

## DEVELOPMENT OF REGIONAL DISPARITIES IN THE PREŠOV SELF-GOVERNING REGION AT THE BEGINNING OF 21st CENTURY

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### **Abstract:**

The presented paper evaluates the issue of regional disparities and their development in 13 districts of the Prešov self-governing region in the years 2003 - 2012. For the purpose of comparison was chosen the set of 11 socio-economic indicators (gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants), which were subsequently statistically converted by the Gini coefficient and the coefficient of variation, to quantify increase respectively decrease in the level of regional disparities. Comparison of these two coefficients will ensure objectivity and accuracy of the measurement and evaluation.

### **Key words:**

regional development, regional disparities, regional policy, socio-economic indicators, the Gini coefficient, the coefficient of variation

### **INTRODUCTION**

The term regional disparity respectively inequality is often encountered in the scholarly literature, as well as in the social practice. There are many factors affecting the needs of their study, but the main cause is the deepening in the context of the transformation process from a centrally controlled economy to a market economy and a strong differentiation of economic performance and condition of individual regions. The transformation process expressed in all spheres of society has resulted in an initial increase in inequalities between regions, moreover, their levelling mostly occurs after a certain period depending on the degree of economic development

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and the effectiveness of the proposed measures of regional policy, whose primary objective is to correct differentiated development of regions and ensure a balanced and harmonious development. An incoming market economy, privatization, globalization and democratization of the society have showed real position and level of development of individual regions of Slovakia. The economy revealed their real competitiveness based on natural, economic, social, cultural and other preconditions.

According to Ivanička (2014), social development is significantly determined by the quality and the level of imbalance of social systems, especially their subsystems, elements, nodes and networks, by their imbalance of energy, inputs, outputs, etc. Social development is possible mainly due to the existence of nonlinearities, asymmetries, inconsistencies, contradictions and imbalances. On the one hand, we are trying to get social system to external and internal balance, but on the other hand, thanks to the laws of thermodynamics we realize that imbalance, unbalanced state of the system are inevitable phenomena that are essential for a new movement, a new arrangement, self-assemblies, and for the further development of the system.

However, the existence of inequalities is desirable and necessary, too marked inequalities, whether between individuals or regions, cease to operate positively and they have serious social and political consequences and therefore are generally regarded as a negative phenomenon (Hampl, 1998).

Within the part of our assessment of regional disparities, in this context, the focus was directed at internal differentiation and differences between regions (districts) of the Prešov self-governing region as a region of Slovakia, which has long been underdeveloped and economically the weakest regional structure of Slovakia.

## **THEORETICAL AND METHODOLOGICAL BASE OF THE EXAMINATION OF REGIONAL DISPARITIES**

The term disparity respectively inequality is not clearly defined. Michálek (2012) states that the term disparity comes from the Latin word *disparitas*(us), which can be expressed as an inequality or differentiation. In the English language, it has several synonyms: unlikeness (dissimilarity, difference), incongruity (inequality, inconsistency), inequality (inequality, irregularity, difference, diversity, disparity), difference (diversity, differentiation) or dissimilarity (diversity, difference). If disparity is equal to inequality (standard deviations), then the regional disparity affects inequality between territories, regions, settlements, etc., thus differentially defined spatial units.

In the broadest sense, disparities are understood as differences respectively inequalities of characters, events or processes which identification and comparison has any rational sense (cognitive, psychological, social, economic, political) (Kutscherauer 2008). They are the product of the operation of several factors, base on the quality and development of instantaneous availabilities of not only potentials, but also different positions, from which individual regions entered into the transformation process (Gajdoš 2001).

In the presented paper, in accordance with Matlovič, Matlovičová (2011), we will consider regional disparities as differences on the stage of the socio-economic development of the regions.

In assessing regional disparities, it is necessary to solve several methodological problems. It is necessary to define the observational level of the evaluation territorial units, determine the choice of adequate indicators for assessment of regional disparities as well as to select the appropriate statistical tools to measure (Matlovič, Matlovičová 2005, Matlovič, Klamár, Matlovičová, 2008 Matlovič, Matlovičová 2011, Klamár 2008, Klamár, 2011 Angelovič, Benč, 2014).

The first methodological problem is the selection and the use of appropriate territorial division of observational units. As Buček, Rehák, Tvrdoň (2010), Sloboda (2006) note, inappropriate observational units as well as indicators can lead to distortions - e.g. for regional disparities are considered urban-rural disparities, intra-regional disparities, social disparities etc. Inappropriate regional division and indicators can also lead to an overestimation of the level of regional disparities.

When selecting appropriate hierarchical level of compared territorial units, the lower level of the observational unit, the more growing problem of the availability and relevance of observed data and time series. On the other hand, the evaluation and comparison of territorial units at the level of LAU I (districts), offers the possibility of more detailed analysis of internal differentiation of spatially extensive and hierarchically higher regions at the level of NUTS III (self-governing regions). In view of the objective of the study were compared and selected 13 districts of the Prešov self-governing region: the districts of Bardejov, Humenné, Kežmarok, Levoča, Medzilaborce, Poprad, Prešov, Sabinov, Snina, Stropkov, Svidník, Stará Ľubovňa, and Vranov nad Topľou.

Another important step is the selection of appropriate indicators. In selecting appropriate indicators, a limiting factor seems to be the limited availability of appropriate data. Many data are not systematically monitored respectively are not available at lower territorial units. Another problem is changing methodology of the construction of some indicators, what reduces the applicability in the time comparative analysis. Into the assessment of regional disparities enter many indicators, which are very different from each other by their nature and weight.

For the purpose of assessment of regional disparities in the Prešov self-governing region was chosen the set of 11 assessment indicators, the choice of which is related to the degree of their information value as well as the possibility of obtaining the necessary background information in an adequate chronological time series from 2003 to 2012. The file of evaluation indicators was comprised of the following indicators to which the equal weight was imputed: gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants.

After the determination of the observational units and the choice of evaluation indicators followed the selection of statistical tools for the measurement of disparities. For the purposes of our research were used two statistical rates: the coefficient of variation and the Gini coefficient.

The coefficient of variation (CV) is a tool for comparative analyses and it is a relative measure of dispersion derived from the standard deviation  $\sigma$  (the ratio of the standard deviation and the mean)

$$CV = \frac{\sigma}{\bar{x}} = \frac{\sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n}}}{\bar{x}}$$

The coefficient of variation allows correlating the variability of variables with different values (clean the standard deviation by the height of the mean).

The second statistical measure was the GINI index, coefficient of concentration (IG), which originated as a tool to measure pension inequality. It ranges between 0 (absolute equality) to 1 (absolute inequality).

$$IG = \frac{1}{2n^2 \bar{x}} \sum_{i=1}^n \sum_{j=1}^n (x_i - x_j)$$

where  $n$  is the total number of observational (territorial) units,  $x_i$  is the value of the indicator in the  $i$ -territorial unit,  $x_j$  is the value of the indicator in the  $j$ -territorial unit and  $\bar{x}$  is the arithmetic mean of the indicator  $x$ .

The choice of two statistical measures to measure regional disparities and the comparison of their results guarantee that analyzed trend of regional disparities is real and corresponds to the state of their development in Slovakia.

## DEVELOPMENT OF REGIONAL DISPARITIES IN THE PREŠOV SELF-GOVERNING REGION IN THE YEARS 2003-2012

Evaluation of the development of regional disparities in the Prešov self-governing region in the period 2003-2012, was supported by a set of 11 selected indicators (gross birth-rate, the average monthly wage, employment rate, unemployment rate, completed dwellings per 1000 inhabitants, economic aggregate, foreign direct investment (FDI) per capita, share of districts in FDI of the self-governing region, enterprises with 250 or more employees per 1000 inhabitants, the number of organizations focused on generating profits per 1000 inhabitants, and the number of freelancers per 1000 inhabitants). The selection of indicators was determined by the requirement of their availability in the examined period as well as the need to reflect changes in the stage of the socio-economic development of regions.

For better clarity and simplification in the text below were used abbreviated forms of the following districts of the Prešov self-governing region: Bardejov (BJ), Humenné (HE), Kežmarok (KK), Levoča (LE), Medzilaborce (ML), Poprad (PP), Prešov (PO), Sabinov (SB), Snina (SV), Stropkov (SP), Svidník (SK), Stará Ľubovňa (SL), Vranov nad Topľou (VT). In the case of the Gini coefficient, it was shortened in the form of GINI and in the coefficient of variation it was CV.

## GROSS BIRTH-RATE

Natural movement of population represented by a gross birth-rate is a fundamental demographic indicator in the evaluation of regional disparities. The birth rate has a decisive role in the reproductive process. It is an indicator of reproductive vitality and perspective of the regions.

*Table 1: Development of the gross birth-rate (‰) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	11,57	11,72	12,03	11,95	11,47	12,45	12,19	12,31	11,53	10,47
HE	9,53	9,16	9,31	9,52	10,38	9,13	10,07	9,65	9,65	8,11
KK	15,84	16,64	16,43	16,36	16,03	17,88	19,16	18,39	18,29	15,89
LE	12,42	12,99	12,32	11,85	11,44	14,17	12,06	14,60	12,66	12,43
ML	9,21	10,49	9,66	9,44	8,22	9,50	9,67	10,78	8,30	8,11
PP	10,16	11,41	11,39	11,33	10,99	11,22	12,53	11,87	11,97	10,68
PO	11,05	11,69	11,72	11,49	11,35	12,18	13,33	12,65	10,84	11,43
SB	14,77	14,54	15,52	14,91	14,75	15,16	17,23	15,84	15,75	15,29
SV	9,68	9,11	9,29	8,45	9,13	9,52	10,22	8,21	9,95	8,41
SL	13,85	13,82	13,35	13,43	13,05	13,69	15,76	15,09	14,34	13,62
SP	10,94	9,66	10,31	9,35	8,65	9,74	11,49	11,67	10,47	8,83
SK	10,02	9,52	10,36	10,37	9,42	10,29	10,99	10,19	10,27	10,31
VT	13,64	14,01	13,60	12,51	12,91	13,01	13,89	14,11	12,93	12,35
REGION	11,85	12,18	12,23	11,96	11,83	12,47	13,45	13,05	12,71	11,62
GINI	0,0994	0,1072	0,1024	0,1059	0,1105	0,1149	0,1166	0,1198	0,1191	0,1257
CV	0,1849	0,1985	0,1911	0,1982	0,2057	0,2156	0,2224	0,2211	0,2277	0,2322

Source: *www.statistics.sk, own calculation*

The gross birth-rate developed differentially in the districts of the Prešov self-governing region. The highest birth-rate during the period 2003-2012 was recorded in the districts of the western part of the Prešov self-governing region, where in Kežmarok the value was at the level of 134 - 144% of the average of the self-governing region, Sabinov 121 - 132% and Stará Ľubovňa 109 - 117%. The opposite were the eastern districts of the self-governing region: Snina (63 - 82%), Medzilaborce (72 - 83%) and Humenné (73 - 80%). Such strong duality in the birth rate in the western districts was significantly associated with the structure of the population with a higher proportion of the Roma ethnic group in the western part. This is clearly reflected in the deepening of disparities in the birth-rate within the self-governing region, as is indicated by an increase of both CV from 0.1849 (2003) to 0.2322 (2012) and GINI from 0.0994 to 0.1257.

## AVERAGE MONTHLY WAGE

The second used indicator was the average monthly wage. It is one of the basic socio-economic indicators, by which differentiated development of the regions can be evaluated. It is the average gross nominal monthly wage in enterprises with 20 or more employees.

**Table 2:** *Development of the average monthly wage (€) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	345	391	398	451	482	502	466	492	580	604
HE	436	474	502	530	583	625	612	361	672	700
KK	391	444	469	512	569	603	583	611	620	635
LE	377	406	444	480	533	593	606	672	740	735
ML	371	397	422	446	464	527	516	572	639	659
PP	473	535	559	592	639	710	703	738	755	790
PO	447	491	531	576	641	704	697	732	767	774
SB	375	413	469	491	530	539	591	620	669	678
SV	352	389	407	436	466	519	553	541	598	626
SL	393	426	454	491	548	591	628	621	651	670
SP	339	389	419	456	487	512	569	561	630	645
SK	383	403	429	473	514	552	604	603	637	682
VT	375	400	448	482	513	571	583	576	638	649
REGION	416	460	490	530	579	632	636	659	697	715
GINI	0,0518	0,0531	0,0556	0,0509	0,0588	0,0613	0,0564	0,0609	0,0464	0,0436
CV	0,1007	0,1072	0,1053	0,0978	0,1096	0,1166	0,1082	0,1147	0,0888	0,0825

Source: *www.statistics.sk, own calculation*

The highest average wage was recorded in the districts of Poprad (110 - 115% of the average of the self-governing region) and Prešov (106 - 111%). Other districts represented significantly lower values, while the last place alternated the districts of Snina (80 - 85% of the average of the self-governing region) and Bardejov (75 - 85%). From the aspect of the development of the average monthly wage is visible trend of increase. The highest increase was recorded in the district of Levoča (in 2012, it was 195% of the level from 2003), Stropkov (190%) and Sabinov (181%). By contrast, the lowest was in the districts of Humenné (160%), Kežmarok (162%) and Poprad (167%). Wages in individual districts grew at an uneven pace what resulted in volatility of the values of Gini and CV. However, the highest disparities within this indicator were recorded in 2008 (CV - 0.1166 and GINI - 0.0613), totally it directed to levelling, which was confirmed by the decline in both CV (from 0.1007 to 0.0825) and GINI (from 0.0518 to 0.0436).

## EMPLOYMENT RATE

Employment rate is an important economic indicator of the performance of the regional economy. It is calculated based on the proportion of employed persons aged 15 - 64 years to the total number of persons aged 15 - 64 years. Persons on maternity leave and parental leave and persons working on the performance contract performed outside employment are excluded (Štatistická ročenka (Statistical Yearbook), 2012).

**Table 3:** *Development of the employment rate (%) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	53,49	54,71	53,01	51,80	52,49	55,78	54,47	54,22	53,68	53,18
HE	63,02	59,18	60,49	60,91	61,30	63,89	64,34	64,41	63,75	63,70
KK	36,32	38,35	39,06	40,88	43,82	41,43	42,78	41,63	40,53	39,90
LE	40,54	37,42	38,99	40,86	42,95	40,85	40,54	40,34	39,97	39,52
ML	44,65	38,99	38,80	40,42	43,83	38,39	37,55	37,52	36,24	36,46
PP	67,68	66,11	65,68	68,43	69,69	70,83	72,49	72,51	73,37	73,18
PO	52,30	54,40	53,13	57,91	57,62	59,81	56,72	56,53	55,67	55,40
SB	41,78	41,99	43,85	45,24	45,96	47,72	41,20	40,65	40,47	39,93
SV	57,62	57,58	59,08	58,57	58,46	56,50	53,25	53,38	53,80	53,52
SL	55,81	55,65	55,21	54,29	56,45	57,64	56,27	55,77	55,14	54,31
SP	49,36	46,57	48,50	47,04	47,40	49,56	46,89	46,71	46,33	46,06
SK	57,01	53,97	52,42	54,41	52,11	55,77	52,93	52,97	52,56	51,88
VT	41,75	44,29	43,45	45,46	43,62	44,17	40,95	40,86	40,71	40,48
REGION	52,88	52,49	52,29	54,04	54,51	55,63	53,99	53,73	53,29	52,90
GINI	0,1015	0,0996	0,0961	0,0929	0,0853	0,1009	0,1087	0,1101	0,1132	0,1139
CV	0,1858	0,1841	0,1765	0,1714	0,1606	0,1858	0,2043	0,2078	0,2151	0,2169

Source: *www.statistics.sk, own calculation*

The highest employment rate throughout the reporting period was recorded in the district of Poprad (126 - 138% of the average of the self-governing region, the average of employment is 70%) followed by the districts of Humenné (113 - 120% of the average of the self-governing region, the average of employment is 62.5%) and Snina (99 - 113% of the average of the self-governing region, the average of employment is 56.2%). The lowest employment rate was recorded in the districts of Medzilaborce (69 - 80% of the average of the self-governing region, the average of employment is 40%), Levoča (71 - 79% of the average of the self-governing region, the average of employment is 40.2%) and Kežmarok (73 - 80% of the average of the self-governing region, the average of employment is 40.5%). From the aspect of the development of the employment rate, we can observe a trend of an increase in all districts with the culmination in 2007, respectively 2008. It is the year 2007 when inter-district disparities were slightly levelling, as it is shown by decrease of CV (from the value of 0.1858 to 0.1606) and GINI (from 0.1015 to 0.853). This is a result of the significant increase in the employment rate in districts with the values significantly below the average in relation to the self-governing region (e.g. Kažmarok - increase compared to the year 2003 by 21%, Sabinov by 10%) and a slight increase

in employment in the district with the highest values (Poprad by 3%). The year 2007, respectively 2008 was a turning point in all 13 districts of the Prešov self-governing region excluding the district of Poprad. This uneven development became the basis of slight deepening of disparities in the years 2008-2012, which is confirmed by CV values from 0.1858 in the year 2008 to 0.2169 in the year 2012 and GINI (from 0.1009 to 0.1139). In the last observed year, both coefficients exceeded their level; therefore, at this complex comparison we can state sight, but still deepening inter-district disparities.

## UNEMPLOYMENT RATE

By the character, unemployment rate is at the intersection of economic and social indicators. It is measured as a share of disposable number of registered unemployed to the number of economically active inhabitants.

*Table 4: Development of the unemployment rate (%) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	19,98	17,38	15,96	14,05	14,01	15,75	22,00	19,43	19,89	22,35
HE	18,67	14,84	11,99	10,01	9,49	10,76	16,12	15,66	16,64	18,51
KK	25,45	25,87	24,38	22,22	19,38	19,75	25,68	26,18	28,66	30,06
LE	19,49	17,12	17,06	15,76	13,48	12,84	16,91	18,41	18,48	21,65
ML	21,96	20,59	17,10	14,44	15,36	16,71	21,76	19,40	19,84	22,31
PP	15,83	13,39	11,88	8,55	6,86	7,33	10,84	10,65	12,33	12,62
PO	19,45	16,73	15,00	12,93	11,22	10,52	16,26	16,60	17,16	18,75
SB	24,84	22,33	21,11	19,25	17,55	18,07	25,40	25,71	26,75	28,44
SV	18,54	18,39	14,98	13,58	11,50	14,87	22,31	19,38	19,31	21,10
SL	13,60	12,25	10,83	9,30	7,92	8,73	12,92	13,63	14,56	16,73
SP	15,22	19,90	14,00	13,39	12,59	12,82	17,93	17,14	18,11	21,38
SK	16,25	17,38	16,13	14,48	12,93	15,36	21,75	18,80	20,03	23,33
VT	22,63	18,69	18,34	16,49	14,51	16,12	20,14	19,68	22,89	24,02
REGION	19,57	17,50	15,77	13,68	12,05	12,86	18,29	17,75	18,95	20,66
GINI	0,1021	0,1068	0,1234	0,1411	0,1494	0,1459	0,1890	0,1174	0,1107	0,1193
CV	0,1876	0,2015	0,2343	0,2682	0,2773	0,2678	0,3662	0,2379	0,2287	0,2112

Source: *www.statistics.sk, own calculation*

The highest values of the unemployment rate throughout the reporting period were recorded in the districts of Kežmarok (130 - 161% of the average of the self-governing region, the average of unemployment is 24.8%), Sabinov (127 - 146% of the average of the self-governing region, the average of unemployment is 23%) and Vranov nad Topľou (106 - 125% of the average of the self-governing region, the average of unemployment is 19.4%). The lowest values were achieved by two districts, by 2005, it was the district of Stará Ľubovňa at the level of 12%, followed by district of Poprad (9.9%). Unemployment rate below average in relation to the self-governing region was recorded in the districts of Humenné, Prešov and Stropkov. Disparities between districts of the Prešov self-governing region in unemployment rate



are obvious and highlighted in the comparison of the district of Poprad and Kežmarok (up to 232 - 282% of unemployment rate of the district of Poprad), which largely determines the existence of inter-district disparities in terms of this indicator. From the analysis of the unemployment rate, it is clear that by 2007, the unemployment rate had gradual downward trend. This positive direction, however, was clearly influenced by the global economic crisis, which conditioned its rapid increasing particularly in 2009. In this year, the unemployment rate ranged in individual districts within 194% (Snina) to 126% (Levoča) of the values of this indicator from 2007. The trend of increase in the unemployment rate continued in the following years. At the beginning of the reporting period, unemployment rate did not fall by steady pace within observed territorial units, what resulted in an increase of inter-district disparities by 2009 (the year of the most prominent regional disparities at all), when not only CV (value from 0.1876 to 0.3662) but also GINI increased (value from 0.1021 to 0.1890). This is a result of significantly divergent development of unemployment rate which fell in seven districts - Poprad (fall by 32%), Prešov (16%), Humenné (14%), Levoča, Vranov nad Topľou, Stará Ľubovňa, Medzilaborce and vice versa in the remaining districts significantly increased - the district of Svidník (an increase by 34%), Snina (20%), Stropkov (18%) etc. Since 2009, a slight levelling of disparities has occurred in terms of this indicator, as is shown by decrease of CV to 0.2112 (year 2012) and of GINI to 0.1193. Neither of these values, in the last observed year, reached the initial level and thus in a comprehensive assessment of inter-district disparities, we still observe their deepening. The main cause is decrease in the unemployment rate in the districts with a relatively low values - Poprad (80% of the value from 2003), Prešov (96%) and Humenné (99%) - and on the other hand increase in all the other districts reaching above-average values - particular district of Svidník (144%), Stropkov (141%) and Kežmarok (118%).

## **COMPLETED DWELLINGS**

Quality and affordable housing is an important determinant affecting the quality of life as well as the factors influencing labour mobility, which is a serious problem of the Slovak economy.

**Table 5:** *Development of the number of completed dwellings per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	2,14	1,84	1,88	2,02	1,42	1,73	2,26	1,57	1,73	1,00
HE	3,01	1,07	2,15	1,06	1,59	0,62	1,19	1,03	0,76	0,73
KK	1,98	2,52	2,19	3,33	2,81	2,24	2,61	2,42	1,69	2,26
LE	3,17	1,36	1,82	1,75	3,19	1,98	2,25	1,72	2,16	1,59
ML	1,84	0,40	0,49	0,16	0,41	0,08	0,08	0,00	0,24	0,24
PP	2,83	2,11	3,19	2,25	2,30	4,44	3,45	2,48	3,05	2,79
PO	2,64	2,01	2,42	1,82	2,94	1,47	1,73	2,46	2,74	2,25
SB	1,90	1,30	3,23	2,84	1,70	1,66	2,60	1,70	2,12	2,55
SV	0,64	0,74	1,07	0,77	0,72	0,78	0,60	1,30	0,68	0,53
SL	1,87	1,32	1,65	1,41	2,40	2,66	2,22	2,58	2,45	1,88
SP	1,00	1,29	1,68	2,83	0,65	0,58	1,40	0,34	0,38	0,58
SK	2,72	1,95	1,26	0,42	1,84	1,41	1,08	1,57	1,57	2,56
VT	1,48	1,22	1,95	1,06	0,78	1,98	0,77	2,13	0,70	0,72
REGION	2,24	1,69	2,20	1,69	2,13	1,96	1,94	1,97	1,91	1,76
GINI	0,1983	0,2140	0,2119	0,3286	0,2932	0,3415	0,3047	0,2639	0,3259	0,3273
CV	0,3673	0,3994	0,3993	0,6055	0,5343	0,6692	0,5599	0,4983	0,5966	0,6029

Source: *www.statistics.sk, own calculation*

Throughout the reporting period, the best position in terms of the number of completed dwellings was recorded in economically developed districts. The highest values were reached in the district of Poprad (133 - 178% of the average of the self-governing region, the average number of completed dwellings in the district for ten years was 2.9). To a large extent, it is thank to year 2008, when the most dwellings per 1 000 inhabitants were completed in all districts and during all observation years (4.4 flat). Dwelling construction above average was marked in the districts of Kežmarok (88 - 149% of the average of the self-governing region, the average number of completed dwellings was 2.4), Prešov (75 to 144% of the average of the self-governing, the average number of completed dwellings was 2.3), Levoča, Sabinov and Stará Ľubovňa. At the opposite pole of dwelling construction are economically weaker districts, particularly the district of Medzilaborce (0 - 82% of the average of the self-governing region) followed by the district of Snina (30 - 66% of the average of the self-governing region). Such a low intensity of dwelling construction in individual years is also reflected in the average value for the whole ten years, which is in both districts below 1 completed dwelling per 1 000 inhabitants (0.4 respectively 0.8 flat). The number of completed dwellings in individual districts did not develop constantly. Initially, in most of them grew, but after reaching its maximum level (especially between 2007-2009) it began to gradually decline below starting year with the exception of three districts - Sabinov (in year 2012, 134% of the value from the year 2003), Kežmarok (114%) and Stará Ľubovňa (101%). The most evident decline was recorded in the district of Medzilaborce (in year 2012 only 13% of the value from the year 2003) and the district of Humenné (24%). The number of completed dwellings per 1 000 inhabitants slightly declined in two most developed districts of the

self-governing region: Prešov and Poprad (85% and 99% of the value from the year 2003), what can be considered as a transition state in contrast to the above districts on the basis of development in previous years. Differentiated rate of increase or decrease of this indicator in individual districts and studied years resulted in volatility of the values of CV and GINI, what can be interpreted as alternating phases of deepening of inter-district disparities (years 2003-2006; year 2008; years 2011-2012) and their levelling. Overall, we observe growing disparities between districts, what was recorded by growth of CV values from 0.3673 to 0.6029 and the GINI values from 0.1983 to 0.3273. Increase of disparities reflects the ratio of housing construction in the western and eastern districts of the self-governing region. While in 2003, in the districts of Poprad, Kežmarok, Stará Ľubovňa, Levoča, Sabinov, Prešov and Bardejov was completed 61% of all completed dwellings of the Prešov self-governing region, in the districts of Svidník, Stropkov, Humenné, Vranov nad Topľou, Medzilaborce and Snina it was only 39%. In 2012, the difference between these two groups of districts was even more deepened in the rate of 73% and 27%.

## ECONOMIC AGGREGATE

According to Hampl (2005), economic aggregate (EA) represents a suitable replacement for classic, al macroeconomic indicator of GDP, which measures the economic performance. Similarly, it also determines the economic size of the area; therefore, at the district level it can be seen as the most representative indicator of the performance of the local economy. For the purpose of comparison, we use the calculation of per capita.

**Table 6:** *Development of the economic aggregate per capita (in €) in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	135,5	147,3	149,7	172,0	191,0	196,5	165,5	186,7	221,9	222,4
HE	172,5	192,9	204,9	216,5	246,3	265,6	241,1	261,8	277,5	283,2
KK	147,2	154,1	160,3	171,6	198,0	207,2	175,7	186,9	184,2	186,0
LE	140,7	144,4	154,5	169,3	209,5	222,0	211,7	233,6	263,0	253,0
ML	136,2	142,6	156,9	166,1	193,5	193,5	182,1	216,7	239,0	238,4
PP	191,3	222,0	236,9	262,1	293,8	330,0	304,1	325,2	333,6	346,3
PO	168,1	187,4	205,3	224,2	261,7	293,3	261,7	281,0	289,6	287,5
SB	131,8	137,8	152,7	157,5	175,0	177,9	171,8	186,3	199,0	197,4
SV	134,3	141,4	153,7	168,2	187,3	203,8	193,8	215,4	240,8	244,4
SL	142,7	150,2	162,0	179,9	212,0	229,3	230,1	233,2	242,6	244,3
SP	133,0	130,4	150,5	165,9	184,1	193,1	204,6	214,5	245,8	240,8
SK	139,6	153,7	163,6	184,2	209,2	219,9	220,7	243,3	253,9	262,6
VT	137,2	146,7	154,0	167,6	186,6	204,7	186,9	200,3	215,8	215,5
REGION	157,8	172,1	183,9	201,2	229,1	250,1	229,6	248,3	260,1	261,4
GINI	0,0598	0,0799	0,0738	0,0765	0,0821	0,0970	0,0941	0,0922	0,0842	0,0877
CV	0,1259	0,1675	0,1629	0,1649	0,1567	0,1963	0,1891	0,1779	0,1593	0,1687

Source: *www.statistics.sk, own calculation*

The highest values of economic aggregate per capita, throughout the reporting period were recorded in the districts of Poprad (121 - 132% of the average of the self-governing region, the average EA per capita for ten years is 285 €) and Prešov (107 to 117% of the average of the self-governing region; average 246 €). In addition to these districts, above-average values were recorded only in the district of Humenné (105 - 112% of the average of the self-governing region; average 236 €). In all other districts were recorded significantly lower than average values, while the worst position had the districts of Sabinov (71 - 84% of the average of the self-governing region; average 168 €), Kežmarok (71% - 93% of the average of the self-governing region; average 177 €) and Bardejov (72% - 86% of the average of the self-governing region; average 179 €). The existence of regional disparities was confirmed but based on the average values of both coefficients it can be regarded as minimal (CV - 0.1678 and GINI - 0.0827).

From the analysis of the development of EA is clearly visible trend of its increase excluding only the year 2009, when it declined in all districts. This can be seen as a direct consequence of the economic crisis, which caused a decrease of the number of job opportunities and the average monthly wage (base structure of the indicator). After six years of deepening of disparities (year 2001: CV - 0.1259 and GINI - 0.0598; year 2008: CV - 0.1963 and GINI - 0.0970 - the highest rate of overall disparities) in 2009 started the phase of their levelling lasting until 2011 (CV - 0.1593 and GINI - 0.0842). It seems to be that essential for success is gradual approaching of almost all districts (except of Kežmarok, Prešov and Snina) to EA per capita of the district of Poprad (year 2008: EA per capita of the districts of the self-governing region was at the level of 54 - 81% of the value of the district of Poprad, but in year 2011, it was at 60 - 83%, for example the district of Stropkov - year 2008: only 59% of EA per capita of the value of the district of Poprad, but in year 2011 already 74%). This favourable situation of the development of disparities changed in the negative sense in the last reporting year, which pointed to their resurgence. Deepening of regional disparities can be also observed in comprehensive evaluation of inter-district disparities in comparison between years 2003 and 2012 (CV rose from the value of 0.1259 to 0.1687 and GINI from 0.0598 to 0.0877). Economic aggregate grew in the district of Poprad faster than in the other districts (181% of year 2003), while it was slightly outpaced only by two of districts - Svidník (188% of the year 2003) and Snina (182%). Conversely, the smallest increase is observed in the districts of Kežmarok (126%) and Sabinov (150%). The slower growth rate of this indicator in these and other long-term undersized districts compared to district of Poprad conditioned the above-mentioned growth of disparities.

## **STATE OF FOREIGN DIRECT INVESTMENT (FDI) PER CAPITA**

Foreign direct investment (FDI) represents substantial development incentive for underpowered regions of Slovakia and for the insufficient level of domestic capital. For target regions, it represents an important factor for economic growth as well as employment growth.

**Table 7:** *The state of foreign direct investment (FDI) per capita (in thousand €) in the districts of the Prešov self-governing region in the years 2003-2011*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
BJ	-3,8	-14,0	-13,4	95,7	68,8	100,7	91,5	93,4	94,6
HE	1337,7	1473,3	1281,7	954,4	560,6	1555,7	1073,9	728,4	602,6
KK	63,0	141,1	76,5	193,5	127,4	265,5	296,0	279,3	276,3
LE	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
ML	6,3	13,3	24,7	0,0	0,0	0,0	0,0	0,0	0,0
PP	656,4	830,5	881,4	780,7	805,9	922,0	972,1	985,2	989,9
PO	462,9	545,1	557,7	375,0	414,2	693,6	1179,1	1210,0	970,6
SB	80,7	72,8	150,6	119,8	112,8	268,7	228,7	235,9	243,4
SV	75,6	42,2	146,4	66,8	78,1	22,8	26,7	84,4	107,5
SL	60,9	67,1	69,5	69,9	80,8	90,8	92,6	68,9	48,8
SP	20,6	26,2	26,8	21,6	20,0	18,4	21,7	25,0	22,3
SK	60,1	70,8	111,4	63,6	32,0	48,8	10,4	57,7	46,9
VT	75,4	66,4	75,8	71,6	71,7	50,2	121,1	172,9	168,8
REGION	318,9	372,6	374,3	307,7	278,5	452,6	526,7	513,8	581,4
GINI	0,7109	0,7203	0,6750	0,6326	0,6225	0,6808	0,6843	0,6279	0,6144
CV	1,7479	1,7228	1,5349	1,4199	1,3748	1,5173	1,3861	1,3326	1,2839

Source: *www.nbs.sk, own calculation*

Investment attractiveness of individual districts of the Prešov self-governing region was significantly differentiated. The highest values of FDI per capita were recorded to year 2008 in the district of Humenné (310 - 420% of the average of the self-governing region, the average of FDI per capita for six years was 1,194 € and for the entire period 1,063 €) and since 2009 in the district of Prešov (167 - 236% of the average of the self-governing region, the average for these three years was 1,120 € and for the entire period 712 €). Above average values were only marked in the district of Poprad (192 - 289% of the average of the self-governing region; average 869 €), all other districts were significantly underpowered. The worst position had the district of Levoča (zero investment), little "favourable" situation was in the districts of Medzilaborce (0 - 7% of the average of the self-governing region, average 15 €) and Stropkov (4 - 7% of the average of the self-governing region; average 23 €). Disparities between districts of the Prešov self-governing region in FDI per capita existed and still exist (average value of CV for nine years is 1.4802 and for GINI is 0.6592). From the analysis of the development of the state of FDI per capita during the entire period is evident the growth in most districts (Bardejov - by 2 500% of the level from 2003, but this was largely influenced by outflows in the initial year; Kežmarok - by 439% and Sabinov - by 302 %). Conversely, the most significant decrease comparing initial and final year was recorded in the district of Humenné (in year 2011 it was only 45% of the value from year 2003), followed by the districts of Svidník (78% of the value from year 2003) and Stará Ľubovňa (80%). The relatively modest increase in two most developed districts of the self-governing region (Prešov - 210% of the value from year 2003; Poprad - 150% of the value from year 2003) and a sharp increase in the districts reporting below-average values of FDI per capita throughout the period (Bardejov,

Kežmarok, Sabinov and Vranov nad Topľou) become the basis for levelling of inter-district disparities in terms of this indicator. This finding is supported by decrease of CV (from the value of 1.7479 in the year 2003 to 1.2839 in the year 2011) and GINI (from 0.7109 to 0.6144). Based on such a long-term development is realistic to expect a further levelling of disparities.

## SHARE OF DISTRICTS OF THE SELF-GOVERNING REGION IN FOREIGN DIRECT INVESTMENT

The amount of foreign direct investment (FDI) and its inflow was reflected in the share of individual districts of the Prešov self-governing region. Three economically strongest districts were also the districts with the highest proportion of FDI in the self-governing region.

**Table 8:** *Proportion of districts (in %) of FDI of the Prešov self-governing region in the years 2003-2011*

	2003	2004	2005	2006	2007	2008	2009	2010	2011
BJ	0,11	0,36	0,34	2,98	2,36	2,13	1,66	1,73	1,57
HE	34,17	32,07	27,66	24,97	16,15	27,44	16,18	11,18	11,78
KK	1,60	3,10	1,68	5,22	3,81	4,92	4,75	4,63	5,56
LE	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
ML	0,08	0,14	0,27	0,00	0,00	0,00	0,00	0,00	0,00
PP	27,04	29,19	30,76	33,10	37,70	26,48	23,97	24,88	25,05
PO	29,79	30,07	30,66	25,15	30,71	31,68	46,30	48,77	44,99
SB	1,75	1,36	3,14	2,73	2,85	4,18	3,09	3,28	2,99
SV	1,17	0,56	1,91	1,06	1,36	0,24	0,24	0,78	1,02
SL	1,23	1,16	0,86	1,47	1,87	1,29	1,14	0,87	0,50
SP	0,17	0,18	0,19	0,18	0,19	0,10	0,11	0,12	0,01
SK	0,84	0,80	1,24	0,86	0,48	0,45	0,31	0,46	0,33
VT	2,27	1,73	1,97	2,28	2,52	1,09	2,25	3,30	6,20
REGION	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
GINI	0,7246	0,7274	0,7097	0,6795	0,7034	0,7005	0,7407	0,7403	0,7261
CV	1,6914	1,6918	1,6378	1,5176	1,6341	1,5644	1,7809	1,8388	1,7211

Source: *www.nbs.sk, own calculation*

In the overall assessment of selected indicator, the best position obtained the districts of Prešov (average share in FDI of the self-governing region - 35%), Poprad (29%) and Humenné (22%). Conversely, the lowest rate was recorded in the districts of Levoča (0% over the entire period), Medzilaborce (0 - 0.3%) and Stropkov (0.1 - 0.2%). The minimum share in FDI of the self-governing region (below 4%) obtained all other districts. Therefore, share of the districts in FDI of the Prešov self-governing region is considerably differentiated, resulting in the existence of significant inter-district disparities, the most significant among all evaluated indicators (average value of CV - 1.6753 and GINI - 0.7169). Development of this indicator in individual districts was very uneven; therefore, we cannot speak of continuous growth or decline. However, certain trends are visible. They are reflected in particular breaking

year for which we consider the year of the maximum value of the share in FDI of the self-governing region within a specific district. It was particularly the year 2007, when the values culminated in five districts - Bardejov, Poprad, Snina, Stará Ľubovňa and Stropkov. We indicate this year as breaking because it separates the stage of increase in values of this indicator from the stage of decline, for example the district of Stropkov (year 2007 - 112% of the value from the year 2003; year 2011 - 5% of the value from the year 2007). The only district where we observe steadily growing share in FDI of the self-governing region throughout the entire period was the district of Prešov. Therefore, we can claim that the share of FDI in the self-governing region is growing at the expense of decrease in the share of other districts, which naturally prevents levelling of disparities. Disparities are quite significant, what is confirmed by GINI excess the level 0.6700 over the entire period. Disparities between districts were not constant. Very slowly, disparities levelled in 2006 (the lowest level of disparities), what is evident by decrease in CV (from the value of 1.6914 in the year 2003 to 0.5176 in the year 2006) and GINI (from 0.7246 to 0.6795). Periodically changing periods of rise and fall followed, disparities reached the maximum level throughout the reporting period in the year 2010 (CV - 1.8388; GINI - 0.7403). The principal cause of deepening of disparities in the interval of years 2006 to 2010 became a huge increase of the share in FDI of the district of Prešov in the self-governing region (in 2006 - 25% share, in 2010 - 49% share). With a decline of the share of the district of Prešov in the following year, analogically a decrease in the values of the two coefficients followed. However, they did not reach their initial level from the year 2003. Based on this fact, we can conclude deepening of inter-district disparities; however, they were minimal (year 2003: CV - 1.6914, GINI - 0.7246; year 2011: CV - 1.7211, GINI - 0.7261). The reason for this situation was increase in the values of the clearly strongest district in terms of this indicator (Prešov - 151% of the value of the year 2003), and a decline in significantly undersized districts - e.g. Stropkov (6% of the value of the year 2003), Bardejov (14%), Svidník (39%). Increase in the share in some less underdeveloped districts did not help to level disparities - Kežmarok (348% of the value of the year 2003), Vranov nad Topľou (273%) and Sabinov (170%).

## **ENTERPRISES WITH 250 OR MORE EMPLOYEES**

According to the law no. 231/1999 on state aid, enterprises with 250 or more employees are classified as large enterprises. For the main contribution of large enterprises in terms of development can be seen as increasing of employment not only in these enterprises but also in the network of small and medium-sized enterprises through linked subcontracting.

**Table 9:** *Development of the number of enterprises with 250 or more employees in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	0,12	0,08	0,09	0,09	0,14	0,13	0,12	0,05	0,06	0,05
HE	0,09	0,11	0,12	0,14	0,16	0,17	0,12	0,11	0,09	0,11
KK	0,00	0,03	0,02	0,03	0,03	0,04	0,06	0,07	0,06	0,07
LE	0,00	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
ML	0,08	0,08	0,08	0,08	0,08	0,00	0,00	0,00	0,00	0,00
PP	0,11	0,16	0,13	0,14	0,13	0,12	0,12	0,13	0,12	0,13
PO	0,09	0,10	0,10	0,10	0,10	0,11	0,11	0,09	0,09	0,08
SB	0,07	0,07	0,04	0,04	0,04	0,05	0,05	0,03	0,05	0,03
SV	0,18	0,18	0,13	0,10	0,10	0,13	0,08	0,03	0,03	0,03
SL	0,00	0,02	0,02	0,00	0,00	0,00	0,02	0,02	0,02	0,02
SP	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
SK	0,03	0,06	0,06	0,06	0,03	0,03	0,03	0,03	0,03	0,06
VT	0,06	0,09	0,10	0,06	0,08	0,08	0,09	0,08	0,05	0,05
REGION	0,08	0,08	0,09	0,08	0,09	0,09	0,09	0,07	0,07	0,07
GINI	0,4160	0,3126	0,3106	0,3322	0,3648	0,4455	0,3428	0,3723	0,3194	0,3265
CV	0,7751	0,5906	0,5653	0,6097	0,6716	0,8763	0,6249	0,6962	0,5952	0,6746

Source: *www.statistics.sk, own calculation*

The highest number of large enterprises throughout the reporting period was recorded alternately in two districts - Bardejov (145 to 154% of the average of the self-governing region, the average number of large enterprises per 1000 inhabitants of the district was 0.09) and in other years in the district of Poprad (145 - 196% of the average of the self-governing region; the average for the entire period was 0.13). Very good position in relation to the self-governing region was permanently maintained in the districts of Humenné (118 - 191% of the average of the self-governing region, the average number of large enterprises for ten years was 0.12), Prešov and Snina. The smallest number of enterprises with 250 or more employees was recorded in the districts of Stará Ľubovňa (0 - 21% of the average of the self-governing region, the average number of large enterprises was 0.01), Levoča (0 - 34% the average of the self-governing region; average 0.03) and Medzilaborce (0 - 95% of the average of the self-governing region; average 0.04). Disparities between districts of the Prešov self-governing region exist at the level of 0.6679 (average value of CV for ten years) and GINI - 0.3573.

From the point of development of this indicator is not visible clear trend. The growth of large enterprises was reported in seven districts, among which the district of Svidník stands out (in 2012 it was 202% of the value of the year 2003), Humenné (118%) and Poprad (117%). Not so intensive growth is observed in the districts of Kežmarok, Levoča and Stará Ľubovňa. The most noticeable decrease in the number of large enterprises was in the districts of Medzilaborce (0% of the value of the year 2003, what was the result of cancellation of a single large enterprise), Snina (15%)



and Bardejov (44%). In spite of the vastly different pace of growth of this indicator in individual districts, disparities between them did not grow, on the contrary they slightly levelled, what is evident by a decrease of CV (from the value of 0.7751 in the year 2003 to 0.6746 in the year 2012) and GINI (from value of 0.416 to 0.3265). The main reason for this trend can be seen in the growing number of large enterprises in districts with their complete absence in the year 2003 (Kežmarok, Levoča and Stará Ľubovňa) and on the other hand, a fall in the number of districts with above average long-term values (Bardejov, Prešov and Snina). It is necessary to stress that disparities did not levelled throughout the whole reporting period, we also noted the periods of their deepening, in the years 2006-2008 as well as in the last reporting year 2012. Disparities reached the highest level in the year 2008 (CV - 0.8763 and GINI - 0.4455) and the lowest level in the year 2005 (CV - 0.5653 and GINI - 0.3106).

### ORGANIZATIONS FOCUSED ON GENERATING PROFIT

According to the methodology of the Statistical Office of the Slovak Republic, such organizations are indicated as those, whose priority is aimed at making profit and also subsidized organizations, whose income is exceed by more than 50% of the costs.

**Table 10:** *Development of the number of organizations focused on generating profit per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	0,12	0,08	0,09	0,09	0,14	0,13	0,12	0,05	0,06	0,05
HE	0,09	0,11	0,12	0,14	0,16	0,17	0,12	0,11	0,09	0,11
KK	0,00	0,03	0,02	0,03	0,03	0,04	0,06	0,07	0,06	0,07
LE	0,00	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
ML	0,08	0,08	0,08	0,08	0,08	0,00	0,00	0,00	0,00	0,00
PP	0,11	0,16	0,13	0,14	0,13	0,12	0,12	0,13	0,12	0,13
PO	0,09	0,10	0,10	0,10	0,10	0,11	0,11	0,09	0,09	0,08
SB	0,07	0,07	0,04	0,04	0,04	0,05	0,05	0,03	0,05	0,03
SV	0,18	0,18	0,13	0,10	0,10	0,13	0,08	0,03	0,03	0,03
SL	0,00	0,02	0,02	0,00	0,00	0,00	0,02	0,02	0,02	0,02
SP	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
SK	0,03	0,06	0,06	0,06	0,03	0,03	0,03	0,03	0,03	0,06
VT	0,06	0,09	0,10	0,06	0,08	0,08	0,09	0,08	0,05	0,05
REGION	0,08	0,08	0,09	0,08	0,09	0,09	0,09	0,07	0,07	0,07
GINI	0,1848	0,1915	0,1993	0,2080	0,2059	0,2176	0,2149	0,2157	0,2139	0,2127
CV	0,3471	0,3633	0,3743	0,3876	0,3837	0,4030	0,3981	0,4006	0,4007	0,3978

Source: *www.statistics.sk, own calculation*

Most organizations focused on generating profits during the period existed in the district of Prešov (146 - 150% of the average of the self-governing region, the average for the whole period 19.7), except for the starting and ending year, when dominated the district of Poprad (145 - 147% the average of the self-governing region; average 19.2). In addition to these districts, only two other achieve above-

average values in relation to the self-governing region, the districts of Bardejov (105 - 117% of the average of the self-governing region, average 150) and Svidník. The lowest number of profitable organizations was recorded in the districts of Sabinov (42 - 46% of the average of the self-governing region; average 5.9), Levoča (20 - 65% of the average of the self-governing region; average 7.3) and Kežmarok (54 - 60% of the average of the self-governing region; average 7.4). Therefore, disparities between districts of the Prešov self-governing region exist and they are much more highlighted in the statistical comparison of districts from opposite poles of their values - the district of Prešov and the district of Sabinov (29 - 32% of the value of mentioned district) - which largely determines the existence of inter-district disparities in terms of this indicator (average value of CV for ten years - 0.3856 and GINI - 0.2064). From the analysis of the number of organizations focused on generating profit per 1 000 inhabitants during the entire period in all districts is clear their growth, but not uniform. The most significant increase was in the districts of Bardejov (258% of the value of the year 2003), Sabinov (257%) and Stropkov (244%). The most developed districts (Prešov and Poprad) achieved only average growth essentially at regional level (236%, respectively 234%). The slowest pace of growth is observed in the districts of Medzilaborce (155% of value of the year 2003), Levoča (192%) and Vranov nad Topľou (208%). This relatively low rate of growth in the long term lagging districts appears to be a major obstacle of levelling of inter-district disparities, which cannot be balanced even by significant convergence of the district of Sabinov (as most backward territorial unit in terms of this indicator) to the district of Prešov, which is located at the opposite pole. Therefore, deepening of regional disparities when comparing the years 2003 and 2012 is confirmed by increase of CV (from the value of 0.3471 to 0.3978) as well as GINI (from the value of 0.1848 to 0.2127). Since growth is minimal, deepening of disparities in terms of this indicator cannot be considered a significant problem. In addition, a moderate levelling in the last two years is positive (CV - from the value of 0.4007 to 0.3978; GINI - from 0.2157 to 0.2127), which perhaps suggests long-term trend.

## NUMBER OF FREELANCERS

Freelancers are persons conducting business under the Trade Act. Only economically active freelancers are taking into account. Their contribution to the economic and social sphere lies in the ability of their own risk and their own ability to create added value beneficial for society as a whole.

**Table 11:** *Development of the number of freelancers per 1000 inhabitants in the districts of the Prešov self-governing region in the years 2003-2012*

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
BJ	49,6	56,1	58,5	61,1	66,5	73,1	73,1	72,5	70,5	66,8
HE	51,6	56,5	55,9	57,7	61,3	65,7	63,5	63,3	60,8	57,6
KK	42,1	47,6	51,9	58,7	66,7	76,9	70,9	65,2	60,9	58,1
LE	40,6	45,6	48,6	52,3	54,2	57,9	58,2	58,2	57,1	54,6
ML	36,5	41,0	43,1	45,5	46,3	52,5	50,0	51,6	49,6	49,1
PP	58,1	63,7	64,0	67,4	70,1	75,3	72,0	71,7	69,1	65,3
PO	51,0	56,9	57,0	59,5	62,2	66,8	66,5	66,2	63,6	61,6
SB	44,0	49,2	51,3	57,0	64,3	73,4	72,1	70,6	70,0	67,3
SV	47,8	50,3	48,8	51,6	55,8	64,4	62,5	64,1	64,3	61,0
SL	73,0	85,3	87,7	93,3	101,9	113,9	111,3	110,0	106,4	101,5
SP	49,7	53,9	53,9	56,0	58,3	65,5	66,7	65,7	65,1	61,6
SK	49,9	58,5	60,9	65,5	70,5	77,3	78,1	79,8	77,0	70,8
VT	41,4	46,9	50,4	54,2	58,0	63,5	60,0	60,8	60,4	59,1
REGION	50,4	56,2	57,6	61,2	65,6	72,1	70,3	69,7	67,6	64,6
GINI	0,0939	0,0975	0,0910	0,0884	0,0952	0,0953	0,0972	0,0931	0,0926	0,0872
CV	0,1897	0,2025	0,1952	0,1927	0,2048	0,2076	0,2097	0,2042	0,2022	0,1862

Source: *www.statistics.sk, own calculation*

The number of freelancers calculated per 1 000 inhabitants is quite differentiated between individual districts. The maximum values throughout the reporting period were recorded in the district of Stará Ľubovňa (145 - 158% of the average of the self-governing region, the average number of freelancers per 1 000 inhabitants of the district for ten years - 98.4), followed by the districts of Svidník (104 - 115% of the average of the self-governing region, average 68.9) and Poprad (101 - 115% of the average of the self-governing region; average 67.7). Above-average values were also noticeable in the district of Bardejov. By contrast, the lowest numbers were recorded in the districts of Medzilaborce (71 - 75% of the average of the self-governing region, the average number of freelancers per ten years - 46.5), Levoča (74 - 85% of the average of the self-governing region; average 52.7) and Vranov nad Topľou (82 - 92% of the average of the self-governing region; average 55.5). It is clear that disparities between districts in terms of this indicator are presented, but they are minimal based on the low values of CV and GINI (average value of CV for ten years - 0.1995 and GINI - 0.0931).

The number of freelancers grew in all districts with the culmination of values in the year 2008 respectively 2009. From that moment until the year 2012 constantly gradually decreased, what can to some extent be due to the economic crisis, new measures relating to the application of trade license etc.. In 2012, the number of freelancers did not decrease in any district below the level from the year 2003. The smallest increase in comparison of these two years was recorded in the districts of Humenné (111% of the value from the year 2003), Poprad (112%) and Prešov (120%).

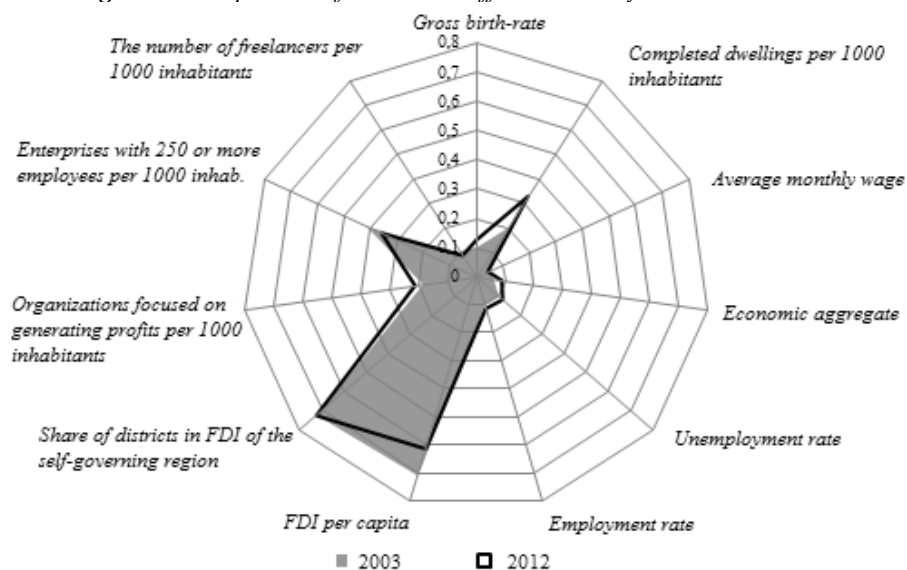
Conversely, the most significant increase in the number of freelancers was recorded in the districts of Sabinov (153%), Vranov nad Topľou and Svidník (both with 142%). In particular, the significant increase in the number of freelancers in the district of Sabinov (in the year 2003 below average value in relation to the self-governing region - 87%, in relation to the district of Stará Ľubovňa - 60%; year 2012 - 94% of the value of the self-governing region, 66% of the value of the district of Stará Ľubovňa) as well as decrease in the district of Poprad (year 2003 - 115% of the value of the self-governing region, 80% of the value of the district of Stará Ľubovňa; year 2012 - 101% of the value of the self-governing region, 64% of the value of the district of Stará Ľubovňa) became the basis of a very mild levelling of inter-district disparities, what is evident from decrease of CV (from the value of 0.1897 in the year 2003 to 0.1862 in the year 2012) and GINI (from 0.0939 to 0.0872). In the overall assessment of disparities by comparing the initial and final year, we can observe their levelling, but at a deeper insight into their development of individual years, there are also the periods of their deepening and in 2003-2004 and 2007-2009.

## **OVERALL ASSESSMENT OF REGIONAL DISPARITIES IN THE DISTRICTS OF THE PREŠOV SELF-GOVERNING REGION**

Overall assessment of regional disparities at selected observational units was supported by comparison of the values of the two statistical rates (the Gini coefficient and the coefficient of variation) particularly in the initial (2003) and the final year (2012, respectively 2011), what allowed to identify the indicators with the largest or smallest rate of disparities and also the ratio of indicators with levelling respectively deepening of disparities.

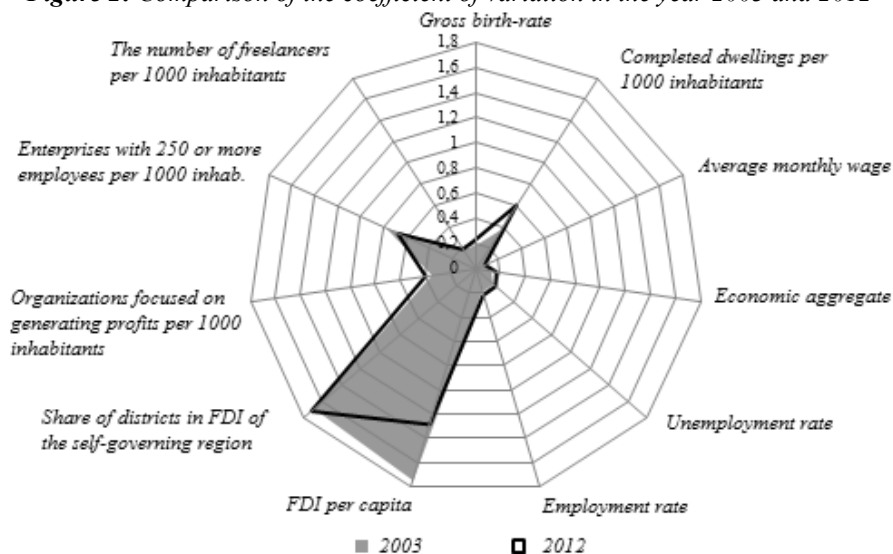
The largest increase in regional disparities based on the values of the two coefficients in the initial and final year (Figures 1, 2) is evident increase in completed dwellings per 1000 inhabitants (CV by 64% and Gini by 65%), in the economic aggregate per capita (by 34%, resp. by 47%) and in the gross birth rate (both increase by 26%). On the positive side is levelling of disparities in the other four indicators namely in FDI per capita (decrease of CV by 27%, and Gini by 14%), average monthly wage (18% resp. 16%), organizations with 250 or more employees per 1 000 inhabitants (both 13%) and freelancers per 1000 inhabitants (by 2%, resp. 7%). Based on the rate of regional disparities in the various indicators at the district level of the Prešov self-governing region to their development trends, we come to the following conclusions. While in two of three indicators with the highest level of disparities during the whole reporting period (state of FDI per capita, the number of organizations with 250 or more employees per 1 000 inhabitants), we can observe mitigation of inter-district disparities, in the share of districts in FDI in the self-governing region (indicator with the absolutely most significant rate of disparities), we can observe deepening of disparities. We can also observe divergent development of regional disparities in the economic aggregate per capita (as one of the three indicators with the lowest rate of disparities during the entire reporting period), while in the remaining two - the average monthly wage and the number of freelancers per 1 000 inhabitants - we observe mitigation of disparities.

**Figure 1: Comparison of the Gini coefficient in the year 2003 and 2012**



Source: [www.statistics.sk](http://www.statistics.sk), [www.nbs.sk](http://www.nbs.sk), own calculation

**Figure 2: Comparison of the coefficient of variation in the year 2003 and 2012**

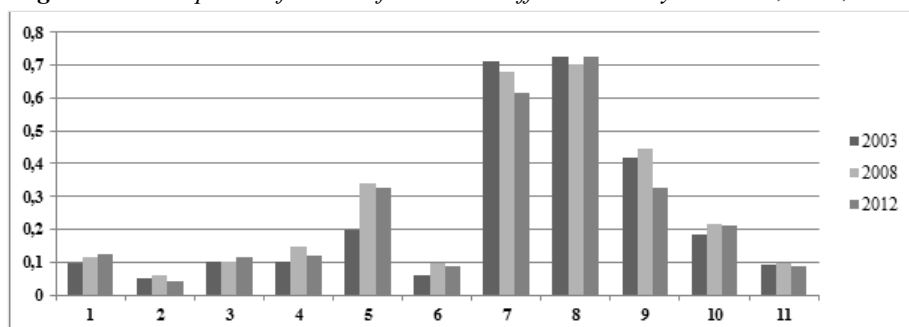


Source: [www.statistics.sk](http://www.statistics.sk), [www.nbs.sk](http://www.nbs.sk), own calculation

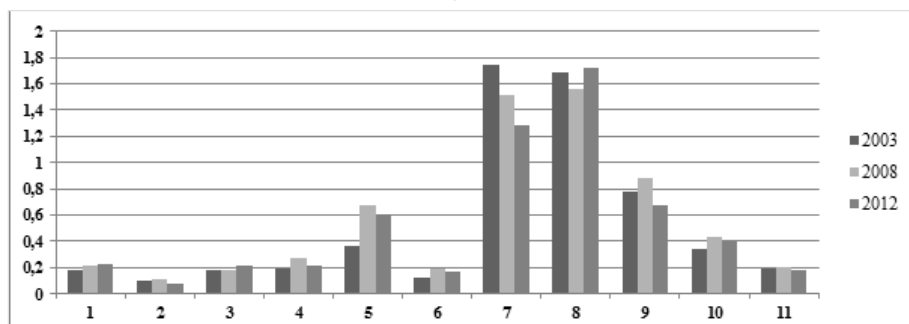
The rate of regional disparities was differentiated not only in the indicators but also within individual years. The lowest rate can be identified in almost all indicators in 2003, while on the contrary the highest in 2008 (Figure 3, 4). Since this year, we

can observe noticeable mild stage of levelling of the regional disparities, but in most indicators in the last reporting year, the rate of regional disparities did not reached the level from the initial reporting year; therefore, we see divergent trends of inter-district disparities. We can observe deepening of disparities in comparison of the initial and final year in 7 of 11 indicators (63.6%). This proportion is due to increase of disparities in the period 2003 - 2010 (excluding the year 2005 and 2009) in more than half of the indicators (in the year 2004 and 2008 more than 2/3 of indicators). In 2011, it seemed that disparities started to mitigate (increase of disparities only in 3 of 11 indicators - 27.3%), but the very next year, there was again their deepening (increase of disparities in 5 of 11 indicators - 54.5%).

**Figure 3:** Development of values of the Gini coefficient in the years 2003, 2008, 2012



**Figure 4:** Development of values of the coefficient of variation in the years 2003, 2008, 2012



*Explanation: 1- gross birth-rate, 2 - average monthly wage, 3 - employment rate, 4 - unemployment rate, 5 - completed dwellings per 1000 inhabitants, 6 - economic aggregate, 7 - FDI per capita, 8 - share of districts in FDI of the self-governing region, 9 - enterprises with 250 or more employees per 1000 inhabitants, 10 -organizations focused on generating profits per 1000 inhabitants, 11 - the number of freelancers per 1000 inhabitants.*

*Source: [www.statistics.sk](http://www.statistics.sk), [www.ueos.sk/mvrr.sk/isvov/](http://www.ueos.sk/mvrr.sk/isvov/), own calculation*

From the above mentioned findings, it is clear that between the districts of the Prešov self-governing region there are more or less significant socioeconomic disparities which are at the same time subjected to changes. From the aspect of the time development of the inter-district disparities, after a certain generalization we can group evaluated indicators into five categories:

1. The overall increase in disparities registered throughout the entire reporting period (gross birth-rate)
2. The overall increase in disparities with a tendency to decline in the first half (employment rate), respectively in the second half of the reporting period (unemployment rate)
3. The overall increase in disparities with irregular time distribution of growth and fall periods (completed dwellings per 1 000 inhabitants, economic aggregate per capita, share of districts in FDI of the self-governing region, organizations focused on generating profits per 1000 inhabitants)
4. The overall decrease in disparities with irregular time distribution of growth and fall periods (average monthly wage, enterprises with 250 or more employees per 1 000 inhabitants, the number of freelancers per 1000 inhabitants)
5. The overall decrease in disparities registered during the entire reporting period (FDI per capita)

## CONCLUSION

Between the districts of the Prešov self-governing region existed and still exist quite significant disparities which changed within the individual indicators and years. Based on the comparison of the set of selected socio-economic indicators, the most important position within the Prešov self-governing region had three districts: the district of Poprad, Prešov and Humenné (however, its position weakened).

The above mentioned considerations are largely confirmed by the value of the index of regional business environment, which reflects the overall quality of business conditions at the district level. According to the values that within the districts of Slovakia ranged from 2.61 (the lowest - the district of Gelnica) to 4.48 (the highest - the district of Bratislava II), most of the districts of the Prešov self-governing region ranked among average to below average. The strongest position had the district of Poprad (index - 3.67; 17th place within the districts of Slovakia), the only district of the Prešov self-governing region which reached higher value of the index of regional business environment than the national average (3.43). The district of Poprad was followed by the district of Prešov (index - 3.39; 36th place within the districts of Slovakia). A little worse position was recorded in the district of Humenné (3.18; 50th place within the districts of Slovakia). Other districts of the Prešov self-governing region significantly lagged, as is confirmed by their overall ranking within the index of regional business environment (from 56th to 74th place). Worse situation was only in the districts of southern part of Slovakia (processed by Hajko, Klátik, Tunega, 2010).

It may be said that the western part (from the district of Prešov towards the district of Poprad) gains the importance. In particular, the towns of Prešov and Poprad are the most important economic leaders of the region, which bind investments

and provide jobs. Moreover, the motorway from the west is being completing and connecting these towns to a functioning economic system of Slovakia. If we add to this the more dominant position of the district of Poprad in tourism, it is evident that the greatest development prospects will be in the west part of Prešov self-governing region. Conversely, it is possible to predict a decrease in significance of the district of Humenné and other districts in the eastern part of Prešov self-governing region. The next development will have been confirmed by the next few years, when it will be possible to say that the economic recovery in 2012 had a continuing character or this 'start' development will be only temporary.

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