EVALUATION OF DIFFERENTATION DISTRICTS OF THE REPUBLIC SERBIA IN THE PROCESS OF RURAL DEVELOMPENT

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Abstract

This paper analyses some important indicators of rural development, such as: national income per capita, the ratio of maximal and minimal value of national income per capita and the share of the national income from agriculture in the overall national income. The indicators are analysed for 24 districts of the Republic of Serbia and the city of Belgrade, without Kosovo and Metohia. The existing statistical data are used in this analysis as the basis for evaluating the level of development and differentiation of the districts of Serbia. The analysed indicators refer to three time sections, in the following years 1997, 2002 and 2005.
Key words: *indicators of rural development, districts of Serbia, national income, regional approach, Gini-coefficients*

Introduction

In the process of creating policies of economic development in the last two decades, considerable attention has been paid to rural development. (Bryden, 2003). Regarding the rural development policies, it is important to have a regional approach, i.e. regional rural policies both in the European Union countries and other countries outside the European Union. (Bryden, 2003). The same author stresses the fact that regional rural development is of great importance for the future of the EU and that it should be differentiated from the traditional agricultural policies. Economic policies in agriculture are just a segment of national policies, which refer to rural economy and the social development. The aim of such policies is not just rural development, but the development of all fields which are manifested within rural frameworks (Bryden, 2003).

In discussions on the aims and prospects of rural development special attention

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is paid to the definition of the notion of rurality. Originally, the notion of rurality came from the duality of the relation between rural-urban areas (village-city) founded on the presumption that the development of rural areas and development of urban areas are diametrically opposite. However, the duality of rural-urban gradually became less prominent, as the relationship between rural and urban areas became more complex, with new types of relations between them arising, which are more complex than the duality of rural-urban (Bryden, 2003).

Regional rural policy of a country should take into consideration a few basic indicators of rural development. The proposals made by the EU countries refer to the following groups of indicators: socio-economic, demographic and territorial-regional indicators (Bryden, 2003). Furthermore, it is very important to define regional units in order to make classifications and evaluations of the level of regional development.

Interactions of relevant factors can be manifested in different ways in certain rural regions, as well as at the level of a country. In most European countries the need for defining statistical indicators of regional units at the national level has been emphasised. It is presumed that different regions of each country are not developed to the same level. It is because of the different levels of development of certain regions within a country why clear defining of regional units is required.

The aim of this paper is to make comparisons among the regions of the Republic of Serbia regarding the development level, based on the values of the selected indicators of rural development. The level of development of certain regions of the Republic of Serbia was measured using a number of indicators. The basic indicator of this research is national income per capita as well as the level of variability of the national income per capita. One of the important indicators of the level of development in regions which was determined was the ratio of the maximal and the minimal values of the national income per capita. In addition, the share of the national income from agriculture in the overall national income was analysed. Besides, Gini - coefficients of concentration) (Čobanović and al.,2006) were calculated on the base of cumulative proportion of the number of inhabitants and the proportion of national income of district (G_1), the proportion of the number of inhabitants and the proportion of the district area (G_2) and the proportion of the district area and the proportion of national income (G_3).

The researched units were the regions of the Republic of Serbia (without Kosovo and Metohia). The researched indicators of the level of regional development refer to the time sections of 1997, 2002 and 2005.

The basic sources were the published data of the Statistical Office of the Republic of Serbia.

Research results

The analysed districts of Serbia include 161 municipalities and they refer to three regions. The analysis includes 24 districts and the city of Belgrade. The regional division of the Republic of Serbia comprises the division into 3 regions (Bogdanov, 2007).

Ranks of national income per capita in the districts are given in Table 1. The

variability of the national income per capita in most districts of Serbia is high in all the observed years (Table 1). This indicates the fact that variation of production, represented through the greater variation of the national income per capita, was increased in half of the districts in Serbia. This can be a consequence of the unstable results of production, i.e. of the realized social product in the previous period.

The ratio of the maximal and the minimal values of the national income per capita in 15 districts of Serbia increased in 2005 compared with the previous years (1997 and 2002) (Table 1). The increased value of the analysed indicator can be interpreted as a consequence of unstable production conditions and results which worsened during the analysed period of 1997-2005. The increased value of the ratio of the maximal and minimal values of the national income per capita in 2005 was present in the districts where the increased variability of this index had already existed, shown by the coefficient of variation. This phenomenon was determined in the following 12 districts of Serbia: North Bačka, Central

TABLE 1 - Rank of national income per capita, Coefficient of variation and Ratio of the maximal and minimal national income per capita in the districts of Serbia

Okruzi	Rank NI per capita			C_V (%)			NI_{max}/NI_{min}		
	1997	2002	2005	1997	2002	2005	1997	2002	2005
Grad Beograd	22	25	24	95.39	96.41	88.62	11.50	30.10	17.06
Severnobački	25	20	22	25.14	33.32	45.02	1.68	1.95	2.74
Srednjebanatski	18	19	19	11.04	12.52	19.83	1.36	1.42	1.75
Severnobanatski	20	21	23	21.84	23.71	26.91	1.66	2.04	2.11
Juznobanatski	24	23	21	30.81	43.89	41.21	2.24	2.58	4.03
Zapadnobački	23	24	20	30.39	61.68	18.18	1.89	2.96	1.45
Juznobački	19	22	25	39.03	35.85	51.78	3.09	3.45	5.21
Sremski	17	14	14	19.67	26.84	19.12	1.71	2.09	1.57
Mačvanski	8	10	16	24.56	19.99	48.58	2.42	1.75	3.65
Kolubarski	13	13	11	20.22	16.39	14.85	1.64	1.59	1.46
Podunavski	11	6	3	14.30	8.20	31.30	1.34	1.17	1.90
Braničevski	7	16	15	18.86	33.27	42.42	1.76	3.22	3.28
Šumadijski	2	7	10	36.77	22.50	13.99	4.29	2.00	1.50
Pomoravski	9	15	13	33.38	25.03	22.64	3.32	1.87	2.02
Borski	21	3	2	98.01	39.53	53.41	7.85	2.41	3.86
Zaječarski	12	9	7	19.74	15.84	9.65	1.52	1.46	1.27
Zlatiborski	6	8	9	43.43	42.51	53.30	3.42	3.65	5.25
Moravički	16	18	17	27.57	7.89	24.54	1.73	1.18	1.76
Raški	1	1	6	54.67	38.91	40.01	5.33	3.07	3.01
Rasinski	15	12	8	41.89	19.21	21.50	3.05	1.72	1.75
Nišavski	14	17	18	35.37	43.82	61.33	2.61	2.63	3.87
Toplički	4	4	4	15.93	7.52	31.63	1.43	1.17	1.97
Pirotski	10	11	12	43.39	35.34	39.90	2.41	2.09	2.45
Jablanički	3	2	1	26.41	27.85	40.32	1.99	2.63	3.19
Pčinjski	5	5	5	53.98	52.09	69.18	4.98	5.10	6.29

Banat, North Banat, South Bačka, Mačva, the District of Danube, Braničevo, Zlatibor, Nišava, Toplica, Jablanica and the District of Pčinja.

The average share of national income from agriculture in the overall national income in most districts of Serbia is high in all the analysed years (1997, 2002 and 2005), ranging from 17.2% (in the District of Raška in 2005) to 57.8% (District of Braničevo in 2005) (Tables 2 and 3). The only exception is the city of Belgrade, where this share was significantly lower. It can be noticed that the districts of the Region 1 have a high share of the national income from agriculture in the total national income, ranging from 28% to 56% in the analysed years (Tables 2 and 3). Besides, high share of this indicator is determined also in the districts of the Region 2. These districts are: the Districts of Kolubara, the District of Danube, Braničevo, Šumadija, District of Morava, Nišava, and Toplica districts. The share ranged from 32% to 58% (Table 2). In the most districts of the Region 3 the share of the national income from agriculture in the overall national income is lower compared with the

TABLE 2: Share of the national income from agriculture in the overall national income in the districts of Central Serbia

Administrative District	Years	$\overline{X}$	Me	C_V	X_{min}	X_{max}
City of Belgrade	1997	18.28	6.07	117.06	0.30	56.54
	2002	13.61	4.11	125.86	0.32	54.62
	2005	9.83	2.83	129.03	0.23	37.27
Mačva	1997	57.17	57.31	35.13	25.98	78.27
	2002	55.99	64.09	40.16	26.38	78.53
	2005	51.83	57.91	45.21	15.98	75.94
Kolubara	1997	50.79	51.55	37.79	23.01	77.63
	2002	52.40	58.69	38.09	23.40	77.32
	2005	45.98	48.25	32.56	18.66	62.32
Danube	1997	39.71	42.58	35.58	24.37	52.19
	2002	36.90	39.26	20.20	28.55	42.89
	2005	40.59	38.18	11.43	37.65	45.94
Braničevo	1997	54.62	54.83	38.17	26.38	82.55
	2002	57.75	62.61	38.48	19.49	85.42
	2005	57.83	57.43	40.17	16.28	82.15
Šumadija	1997	51.16	43.91	44.62	17.19	77.37
	2002	50.79	56.87	46.69	15.15	73.95
	2005	42.55	40.83	54.10	12.57	78.16
Pomoravlje	1997	45.79	32.22	58.72	24.44	84.55
	2002	36.08	28.40	51.11	19.55	70.45
	2005	31.76	22.94	64.31	18.90	72.60

Bor	1997	29.49	7.96	141.75	2.84	77.67
	2002	35.95	31.43	53.14	17.96	62.97
	2005	37.13	31.33	67.62	15.43	64.63
Zaječar	1997	39.38	39.64	23.01	28.56	49.71
	2002	49.19	48.15	30.93	31.84	68.64
	2005	48.89	47.52	30.36	32.58	67.92
Zlatibor	1997	27.78	26.99	50.15	7.96	59.97
	2002	34.08	34.09	38.68	11.37	48.91
	2005	30.52	25.85	55.59	9.12	68.89
Moravica	1997	25.75	20.16	47.91	18.50	44.18
	2002	30.84	27.60	39.63	20.85	47.30
	2005	26.13	24.36	46.40	14.56	41.22
Raška	1997	21.92	19.01	54.62	14.01	42.79
	2002	23.58	22.30	47.35	11.74	36.52
	2005	17.21	17.59	41.40	9.99	28.50
Rasina	1997	39.42	40.97	41.69	14.86	58.33
	2002	42.24	42.78	38.68	20.38	64.76
	2005	36.73	31.74	45.75	16.87	65.16
Nišava	1997	52.75	50.22	49.41	7.44	85.59
	2002	52.13	56.10	46.61	6.95	80.70
	2005	47.73	52.42	55.46	3.87	84.67
Toplica	1997	52.40	51.99	49.56	23.02	82.57
	2002	49.18	44.85	36.96	34.61	72.39
	2005	43.26	36.02	45.50	28.79	72.21
Pirot	1997	38.02	37.01	16.04	32.02	46.03
	2002	41.40	36.54	38.08	28.40	64.09
	2005	29.75	27.34	38.98	18.40	45.94
Jablanica	1997	38.94	35.83	55.97	12.98	73.70
	2002	52.07	55.30	41.96	26.59	77.14
	2005	51.43	52.02	52.17	19.83	83.07
Pčinja	1997	22.94	22.12	48.96	8.63	39.66
	2002	31.30	26.88	52.29	13.33	61.54
	2005	31.01	31.81	47.29	10.67	49.88

previously named regions, ranging from 17.2% (in the District of Raška, in 2005) to 42.2% (in the District of Rasina, in 2002) (Table 2). The only exception was the District of Jablanica of the Region 3, but it had a high share of national income from agriculture in the overall national income in all the analysed years.

TABLE 3: Share of the national income from agriculture in the overall national income in the districts of Voivodina

Administrative Districts	Years	$\overline{X}$	Me	C_V	X_{min}	X_{max}
North Bačka	1997	34.64	41.87	39.21	18.97	43.07
	2002	38.56	41.25	55.70	15.87	58.57
	2005	41.26	46.54	51.50	17.86	59.37
Central Banat	1997	55.64	68.74	41.48	20.82	74.04
	2002	45.10	52.50	45.31	17.71	66.45
	2005	47.49	53.81	36.76	17.20	61.75
North Banat	1997	36.91	38.90	25.23	22.81	47.62
	2002	30.96	30.96	39.09	19.05	52.11
	2005	35.56	35.46	36.47	18.50	54.80
South Banat	1997	49.85	53.96	46.55	14.37	79.10
	2002	47.52	53.23	44.29	13.22	69.44
	2005	45.40	51.37	43.84	13.99	68.33
West Bačka	1997	28.64	29.73	36.45	15.54	39.54
	2002	27.99	31.34	52.20	7.87	41.42
	2005	28.86	29.26	30.87	18.07	38.88
South Bačka	1997	40.32	38.43	46.45	14.10	65.72
	2002	37.34	36.97	53.23	9.71	72.48
	2005	34.30	28.95	64.89	4.87	77.51
Srem	1997	50.11	40.11	40.07	32.43	81.27
	2002	48.20	46.36	38.64	24.13	74.92
	2005	44.43	38.05	45.00	22.43	82.37

In the majority of districts the share of the national income from agriculture in the overall national income in 2005 is lower compared with the previous time intervals. The exceptions are the Districts of North Bačka, West Bačka, the District of Danube, Braničevo, Bor and Zaječar, where the values of the analysed indicator in 2005 raised compared with the 2002 and 1997. Such raise of the share of the analysed index can be noticed in 4 districts of the Regions 1 and 2, and in 2 districts of the Region 3. Lowering of the share of the national income from agriculture in the overall national income is expected, being in accordance with the lowering of the share of the domestic product of agriculture in the overall social product. Namely, in agricultural theory there is a pattern that the increase of economical development of a country leads to the relatively lower importance of agriculture because a high share of agriculture in the gross domestic product of economy is the indicator of its economical underdevelopment (Čobanović et al., 2005). Therefore, a high share of national income from agriculture in the overall national income could be an indicator of insufficient economic development of a district, i.e. of a region in Serbia.

These results, which illustrate a high share of the national income from agriculture in the overall national income, confirm the already existing data that

practically in all regions of Serbia there are favourable conditions for development of various branches of agricultural production. Thus, it has been stated that favourable natural and climatic conditions of Serbia promote development of different branches of agriculture (Bogdanov, 2007).

The calculated values of Gini-coefficients (Table 4) show the increase inequality of distribution of national income (G_1), population density (G_2) and territorial density of national income (G_3) in analyzed districts. The results confirm previous conclusions (Heijman, W., Mangnus, E., 2008) that in the transition process towards market economy regional desparities increase.

TABLE 4: Gini coefficients

Gini-coefficient	1997	2002	2005	1997-2002	2002-2005
G_1 : National income (NI) disparity	0.08601	0.13536	0.21206	57.4%	56.7%
G_2: Population density disparity	0.28079	0.30765	0.31487	9.6%	2.3%
G_3: Territorial density of NI disparity	0.11523	0.12132	0.14492	5.3%	19.5%

Acknowledgements

Conclusion

This paper analyses national income per capita and the share of the national income from agriculture in the overall national income for regions of the Republic of Serbia for 3 time sections covering the period 1997-2005. The variability of national income per capita is high in most districts, which can be interpreted as an indicator of unfavourable production conditions at the level of the Republic of Serbia. The high values of the ratio of the maximal and minimal values of national income per capita in most districts are also an indicator of unstable production conditions during the analysed period of time. The share of the national income from agriculture in the overall national income in most districts of the Region 1 (lowland regions) and of the Region 2 (hilly regions) is high and it ranges from 28% to 58%. In most districts of the Region 3 (mountainous and hilly regions) the share of the national income from agriculture is significantly lower, ranging from 17% to 42%. There is a similarity of the obtained results of the analysed indicators at the level of the Region 1 and Region 2. The values of Gini -coefficients show that in the transitional process in the analyzed time period the regional differences were increased.

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