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### **The changes of the regional structures in transformation period in Slovakia.**

*Univ. Prof. Dr. Milan Bucek, DI Miroslav Sipikal, DI Michal Skotta*

*Institute of Regional Development and Geography, University of Economics,  
Bratislava, Slovakia*

E-mail : bucek@euba.sk

Fax: 00421 7 624 12 302

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#### Abstract

Regional differences in the GDPO between regions of the SR and in the relation to EU and CEEC average. GDP per inhabitants as component of productivity (GDP / employees) and as component of employment. Regional sectoral structure (agriculture, industry, services). As to many factors underlying the regional differences, we shall concentrate our analysis and present the result of selected factors in the NUTS III regions: FDI in regions; the export of regions in the year 1995-98; small and medium enterprises, new firms creation in regions; research and development. Small and medium enterprises are the new dynamic element of economic and social structure.

In Slovakia, similarly as in other CEC we can meet two dominate regional characters: a west- east cascade from developed regions to periphery; the dominant role of capital region Bratislava ( enforced by extreme western location of Bratislava and proximity to Vienna).

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Regional restructuring in Slovakia - similarly as it was in other CEEC the case- was and is connected with all aspects of restructuring agenda, all before:

1. the restructuring of a property structure;
2. the rapid changes in the sectors structure in every region ( tertialisation of society in regions, informatisation of the society and regions);
3. the export reorientation and regional differentiation;
4. the new administrative organisation of the territory and a new role of public administration in this process;
5. the restructuring on the internal enterprises level ; specific in the agriculture, industry and services, all before threefold restructuring:
  - 1) A split of big socialist enterprises to more market oriented SME (restructuring of the size);
  - 2) A modification of production structure for demand oriented production and service, including new products, processes and services (restructuring of products);
  - 3) A special process of "cleaning" the production structure from activities not directly connected with production in the process of small and big privatisation (restructuring of property structure).

Statistical Office of the SR published the GDP for 1996 and 1997 for 8 regions (NUTS III) and 4 NUTS II on the end of 1999 first time. This allow to compare the differences in GDP per inhabitant to EC and CEEC averages:

Table 1 - Regional differences (1997)

NUTS II Regions	GDP/Inh. PPS (ECU) <sup>1</sup>	Share on inh. (% of SR) <sup>2</sup>	Share on GDP (% of SR) <sup>1</sup>	GDP in % of EU average <sup>1</sup>	GDP in % of CEC average <sup>1</sup>
<b>Bratislava</b>	19 900	11,5	25,9	<b>105</b>	<b>269</b>
<b>Western Slovakia</b>	7 800	34,8	30,7	<b>41</b>	<b>105</b>
<b>Central Slovakia</b>	7 400	25,2	21,1	<b>39</b>	<b>100</b>
<b>Eastern Slovakia</b>	6900	28,5	22,3	<b>36</b>	<b>107</b>
<b>Slovakia</b>	8 800	100,0	100,0	<b>46</b>	<b>119</b>

Source: 1) Regional GDP in the Central European Countries, Eurostat, 1999 Edition

2) Selected Data , Statistical Office of the SR, Bratislava,1999. Calculating on survey data.

Bratislava region is in relatively outstanding position not only in comparison to other regions of Slovakia, but to EU average too. Wit 105% of EU and 269 % of CEE average is placed as one of the best regions of CEEC. Other NUTS II regions of Slovakia are placed on 36-41% level of EU average, but what is very interesting none of them is below the CEEC average.

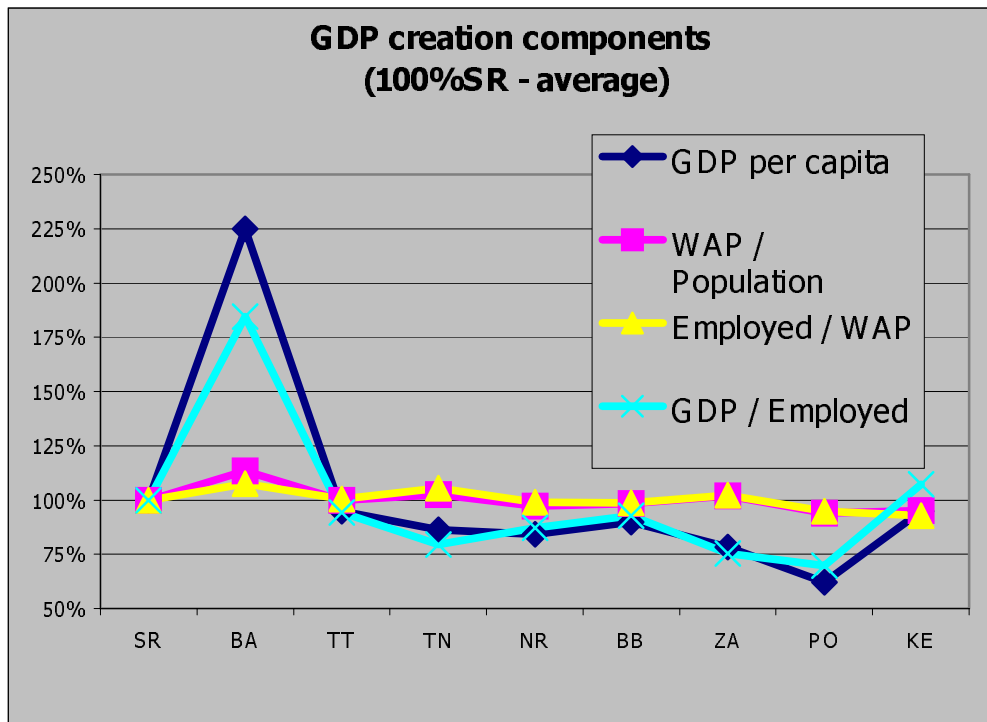
The statistical data allow to analyse the GDP per inhabitants as component of productivity (GDP / employees) and as component of employment ( employees/ economic active population \* economic active population/population total) . This separation of factors was used in the "Sixth Periodic Report "of DG XVI.

Slovakia is divided into 8 regions at NUTS 3 level. The regions are quite homogenous as far as the population is concerned ranging from 536 – 768 thousands each.

Table 2 - Components of GDP

	<b>GDP/ EMPLOYED</b>	<b>EMPLOYED / EAP</b>	<b>EAP/ TOTAL POPULATION</b>	<b>GDP PER CAPITA</b>
<b>SR</b>	1,000	1,000	1,000	<b>1,000</b>
<b>BA</b>	<b>1,844</b>	<b>1,075</b>	<b>1,134</b>	<b>2,249</b>
<b>TT</b>	0,944	1,004	1,000	<b>0,948</b>
<b>TN</b>	0,796	1,055	1,026	<b>0,862</b>
<b>NR</b>	0,872	0,991	0,973	<b>0,841</b>
<b>BB</b>	0,927	0,985	0,984	<b>0,898</b>
<b>ZA</b>	0,753	1,022	1,019	<b>0,785</b>
<b>PO</b>	0,697	0,948	0,941	<b>0,622</b>
<b>KE</b>	1,072	0,929	0,952	<b>0,948</b>

Figure 1:



Source: *Regional comparisons in the Slovak Republic 1998*, Statistical Office of the Slovak Republic, Bratislava

Calculating and graph by authors

As can be seen from Figure 1 there is a great disproportion between Bratislava and the rest of the country. In absolute numbers is Bratislava performing with 7190 ECU per head 2.25 times better than the average of Slovakia and 3.26 times better than the least performing region of Presov.

The figure shows the rate of each region in the creation of GDP with all of its components. Workforce productivity is obviously the most important factor in the regional disparities while the other two have only partial impact on the result of analysis.

Components of GDP creation formula are for current data following:

$$\underline{\text{GDP/Population} = \text{GDP/Employed} \times \text{Employed/Population} \times \text{WAP/Population}}$$

$$\text{BA: } 225\% = 184\% \times 108\% \times 113\%$$

Meaning that Bratislava exceeds the SR average by 225% due to

1. productivity higher by 84% than SR average (80% of the difference)
2. employment rate higher by 8% than SR average (7% of the difference)
3. working age population on population rate higher by 13% than SR average (13% of the difference).

In pre transformation period, the socialist system did not develop the tertiary sphere. A remarkable breakpoint in the development of economic structure came after the year 1989. One of the crucial problems is high rate of unemployment namely in regions that are poor in production. Despite dynamic economic changes in the transformation period, the rate of unemployment did not raise so sharp, as the tertiary sphere swallowed the striking flow of unemployed in the primary and secondary sectors.

Statistical Office published 1999 the NACE structure for 16 branches first time and it allows a deeper view to structural problems and comparisons of NUTS II and III regions. Very interesting differences in the share of primary, secondary and tertiary sector can be awaited, as the dynamics of tertiary sector is very high not only in Slovakia as whole, but also in regions.

**Table 3 and 4 - National and regional sectoral structure of the SR**

	<b>1991</b>	<b>1997</b>	<b>1998</b>
<b>Agriculture</b>	10,7	9,2	8,3
<b>Industry</b>	33	39,3	39,4
<b>Services</b>	56,3	51,5	52,3

<b>1998</b>	<b>Agriculture</b>	<b>Industry</b>	<b>Services</b>
<b>BA</b>	<b>3,1</b>	<b>25,2</b>	<b>71,7</b>
<b>TT</b>	9	34	56,1
<b>TR</b>	7	52,1	40,9
<b>NI</b>	11,7	37,9	50,4
<b>ZI</b>	6	47,5	46,5
<b>BB</b>	11,9	37,3	50,8
<b>PV</b>	9	42,8	48,2
<b>KE</b>	8,6	38,9	52,5
<b>SR</b>	<b>8,3</b>	<b>39,4</b>	<b>52,3</b>

*Source: Regional comparisons in the Slovak Republic 1998, Statistical Office of the Slovak Republic, Bratislava*

Calculating and graph by authors

Bratislava reached more than 70 % share of tertiary activities, what is comparable with EU average and many other capitals (measured by employment, probably not the same in productivity and efficiency). The other districts are very close to Slovak average.

As to many factors underlying the regional differences, we shall concentrate our analysis and present the result of selected factors in the NUTS III regions:

- FDI in regions;
- the export of regions in the year 1995-98;
- small and medium enterprises, new firms creation in regions;
- research and development.

Relating to the progress in our research the more deeper view is presented to the FDI and research and development in regions of Slovakia. Many of figures and dates are analysed and published first time.

**Foreign direct investments** – despite the increasing tendency over last years - are on very low level in Slovakia in comparison to V-4 countries and on this low level we can find high differences in regional concentration in very few location (all before in capital region). FDI per inhabitants increased in Slovakia from 78 USD in 1993 to 370 USD in 1998.

The level of the FDI had been counted in Slovakia until 1996. After the changes in territorial and administrative division, the statistical office stopped this process, so we were unable to quantify to amount of FDI into regions. In 1999, National Bank of Slovakia started to count it again, so we can work only with very simple statistical time series.

**Table 5.: Development of the FDI in Slovakia, corporate sector**

Region	<1996	1996 -1999	% Increase	Share
Bratislavsky	17 442	23 044	32,11%	53,95
Trnavsky	1 480	6 713	453,58%	10,92
Trenciansky	1 502	4 189	283,05%	7,58
Nitriansky	1 171	3 106	265,24%	5,70
Zilinsky	471	2 456	521,44%	3,90
Banskobystricky	2 223	1 849	-17,30%	5,43
Presovsky	956	1 751	183,59%	3,60
Kosicky	1 425	5 262	369,26%	8,91

Source: National Bank of the SR, 2000; Calculating by authors.

There were no special incentives for foreign investors on the regional base (we can study “natural” allocation of foreign investment without administrative influence of the government (with some small exceptions – like grants for job creation into INA Kysucke Nove Mesto).

At the beginning, nearly all FDI had been going to Bratislava region (more than 65% until 1996). The main reasons were highly qualified work force, relatively big market (important specially for trade companies). After fulfilment of this market as well as shortening the available workforce, the FDI slowly has moved to the other regions. The set-out of the basic transport infrastructure also played a positive role (specially for western Slovakia). This results in decreasing share of Bratislava region under the 55% (without banking sector). The main increase of FDI slowly move to other regions, in first quarter of 2000, the Bratislava region for the first time was not the region with the biggest inflow of the FDI. Specific region is the region of Banska Bystrica, which is lone region with decline of the increase of the FDI. The main reasons are two big investments before the 1996 into Slovalco and Biotika (together more than 1,4 mld. SK).

The influence of the statistics by the big investment is not only problem for Banska Bystrica region. One of the reasons is very low level of FDI, which inflow into Slovakia compare to the other CE countries. Two – three biggest FDI sometimes represents more than 50% of total FDI in the region. Moreover, these investments usually flow into (specially in the first period) into big and already established enterprises (Slovalco, VSZ, Chemlon, Biotika, Palma, Slovnaft), so their influence on economy structures was very low (but of course, they have very positive influence on productivity of the industry). Changes in industrial structure have started only last two years, after more FDI into green fields. For example, share of electronics industry in south-western Slovakia increase very much compared to traditional north Slovakia mainly due to foreign (Sony Slovakia Trnava, Leoni Slovakia Nova Dubnica, Leoni Autokabel Trencín, Osram Nové Zámky, VW Elekrosystemy Nitra)..

When we evaluate the influence of FDI on regional development, we can try to identify its influence on GDP as one of the main measure of the regional development.

**Table 6: Relation between FDI and GDP**

Kraj	GDP (Mio. SK)	FDI (Mio. SK)	HDP per capita	FDI per Capita
Bratislavsky	169 415	40 486	2 746	656
Trnavsky	63 265	8 192	1 148	148
Trenciansky	64 010	5 701	1 050	93

Nitriansky	73 507	3 106	1 026	43
Zilinský	65 515	2 456	946	35
Banskobystricky	72 641	4 072	1 095	61
Kosicky	87 329	2 707	1115	85
Presovsky	58 211	6 687	762	35

Sources: NBS, SU SR

We can see there is a relation between GDP and FDI, especially in the relation between Bratislava region and the rest of Slovakia. In recent period, established FDI become very important in stimulating regional development. It is clear, that this process have to go through all regions, so we can see the full advantages of the FDI on regional development only in next few years.

**Table 7 - FDI – ENTERPRISES REGIONS OF THE SR (1998)**

<b>REGION NUTS III</b>	<b>TOTAL NUMBER</b>	<b>OVER 25 EMPLOYEES</b>	<b>TOP 100</b>
Bratislavsky	6711	368	52
Trnavsky	1240	98	11
Trenciansky	1200	112	11
Nitriansky	1096	79	7
Zilinský	1070	89	6
Banskobystricky	1054	46	7
Presovský	743	62	2
Kosický	1260	64	4
<b>SR</b>	<b>15292</b>	<b>918</b>	<b>100</b>

Source: National Bank of the SR, Bratislava, 1999; Calculating by author

The possible explanations are related to the fact, that we can see two different types of FDI in Slovakia. One “tied” FDI – FDI, which goes to the established big enterprises (because of their competitive advantages). This FDI do not have a chance to go another enterprise in Slovakia or Central Europe, so the level of this FDI do not depend so much on other regional factors. Due to previous socialism regime, this enterprises are equally spread between regions(e.g.. VSŽ Kosice, Chemlon Humenne, Tesla Liptovsky Hradok, ZSNP Ziar nad Hronom, Tatramat Poprad), so the total level of “tied” FDI is more-less the same in all regions. The second type of FDI -“free” FDI establish their companies according to regional advantages, so market and infrastructure play key role. That is why this capital has some relation also to the GDP as one of the measures of the regional development. Only region, which not fir into this exponential curve is



Trencin region, but it could be caused by very strong industrial tradition and many engineering enterprises, so the increase amount of the “tied” capital can inflow there.

Let us see the FDI according to the industrial branches. The industrial branch structure shows Table 6. Table includes only selected enterprises from the biggest Slovak with special interest in production industry sectors. The selection is representative enough, so we are able to find the interested relation between FDI and changes in industrial structures of the regions.

When comparing Bratislava region with others, there is important concentration of FDI into this region only in insurance, banks and trade (or sales) companies. In the industrial branches of the secondary sector, there are no big differences. We can say, that the third sector creates the main differences between Bratislava and other regions. One of the problems in evaluating this regional comparison lying in the fact, that many companies have headquarters in Bratislava, but the real production size are somewhere else or the company have many other branches in Slovakia. (e.g. banks, supermarkets or insurance companies - Tatrabanka, Polnobanka, Tesco, Billa, Delvita, Poistovna Otcina etc.).

In other industrial branches, the situation is much less concentrated as in previously mentioned branches, but there are also some interesting numbers. The most of the FDI goes into engineering, electronics and food-processing industry and FDI in these industries are presented in all regions. It is clear, that most of the investment is not into very value added production, but it still leads to increase value added in Slovakia, mainly due to very good effectiveness of the FDI. FDI is concentrated into the regions with industrial tradition in these sectors (metallurgy – Kosice, engineering – Trenčín, food processing – south Slovakia) and also according to the competitive advantages regions (good example is Presov region and textile industry – foreign enterprises selected this region for production, because there are very low wages and wages are important factors in textile industry).

**Table 8: FDI according to the industrial branches and regions**

Branch	$\Sigma$	ŽA	BB	BA	KE	NI	PR	TR	TT
Engineering	34	3	2	5	1	5	5	7	6
Electronics	18	1	1	5	2	2	1	4	2
Food	18	2	1	6	2	2	1	1	3
Constructio	15		1	6	2	1	1	3	1

Bank	12	1		11				
Chemistry	12	3		2		3	3	1
Insurance	10			9	1			
Trade	9	1		8				
Textile	8	1		1	1	5		
Metallurgy	8		3		4		1	
Pharmacy	4	1	1	1				1
Wood	4		1	2		1		
Energy	3		1	2				

Source: National Bank of the SR, Bratislava, 1999; Calculating by authors

Insufficient infrastructure (especially highways) moves the competitive advantages to the western Slovakia. With full network of the highway, the FDI will move more to the central Slovakia, which will result in more equal regional development.

Weak competencies of the regions results in the situation, that regions do not work itself on attracting FDI. This is one of the biggest brakes in FDI inflow. Municipalities do not have rights to decided about taxes (expect small tax from property), they do not have enough own funds (only 4% of the total public finance goes through municipalities), which could be used for preparation of the land for foreign investors or to build other important facilities (flats, social infrastructure, education institutions. It is related to the preparation of the industrial zones as a place for network building and regional policy implementation.

**Regional share of export** can be analysed – as to a statistical data available- on the level of NUTS II and NUTS III for 1995 – 1998. In this case it is very interesting to follow not only the share, but also the dynamics of export of the regions of Slovakia.

Region	1995	1996	1997	1998
Bratislavský	33,2	35,4	40,5	46,2
Trnavský	4,4	5,3	4,7	2,7
Trenciansky	8,3	9,7	7,8	8,4
Nitriansky	5,3	6	5,5	5,5
Žilinský	8,1	8,4	8,3	7,4
Banskobystrický	4,7	9,9	9,7	8,2
Presovský	4,8	5,7	5,9	5,7
Kosický	31,1	19,4	17,5	16,0
SR	100	99,8	99,9	100,1

Source: Karasz, P., et all : The possibilities of regional development in Slovakia, Fridrich Ebert Foundation, Bratislava, 1999; Calculating by authors.

Table 8 shows the role of capital Bratislava in export share. It reaches more than 46% of the SR in 1998 and increased about 13% from 1995. The position of other regions is relatively small – Kosice 16,0%, Trencin 8,4%, Banska Bystrica 8,2%. The share of the remaining regions was between 3-7% of Slovakia. Contemporary insufficient dynamics of export's efficiency in Slovakia is caused by exhausting of export capacity and very slow building of new ones.

With most of the Slovak exports consisting of sensitive products, the economic vulnerability of export-dependent regions to external shocks and global market fluctuations is getting bigger. The risks of excessive exposure to cyclical fluctuations are very high, as the major Slovak exporters are very often identical with regional "flagships" of growth and employment, and their potential problems could subsequently cause economic crisis in regions in which they are located (the severe decline of the former military-industrial complex and subsequent problems of industrially depressed regions of Dubnica, Martin and Povazska Bystrica provide an illustration). A typical example of such an export-dependent region is the one of Kosice. East-Slovak Steel Works (VSZ, j.s.c.), being the carrier industry in Kosice region, by itself accounts for 11% of national exports, and is one of the biggest employers. Moreover, it represents the type of export, which is sensitive to demand cycles in international markets. It has become clear, that further development of foreign trade relations (given an increasingly free flow of goods, services and capital) would be much more difficult for Slovakia without an EU membership. The two major strategies - maintaining high exports and competitiveness or product differentiation – or the combination of both require solid business knowledge base and further extension of trade links to expand business activities.

Table 10 – Economic and export efficiency

Region	Export per capita	GDP per capita (th. SK)
Bratislavský	211,8	273,7
Trnavský	27,9	115,2
Trenciansky	41,6	104,9
Nitriansky	24,9	102,5
Žilinský	39,2	95,1
Banskobystrický	47,3	109,4
Prešovský	24,6	75,1
Košický	74,7	115,0
SR	60,2	121,5

Source: *Regional comparisons in the Slovak Republic 1998*, Statistical Office of the Slovak Republic, Bratislava

Calculating by authors.

Table 10 stress very clear the close relationship between economic and export efficiency – the correlation coefficient is very high – 0,97. It means, the Slovak economy is highly export's dependent and the regions are export sensitive too.

**Small and medium enterprises** are the new dynamic element of economic and social structure. The statistical data allow analyse the structure of physical and juridical

persons in the regions, to compare the regions as to new SME creation per 1000 inhabitants and provide some relations to GDP per inhabitants.

Table 11 – Small and medium enterprises

Region	Total	Share in %	New enterprises in 1998 (per 1000 inhabitants)	Physical and juridical persons (per 1000 inhabitants)
<b>Bratislavsky</b>	<b>69 485</b>	<b>20</b>	<b>9,8</b>	<b>122,2</b>
Trnavsky	37 221	10,7	6,1	67
Trenciansky	34 403	9,9	5,6	70,0
Nitriansky	43 617	12,6	5,4	72,1
Zilinský	42 446	12,2	5,3	61,4
Banskobystricky	38 598	11,1	5,0	65,0
Presovský	38 816	11,2	4,8	55,7
Kosický	42 702	12,3	4,5	65,3
<b>SR</b>	<b>347 288</b>	<b>100</b>	<b>5,6</b>	<b>70,0</b>

Source: *Regional comparisons in the Slovak Republic 1998*, Statistical Office of the Slovak Republic, Bratislava

Calculating and graph by authors

As in all other analysis the Table 11 shows the west – east gradient in SME creation. In Bratislava region find 20% of all SME (by 11 % of inhabitants), the share of remaining regions is between 10 – 12,3%. In Bratislava region the new SM enterprises create 9,8 SME per 1000 inhabitants in 1998, what is approximately two folds of Slovak average. West – east gradient is dominant: the coefficient for Trnavsky region is 6,1, for middle Slovakia 5,0-5,6 and for eastern Slovakia 4,5-4,8 .

**Research and development** analysis shall be oriented to employees in R&D -

researchers, technicians and supporting staff and expenditure in R&D ( current and capital expenditure). Further we analyse the regional distribution and location of Universities and outposts in the SR, location of the second largest research institution of the SR - Slovak Academy of Sciences, and location of Business innovation centres, Regional consulting and information centres and national, agencies (now in reform process).

The transition to market economy in Slovakia has been accompanied with considerable changes in the regional development process, bringing about both the depression of

industries and peripheral regions as well as the new impulses for economic growth. A new quality of regional networks is emerging, leading to the re-definition of the role of universities and technology centres.

The specific problems to follow this process in economies in transition and in Slovakia are changes in R&D base, which are substantial part of transition process in R&D itself. The restriction of budget for research institutes, a drastic reducing of personal staff and abolishing of many institutes, a weak private sector, the emigration of excellent scientists and other factors led to general depression of R&D.

A very low level of knowledge is just in the field of the regionally based technology transfer and the ways, how to facilitate the transfer process. The practical consequence is that the transfer environments such as science parks, technology complexes or research centres are just in "status nascendi" and process of learning how to manage the complexity of activities.

Similarly as the GDP differences in regions is significant the dominant role of Bratislava region. 41,5 % of gross expenditure on research and development is located in the region of Bratislava as Table 1 shows.

Table 12 – GERD per inhabitant

<i>Region</i>	<i>GERD per inhabitant (in thous. Skk)</i>	<i>GERD per inhabitant (as % of national average)</i>
<b>SR total</b>	<b>114 101</b>	<b>100,00</b>
Bratislava	414 446	363,23
Trnava	99 965	87,61
Trencin	164 009	143,74
Nitra	70 441	61,74
Zilina	66 084	57,92
Banska Bystrica	51 980	45,56
Presov	31 684	27,77
Kosice	64 197	56,26

Source: Calculating by authors on the statistical data

Bratislava region concentrated more than 3 times GERD per inhabitants to Slovakian average and 13 times more than the less developed region in Eastern Slovakia / Presov.

Table 13 – GERD and GDP

<i>Region</i>	<i>GERD/GDP (%) (GDP 1997)</i>	<i>GDP per capita (GDP 1997)</i>
<b>SR total</b>	<b>0,94</b>	<b>121 240</b>
Bratislava	1,51	274 312
Trnava	0,87	114 891
Trencin	1,56	104 979
Nitra	0,69	102 582
Zilina	0,70	94 784
Banska Bystrica	0,47	109 483
Presov	0,43	74 546
Kosice	0,56	114 415

Source: Calculating by authors

It isn't surprisingly the position of capital Bratislava and Presov. The high share of GERD on GDP of region Trencin can be explained by research activity investments connected with R&D in armament industry (before 1989) in relation to relative small GDP.

Accordingly to our statement before the highest share of BERD on GERD is in region Trencin. Most depressed region Presov is in large extent (87%) relegate on very sick business basis and small state support of R&D. On the other hand, capital Bratislava is in favour of state expenditure (64% - expenditure on budget dependent institution such as Slovak Academy of Sciences etc.)

Table 14: Number of R&amp;D organisations in 1997

Region	Total number	of which		
		Business enterprises	Government sector	Higher education sector
Bratislava	151	56	71	24
Trnava	18	14	1	3
Trencin	30	29		1
Nitra	27	17	5	5
Zilina	26	23	1	2
Banska Bystrica	25	16		9
Presov	19	15	1	3
Kosice	28	16	9	13
<b>SR total</b>	<b>224</b>	<b>186</b>	<b>88</b>	<b>60</b>

Source: *Selected indicators of R&D organisations in the Slovak Republic 1997* Statistical Office of the Slovak Republic, Bratislava

Labour force structure in research (researchers, technicians, supporting staff) is heritage of former research system with very low share of supporting staff.

43.5% of all researchers is employed in Bratislava region, following by agricultural centre Nitra and second largest city of Slovakia Kosice.

Table 15 – Higher education in Slovakia

Region	Universities	Faculties	Full-time students		Part-time students	
			total	women	total	women
Bratislava	5	23	35 598	17 018	6 974	4 237
Trnava	2	8	4 407	2 434	2 602	1 562
Trencin	1	4	1 055	481	159	92
Nitra	2	7	10 073	5 869	5 306	3 266
Zilina	1	8	7 720	2 544	710	269
Banska Bystrica	3	15	7 639	4 357	3 679	2 276
Presov	1	6	4 863	3 084	1 715	1 219
Kosice	3	12	14 387	5 844	2 445	1 303
<b>SR total</b>	<b>18</b>	<b>83</b>	<b>85 742</b>	<b>41 631</b>	<b>23 590</b>	<b>14 224</b>

Source: *Statistical Yearbook of Education 1998 – Selected Indicators*, Statistical Office of the Slovak Republic, Bratislava

48% of expenditure for higher education is spent in Bratislava and 49 % of teachers and 41% of full- time students are located in Bratislava. The numbers are only 2%, 1% and 1.2% for Trencin respectively and are very low in Presov too. In the share of higher educated labour force in the economic active population are the differences not so dramatic, although they exist. Bratislava with only 11 % of population share 25% of higher educated labour force (it means that every fourth is working in Bratislava. This share is generally very different to university students and teachers. Except the region of Bratislava we can see the very similar distribution of the higher educated labour force.

Table 16: Regional differences in human capital endowment

Region	Share of higher educated EAP (%)	
	1997	1998
Bratislava	24,6	25
Trnava	8,5	8,6
Trencin	10,0	8,1
Nitra	7,6	6,9
Zilina	8,5	9,8
Banska Bystrica	10,3	9,6
Presov	9,0	9,2
Kosice	8,0	8,1
<b>SR</b>	<b>10,8</b>	<b>10,7</b>

Source: *Slovak Statistical Yearbook 1999*, Statistical Office of the Slovak Republic, Bratislava

First consulting activities, focused on the regional development, appeared in 1990-1991 in Slovakia, many of them came from abroad. In all 38 districts of Slovakia was Regional Information and Consulting Centres (RICC) grounded as initiations of Ministry for Economic Strategy. Many of them were consecutively transformed on private enterprises or merge into a new founded network of National Agency for Small

and Medium Enterprises. 12 RICC with 5 branches and 5 innovation centres (BIC - Business Innovation Centre-) are working in Slovakia nowadays.

Table 17: Business innovation centres in Slovakia

BIC Bratislava	BIC Spiska Nova Ves
BIC Prievidza	BIC Kosice
BIC Banska Bystrica	

Table 18: Regional information and consulting centres in Slovakia

RIC Komarno	RIC Zvolen
RIC Dunajska Streda	RIC Lucenec
RIC Nitra	RIC Poprad
RIC Trencin	RIC Presov
RIC Povazska Bystrica	RIC Kosice
RIC Martin	RIC Trebisov

Source: Slovak Agency for SME, Bratislava, 1999

First formal steps for technological transfer - all before for SME – was made. They are many problems with qualification, hard and soft infrastructure, but more complicated is the situation in business environment: very expensive credit for entrepreneurs, business services and culture, regional accessibility etc. all before in the eastern, more peripheral regions of Slovakia.

### ***Concluding remarks***

In Slovakia, similarly as in other CEC we can meet two dominate regional characters:

1. a west- east cascade from developed regions to periphery;
2. the dominant role of capital region Bratislava ( enforced by extreme western location of Bratislava and proximity to Vienna).

Summarising the regional differences and the competitiveness of the Slovak's regions:

- Bratislava is a core region of Slovakia in the most activities and figures, then there are Kosice and the districts with developed and urbanised centres - Zilina, Banska Bystrica, Presov, Trnava, Trencin, and Nitra (centres of new regions). Bratislava has profited not only in relation to own inner strength, but in connection with location on the border with EU too. Reorientation of Slovak foreign trade from East to developed west market is going to dominate the whole regional development of the SR. It will be the most important development impulses in the future. The relation between core and periphery needs to be considering from this



point of view. Bratislava as a growth pole connects Slovakia with the EU and is operating as mediator of impulses from EU to other peripheral districts of Slovakia. It is one reason, why the position of Bratislava is so dominate compared with other regions of Slovakia (e.g. high share of foreign investments).

- the regional differences are caused by transformation changes in macro- and microeconomics (changes in share of primary, secondary and tertiary sector, service sector development and its regional displays, increase of the share of private sector on GDP, increase of the foreign and international enterprises, transformation of large state corporations and growing of the small and middle enterprises – all those changes are regionally relevant and different)
- The regional economic restructuring has been in progress, setting two sets of countervailing forces in motion: one set tends to cause industrial decline and regional depression, the other tends to bring about the new impulses for the creation of small and medium-sized enterprises, the increased inflow of foreign capital, the structural adjustment of regions to new economic conditions and the development of a wide variety of business support services.
- FDI is important element in regional development. In Slovakia, FDI also slowly become such an element. This process require some time, because FDI is in Slovakia only one decade and the important Greenfield investment has come only last two years. It is the reason, why is important to support inflow of the FDI into our country to fully exhaust the advantages of the FDI and to avoid the negatives. It means, that the region need to get strengthening competencies to be able to create regional competition in attracting FDI, which also help to make better connection between FDI and regional development with better interaction with local industry structure.
- The economic and regional structure before transition involved a little RTD. Restructuring process, connected with depression of industry, construction and agriculture, restructuring of RTD basis itself (connected with cancelling many institutes, reducing of the staff) restrictive macroeconomic policy, scare financial support to RTD activities create a very unfavourable environment for active and progressive role of RTD in economic transformation.

In prevailing number of research institutes and many universities – all before new established - "to survive" the transformation process is a dominant tendency.

The west-east gradient in economic development is manifested in statistical analysis in all relevant figures.

In opposite direction there are some positive nucleus for further development and two new trends can be observed in Slovakia:

dynamic development of university activities (mainly educational) outside the traditional university centres,

information and advisory services development (for the first time in the post – 1989 history on the private basis).

- Slovakia also enjoyed the growth of local initiative that creates favourable conditions for the implementation of endogenous development strategies, i.e. the promotion of ‘development from below‘.
- It should perhaps be stressed at the end of the paper that Slovak economy as well as the Slovak regional policy have broken the 40-year isolation, and found them operating in a ”European systemic environment”. In spite of the fact that this journey is and has never been easy, the new environment seems to offer the country quite encouraging prospects for its future progress.

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