate volume and well-designed structure of investments cannot be provided growth of fixed assets and permanent working capital, employment, better efficiency of the working equipment, better productivity, diversification of production, etc., on any regional agricultural and rural level, as well as at the national level (Subić, 2007).

Multifunctional approach to agriculture and rural economy development could be a good solution for Serbia, as it combines agricultural production, processing (manufacturing) activities on the farms, rural tourism and local infrastructure development, along with implementation of environmental protection measures and preservation of nature and rural heritage. So, multifunctionality provides, beside food production and contribution to food safety, different environmental, economic and social functions as well (Subić et al., 2012).

Considering realized investments in agriculture, on the territory of the Republic of Serbia, can be noted significant periodical oscillations within the entire period. The most visible variations were recorded in 2003 (decrease of 37,38% in compare to 2002) and 2011 (increase of 32,45% in compare to 2010). Having in sight Vojvodina province, it can be also seen cyclical variation of realized investments in agriculture, which was particularly expressed in 2003 (reflects a decrease of 39,39% in compare to 2002) and 2011 (increase of 296,69% in compare to 2010). Throughout the whole analysed period (2002-2011), on the territory of Danube region in Vojvodina, it was recorded very uneven trend of realized investments in agriculture. Their growth were most pronounced in 2006 (424,29% in compare to 2005), while the most expressed decline was marked in 2010 (59,61% in compare to 2009). All investments realized in agriculture within the observed period are presented in next table (Table 2).

Table 2. Investments realized\* in agriculture\*\* (in 000 RSD)

Year	Serbia***	Vojvodina Province		Danube Region	
	RSD	RSD	% of total investments in Serbia	RSD	% of total investments in Serbia
2002	5.206.654	2.012.596	38,65	336.822	6,47
2003	3.260.612	1.219.717	37,41	639.656	19,62
2004	3.721.166	1.702.354	45,75	321.606	8,64
2005	5.028.793	2.881.800	57,31	266.016	5,29
2006	13.250.369	5.170.798	39,02	1.128.685	8,52
2007	14.384.811	5.736.605	39,88	2.845.100	19,78

2008	21.357.929	5.306.541	24,85	5.712.181	26,75
2009	14.174.921	4.376.208	30,87	2.394.352	16,89
2010	9.219.328	2.535.698	27,50	967.014	10,49
2011	12.211.147	10.058.973	82,32	1.258.676	10,31

\* *Investments in fixed assets*; \*\* *Agriculture, hunting, forestry and water management*; \*\*\* *Without data for Kosovo and Metohia (with the exception for 2010)*.

Source: *Municipalities in Serbia 2003-2011*; *Municipalities and regions in the Republic of Serbia 2012*, Statistical Office of the Republic of Serbia, Belgrade.

Using the absolute values of realized investments in agriculture, it can be come to the average annual growth rates for the observed territories. Average growth rates in agriculture, for all three areas, are positive, where the rate achieved in Vojvodina province is higher than this one achieved on the territory of Serbia (19,58% in compare to 9,93%).

Although investment activity in agriculture on the territory of Danube Region is characterized by cyclical variation within the complete period of observation, growth rate is positive and higher than this one achieved on national level (15,77%).

## MATERIAL AND METHODS

In order to conduct complete research, it was necessary to identify data/information from few sources (scientific literature and statistical publications) that are primarily related to next issues: investment, economy, agriculture and demography.

With goal to evaluate the total sum of realized investments within the economy of the Danube region in Vojvodina province, it was used the methodology which considers calculation of the volume of financial investments in fixed assets by next indicators:

- realized investments in the economy per inhabitant;
- realized investment in the economy per employed person.

In order to evaluate the total sum of realized investments in agriculture on the territory of Danube region in Vojvodina province, it was necessary to change (complement) used methodology by following indicators:

- realized investments in agriculture per employed person;
- realized investments in agriculture per unit of agricultural land;
- realized investments in agriculture per unit of arable land;
- realized investments in agriculture per unit of plough land.

As one of the indicators for determination of the investment dynamics can be used indicator investment activity per registered agricultural husbandry, according to data from affiliates of the Treasury (Ministry of Finance), as at the level of Serbia, as well as at the level of Vojvodina province and Danube region.

Way in which research follows the volume of realized investments within the territory of Danube region in Metropolitan area of Vojvodina province, can be useful for evaluation of investments in any spatial segment of the Danube region in Serbia (*Special Nature Reserve of Upper Danube Region*, which includes administrative area of the municipalities of Sombor, Apatin, Bač and Bačka Palanka, as well as the *Carpathian region* in Serbia which includes municipalities: Golubac, Kučevo, Majdanpek, Kladovo and Negotin), as like it can be significant tool within the decision making process at macroeconomic level.

## RESULTS AND DISCUSSION

In order to get more realistic estimates of realized investments in the economy on the territory of Danube region indicators that relate to the territory of Serbia and Vojvodina were also used. For research were considered two years (2001 and 2011), (Table 3).

Table 3. Evaluation of realized investments\* in economy

Indicator	UM	Year	Territory		
			Serbia**	Vojvodina province	Danube region
Realized investments in the economy per inhabitant***	RSD	2002	13,72	10,12	14,99
		2011	68,61	64,29	110,88
Realized investment in the economy per employed person***	RSD	2002	70,52	60,96	73,59
		2011	367,19	350,57	498,35

\*Investments in fixed assets; \*\*Without data for Kosovo and Metohia (with the exception for 2010); \*\*\*Data were taken from the census in 2002 and Statistical yearbook 2012 (first and last year of research).

Source: Municipalities in Serbia 2003-2011; Municipalities and regions in the Republic of Serbia 2012; Census of population in 2002 (total and agricultural population in Serbia), Statistical Office of the Republic of Serbia, Belgrade.

According to data from table above, it can be concluded that higher volume of investment in economy per inhabitant was achieved at the level of Danube region in both observed years, 2002 (1,09:1 in compare to national average; 1,48:1 in compare to level of Vojvodina province) and 2011 (1,62:1 in compare to republic level; 1,72:1 in compare to complete Vojvodina), while the lowest volume of investment per capita was achieved at the level of the province of Vojvodina.

The same results were gained if in focus is volume of investment per employed person, where in both years the largest volume of investments were made at the level of Danube region, and the smallest at the level of Vojvodina. It can be also noticed that investment activity increased in 2011 in compare to 2002, what can be explained by establishment of better conditions for business and investment (both domestic and foreign).

For more realistic estimate of realized investments in agriculture within the Danube region in Vojvodina, there were used indicators as for provincial as well as for national level (Table 4).

Table 4. Evaluation of realized investments\* in agriculture\*\*

Indicator	UM	Year	Territory		
			Serbia***	Vojvodina province	Danube region
Realized investments in agriculture per employed person****	RSD	2002	71,84	47,46	47,16
		2011	350,74	486,81	373,83
Realized investments in agriculture per unit of agricultural land****	RSD	2002	1,02	1,13	1,18
		2011	2,45	5,65	4,43
Realized investments in agriculture per unit of arable land****	RSD	2002	1,22	1,22	1,25
		2011	2,89	6,11	4,71
Realized investments in agriculture per unit of plough land****	RSD	2002	1,55	1,27	1,31
		2011	3,71	6,38	4,93

\* Investments in fixed assets; \*\*Agriculture, hunting, forestry and water management; \*\*\*Without data for Kosovo and Metohia; \*\*\*\* Data were taken from the census in 2002 and Statistical yearbook 2012 (first and last year of research).

Source: Municipalities in Serbia 2003-2011; Municipalities and regions in the Republic of Serbia 2012; Census of population in 2002 (total and agricultural population in Serbia).

After a look at the indicators in table above, it can be concluded that the greatest investment activity in agriculture per employed person in 2002 was achieved at republic level. Investment activity is almost twice time higher than investment in Vojvodina and Danube region. If other parameters are observed, it can be seen that achieved investments per unit of agricultural land, or per unit of arable land, or per unit of plough land were slightly higher in Danube region, while they are somewhat lower on other two observed levels.

On the other hand, in 2011, the largest investment activity per person employed in agriculture was recorded in Vojvodina province, while the lowest one was at the national level. For other parameters, it can be seen that the volume of investments leads in Vojvodina province.

Based on indicators of investment activity per registered agricultural husbandry, according to data of the affiliates of the Treasury, it can be concluded that the highest level of investments was realized on the level of Vojvodina, while the lowest one was achieved at the national level (2,27:1 in compare to Danube region; 2,91:1 in compare to complete Serbia), (Table 5).

Table 5. Realized investment per registered agricultural husbandry\*

Indicator	UM	Year	Serbia (34 affiliates)	Vojvodina province (9 affiliates )	Danube region (2 affiliates)
Realized investment per registered agricultural husbandry (depending to affiliate it belongs)	RSD	2011	26.980	78.480	34.480

\* Term agricultural husbandry includes legal entities and family husbandries.

Source: According to authors' calculation. Number of registered agricultural husbandries by affiliates of the Treasury, Treasury, Ministry of Finance of the Republic of Serbia, Belgrade, 2011. Municipalities and regions in the Republic of Serbia 2012.

According to presented data, it can be concluded that the investment activity at registered agricultural husbandries is significant, as on the sub-regional, as well as on national level, and represent an important precondition for further development of agriculture.

## CONCLUSION

Based on gained results of observed indicators can be concluded that investment process in complete economy and specifically in agriculture, within the territory of Danube region has positive trend in defined period. Share of total investments in economy within the mentioned region in compare to national and provincial level is characterized by linear growth, as well as it was recorded the highest average growth rate (25.41%).

Share of gained investments in fixed assets within the agriculture in part of Danube region in Metropolitan area of Vojvodina province had in last three observed years sharp decrease in total investments on national level, what can be explained by uneven trend of investment in agriculture.

According to evaluation of observed indicators it can be indicated that in next period may be expected increment of investment activities within the territory of Danube region, what can be connected with a number of factorial advantages that enable the development of multifunctional agriculture, as well as development of intra-urban, peri-urban and rural agriculture, by establishment of favourable environment for investment.

## ACKNOWLEDGMENT

This paper is part of the project research no. III 46006 - Sustainable agriculture and rural development in the function of accomplishing strategic objectives of the Republic Serbia in the Danube region, financed by the Ministry of Education, Science and Technical Development of the Republic of Serbia. Project period 2011-2014.

## LITERATURE

1. *Census of population - 2002*, book VII, 2004, Statistical Office of the Republic of Serbia, Belgrade, Serbia.
2. *Municipalities and regions in Serbia 2012*, Statistical Office of the Republic of Serbia, Belgrade, Serbia.
3. *Municipalities in Serbia 2003-2011*, Statistical Office of the Republic of Serbia, Belgrade, Serbia.
4. *Number agricultural husbandries (by affiliates of the Treasury)*, Ministry of Finance of the Republic of Serbia, Treasury, Belgrade, Serbia, 2011, available at: [www.trezor.gov.rs/uploads/projects/rpg\\_statistika/STATISTIKA%20-%20broj%20PG%20po%20filijalama.pdf](http://www.trezor.gov.rs/uploads/projects/rpg_statistika/STATISTIKA%20-%20broj%20PG%20po%20filijalama.pdf)
5. Subic, J. (2007): *Place of South Banat in agriculture of Serbia and Montenegro on the road to European integration*, Institute of Agricultural Economics, Belgrade, Serbia.
6. Subic, J. (2010): *Specifics of the process of investing in agriculture*, Institute of Agricultural Economics, Belgrade, Serbia.
7. Subic, J. (2012): *Investment in agriculture and rural development*, chapter in Monograph - Strategic planning for sustainable agricultural and rural community development - model of Glogonj local community (Edt. Cvijanovic, D., Subic, J.), Institute of Agricultural Economics, Belgrade, Serbia, pp. 46-61.
8. Subić, J., Jeločnik, M., Ivanović, L. (2011): *Evaluation of realized investments in fixed assets in the upper Danube region*, Proceedings from the International scientific conference – Agricultural science, practice and growth, State Agrarian University Stavropol, Stavropol, Alfa-print 2011, pp. 170-176.
9. Subić, J., Jeločnik, M., Ivanović, L. (2012): *Evaluation of economic sustainability on the agricultural husbandries in the Upper Danube region*, Chapter in thematic proceedings - Rural areas and development (Rural development policies from the EU enlargement perspective), vol. 9, ERDN, IERIGZ, Warsaw, Poland, pp. 305-324.